LEESON®

OHIO GEAR™

ELECTRIC MOTORS, GEARMOTORS AND DRIVES

CAST IRON WORM GEAR CATALOG

Catalog No. 8050 — Effective: September, 2002

LEESON & OHIO GEAR™ Providing Packaged Solutions with the IRONMAN™ Series

Already recognized throughout the world as a major source of industrial-duty electric motors, gearmotors, gear reducers and drives, LEESON now joins forces with OHIO GEAR, another leader in the power transmission industry, to offer an even wider range of power transmission packaged solutions. LEESON and OHIO GEAR are subsidiaries of *REGAL-BELOIT CORPORATION*, a leader in the manufacture of power transmission equipment.

OHIO GEAR has been manufacturing speed reducers since 1915, establishing a trusted name in the industry for providing product with dependability, strength, precision and compatibility. With over 87 years of design and manufacturing expertise at OHIO GEAR, combined with the dynamic sales and marketing abilities of LEESON, we can now jointly offer a worm gear product that is second to none.

Introducing IRONMAN BY OHIO GEAR,™ the industry's newest, most superior line of worm gear reducers, combining the solid name recognition and gear reducer experience of OHIO GEAR with premium features of the IRONMAN™ series. Available through 6.00" center distance, the 800 Series IRONMAN BY OHIO GEAR™ reducer line is a true heavy duty workhorse that handles the environmental assaults, shock loading, frequent reversing and continuous duty cycles typical in many industrial applications.

Designed to be the premium worm reducer in the industry, IRONMAN BY OHIO GEAR™ reducers include, as standard, top quality features for which you'll often pay extra from other brand suppliers. ALL IRONMAN BY OHIO GEAR™ worm reducers include as standard:

- One-piece cast iron housings with single output cover design, CNC machined for precise component fit and alignment.
- Viton® double-lip seals and super micro-finished seal surfaces on input and output shafts.
- O-rings on all bearing covers, eliminating gaskets, sealants and leaks.
- Extra large lubricant reservoir filled with premium, high-temperature synthetic lubricant.
- One-piece, precision finished worms for higher efficiency and long-life operation
- Bronze worm gear chill cast from high quality bronze for maximum strength, lubricity and superior life.

- Oversize high-speed bearings, positively retained for frequent reversing and start/stop cycles.
- Tapered roller bearings on output shaft for high overhung and thrust load capacities.
- Ultimate application flexibility with all-angle mounting provisions, the widest selection of accessory bases and flanges and the largest selection of stock reducer styles.
- Directly interchangeable with other brands of cast iron worm reducers, including Baldor, Boston, Browning, Dodge, Grove and Morse.

By combining an IRONMAN BY OHIO GEAR™ reducer with any of our hunderds of in-stock c-face motors, a performance-matched GEAR + MOTOR™ is created instantly. AC or DC, single phase or three phase, even such hard-to-find configurations such as explosion-proof, Washguard and stainless steel "food-safe" GEAR + MOTORS™.....they're all available off the shelf from LEESON.

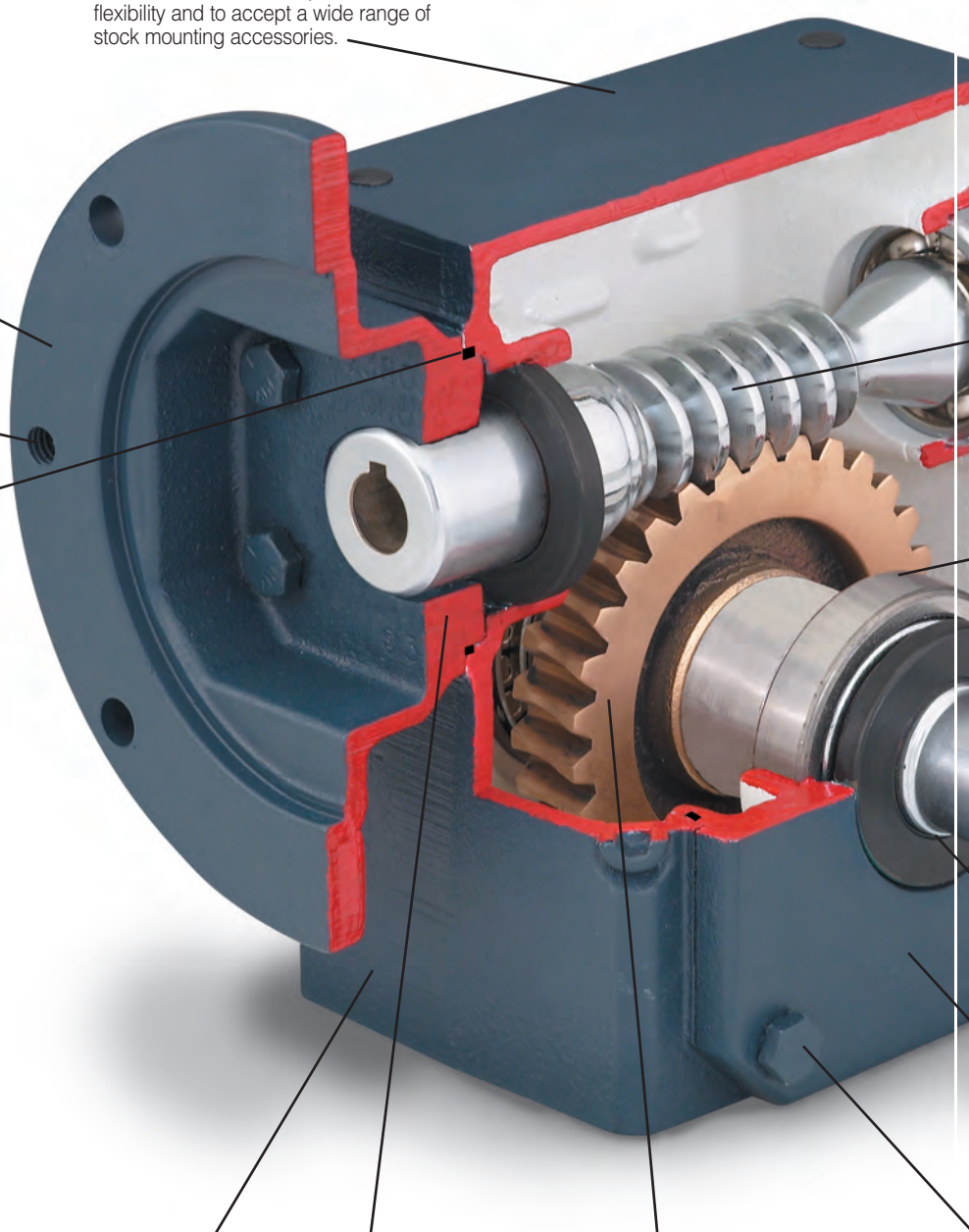
NEW IN THIS CATALOG

LEESON® OHIO GEAR™

TABLE OF CONTENTS

800 Series Gear Reducers Built For Industrial Use

Precision mounting surfaces and extra threaded bolt holes on top and bottom for flexibility and to accept a wide range of stock mounting accessories.



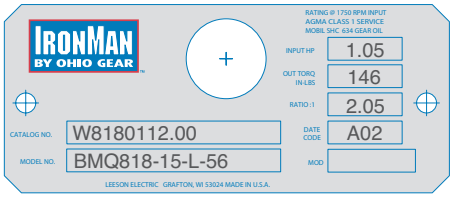
Cast iron NEMA C input flange with machined fits for precision alignment of motor and bearings.

Push-off holes drilled and tapped into flange for quick motor removal on quill input styles (56 & 140TC frames).

O-rings on input and output covers eliminate gaskets, sealants and leaks.

Mounting dimensions are interchangeable with Baldor 900 series, Boston Gear, Browning Raider, Falk, Grove, Morse Invader and other "industry standard" reducers.

Permanent "full fact" metal nameplate is drive screwed to housing for easy field identification even after years of service.



IronMan™ fine-grained, one-piece cast housing for rigidity and alignment. Machined for precision alignment of worm, worm gear, bearings and mounting surfaces. Superior resistance to environmental contaminants with high heat dissipation and noise reduction. BISSC certified reducers available for food service applications.

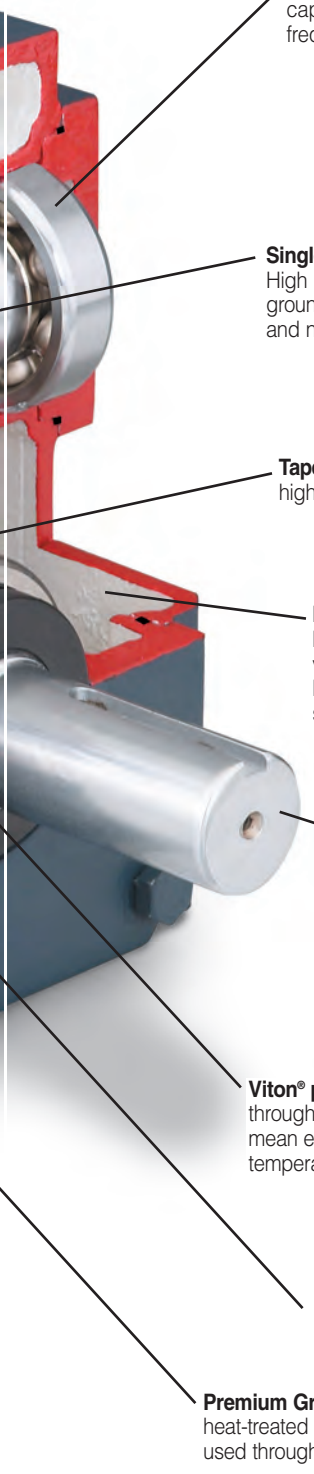
Seal Guard** on quill-input styles protects input seal from damage during motor installation.

** Sizes 813 through 852 only

Bronze alloy worm gear is chill cast from premium quality bronze for maximum strength, lubricity and superior life.

LEESON®

OHIO GEAR™



Oversized positively-retained high speed input shaft bearing for higher shock load capacity, shaft alignment and seal life. Ideal for frequent starting and reversing applications.

Single-piece, alloy steel input worm shaft. High lead angle worm is case-hardened, ground and polished for enhanced efficiency and noise reduction.

Tapered roller bearings on output shaft for high overhung and thrust load capacities.

High capacity oil reservoir reduces noise, aids heat dissipation and lubricates for life. Multiple venting options for multi-position mounting. Factory filled with premium Mobil SHC634 synthetic lubricant.

Robust output shaft of high strength steel alloy for superior torque and overhung load capacities.

Viton® premium quality, double lip seals** throughout —on micro-finished surfaces— mean extended life, resistance to high temperature, abrasion and chemicals.

Single output cover design provides precise centering of gear for lower noise levels and higher overall gear efficiencies.

Premium Grade 5 heat-treated bolts used throughout.

START WITH A BASIC SINGLE OR DOUBLE REDUCTION UNIT...

Style BMQ

Style DHMQ

AND ADD COMPONENTS...

Vertical Mount Kit

Horizontal Base Kit

J Mount Kit

Output Flange Mount Kit

Reaction Rod

TO CREATE THOUSANDS OF REDUCER AND GEAR+MOTOR™ COMBINATIONS

GEAR+MOTOR™

SINGLE REDUCTION SOLID SHAFT OUTPUT STYLES

LEESON OHIO GEAR™

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles BMQ, BM and B can be field or factory modified into a wide range of styles. See page 150 for details.

	Stock Styles	Modified Stock Styles		
		Horizontal Base Worm Over	Horizontal Base Worm Under	Horizontal Base Worm Center
MOTORIZED C FLANGE QUILL INPUT	**Style BMQ**	**Style TMQ**	**Style UMQ***	**Style RMQ**
				
	Ratings: Pages 12-33 Dimensions: Page 56	Ratings: Pages 12-33 Dimensions: Page 58	Ratings: Pages 12-33 Dimensions: Page 62	Ratings: Pages 12-33 Dimensions: Page 60
MOTORIZED C FLANGE FLEXIBLE COUPLING INPUT	**Style BM**	**Style TM**	**Style UM***	**Style RM**
				
	Ratings: Pages 12-33 Dimensions: Page 56	Ratings: Pages 12-33 Dimensions: Page 58	Ratings: Pages 12-33 Dimensions: Page 62	Ratings: Pages 12-33 Dimensions: Page 60
NON-FLANGED	**Style B**	**Style T**	**Style U***	**Style R**
				
	Ratings: Pages 12-33 Dimensions: Page 57	Ratings: Pages 12-33 Dimensions: Page 59	Ratings: Pages 12-33 Dimensions: Page 63	Ratings: Pages 12-33 Dimensions: Page 61

* Not a recommended mounting style.
Consult LEESON for selection assistance.

Additional accessories, options and assembly services are available, contact LEESON for details.

SINGLE REDUCTION
SOLID SHAFT OUTPUT STYLES

Vertical Input Shaft

Style JMQ

Ratings: Pages 12-33
Dimensions: Page 64

Style JM

Ratings: Pages 12-33
Dimensions: Page 64

Style J

Ratings: Pages 12-33
Dimensions: Page 65

Vertical Output Shaft Low Base

Style VLMQ **

Ratings: Pages 12-33
Dimensions: Page 66

Style VLM **

Ratings: Pages 12-33
Dimensions: Page 66

Style VL**

Ratings: Pages 12-33
Dimensions: Page 67

Vertical Output Shaft High Base

Style VHMQ **

Ratings: Pages 12-33
Dimensions: Page 68

Style VHM **

Ratings: Pages 12-33
Dimensions: Page 68

Style VH **

Ratings: Pages 12-33
Dimensions: Page 69

Flange Mounted Output Shaft

Style FMQ

Ratings: Pages 12-33
Dimensions: Page 70

Style FM

Ratings: Pages 12-33
Dimensions: Page 70

Style F

Ratings: Pages 12-33
Dimensions: Page 71

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

SINGLE REDUCTION
HOLLOW SHAFT OUTPUT STYLES

LEESON
OHIO GEAR™

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles HMQ, HM and H can be field or factory modified into a wide range of styles. See page 150 for details.

Vertical Input Shaft

MOTORIZED C FLANGE QUILL INPUT

Style HMQ

Ratings: Pages 12-33
Dimensions: Page 74

Style JHMQ

Ratings: Pages 12-33
Dimensions: Contact LEESON

MOTORIZED C FLANGE FLEXIBLE COUPLING INPUT

Style HM

Ratings: Pages 12-33
Dimensions: Page 74

Style JHM

Ratings: Pages 12-33
Dimensions: Contact LEESON

NON-FLANGED

Style H

Ratings: Pages 12-33
Dimensions: Page 75

Style JH

Ratings: Pages 12-33
Dimensions: Contact LEESON

Additional accessories, options and assembly services are available, contact LEESON for details.

Vertical Output Shaft Low Base

Style VLHMQ

Ratings: Pages 12-33
Dimensions: Contact LEESON

Style VLHM

Ratings: Pages 12-33
Dimensions: Contact LEESON

Style VLH

Ratings: Pages 12-33
Dimensions: Contact LEESON

Vertical Output Shaft High Base

Style VHHMQ

Ratings: Pages 12-33
Dimensions: Contact LEESON

Style VHHM

Ratings: Pages 12-33
Dimensions: Contact LEESON

Style VHH

Ratings: Pages 12-33
Dimensions: Contact LEESON

Flange Mounted Output Shaft

Style FHMQ

Ratings: Pages 12-33
Dimensions: Page 76

Style FHM

Ratings: Pages 12-33
Dimensions: Page 76

Style FH

Ratings: Pages 12-33
Dimensions: Page 77

SINGLE REDUCTION MODEL NUMBER SYSTEM

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LEESON 800 Series Gear Reducer Model Number Nomenclature

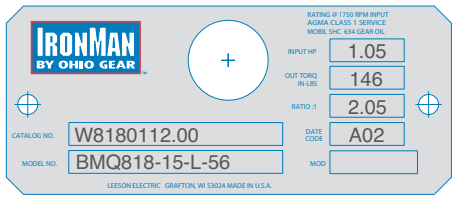
All stock and custom 800 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been factory modified by the addition of an optional base for example, the modification number T818, for example, is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, W8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, W8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from LEESON by catalog number.

TYPICAL NAMEPLATE



Style

SOLID OUTPUT SHAFT
BMQ – Motorized, Quill Input
BM – Motorized, Flexible Coupling Input
B – Non-Flanged
See pages 6 & 7 for other styles.

W prefix; i.e. WBMQ denotes WASHDOWN Reducer
S prefix; i.e. SBMQ denotes Stainless Steel Reducer

HOLLOW OUTPUT SHAFT
HMQ – Motorized, Quill Input
HM – Motorized, Flexible Coupling Input
H – Non-Flanged
See pages 8 & 9 for other styles.

Series

CAST IRON 800 SERIES CENTER DISTANCES

Series	Center Distance (Inches)
813	1.33
815	1.50
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
860	6.00

Ratio

STANDARD RATIOS

Series	Center Dist.(In.)	RATIO : 1 5	7.5	10	15	20	25	30	40	50	60	80	100
813	1.33	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
815	1.50	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
818	1.75	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
821	2.06	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
824	2.38	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
826	2.62	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
830	3.00	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
832	3.25	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
842	4.25	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
852	5.25	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
860	6.00	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

Output Shaft Orientation

L – Left-hand Output Shaft*
R – Right-hand Output Shaft*
D – Double Output Shaft
H – Hollow Output Shaft
* Viewed from drive end of reducer.

Motor Flange

NEMA Input Flange Code	For NEMA Frame
48	48CZ
56	56C
140	143-5TC
180	182-4TC
210	213-5TC
250	254-6TC

Output Bore Code

Hollow Shaft Only
See page 35.

Sample Model Number

Solid Shaft

Motorized Quill Input, Single Reduction Reducer, 1.75" Center Distance, 15:1 Ratio, Left Hand Output Shaft, and 5/8" Input Bore with NEMA 56C Flange.

BMQ	818	15	L	56
Style	Series	Ratio	Mounting Assembly	Motor Input Flange

Hollow Shaft

Motorized Quill Input, Single Reduction Reducer, 1.75" Center Distance, 15:1 Ratio, 1.00" Hollow Output Shaft, and 5/8" Input Bore with NEMA 56C Flange.

HMQ	818	15	H1	56	16
Style	Series	Ratio	Mounting Assembly	Motor Input Flange	Output Bore Code

How To Use Maximum Rating Tables

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages 12-33. Selection of the appropriate gear reducer can be made using these tables or the Quick Selection Tables (pages 38-55).

BEFORE YOU START:

Identify the Service Factor of the application (see page 174).

Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style charts shown on pages 6-9. Note the basic mounting style (BMQ, BM, etc.).

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

1 Find the appropriate Maximum Rating Tables pages for your basic mounting style. The tables begin on page 12.

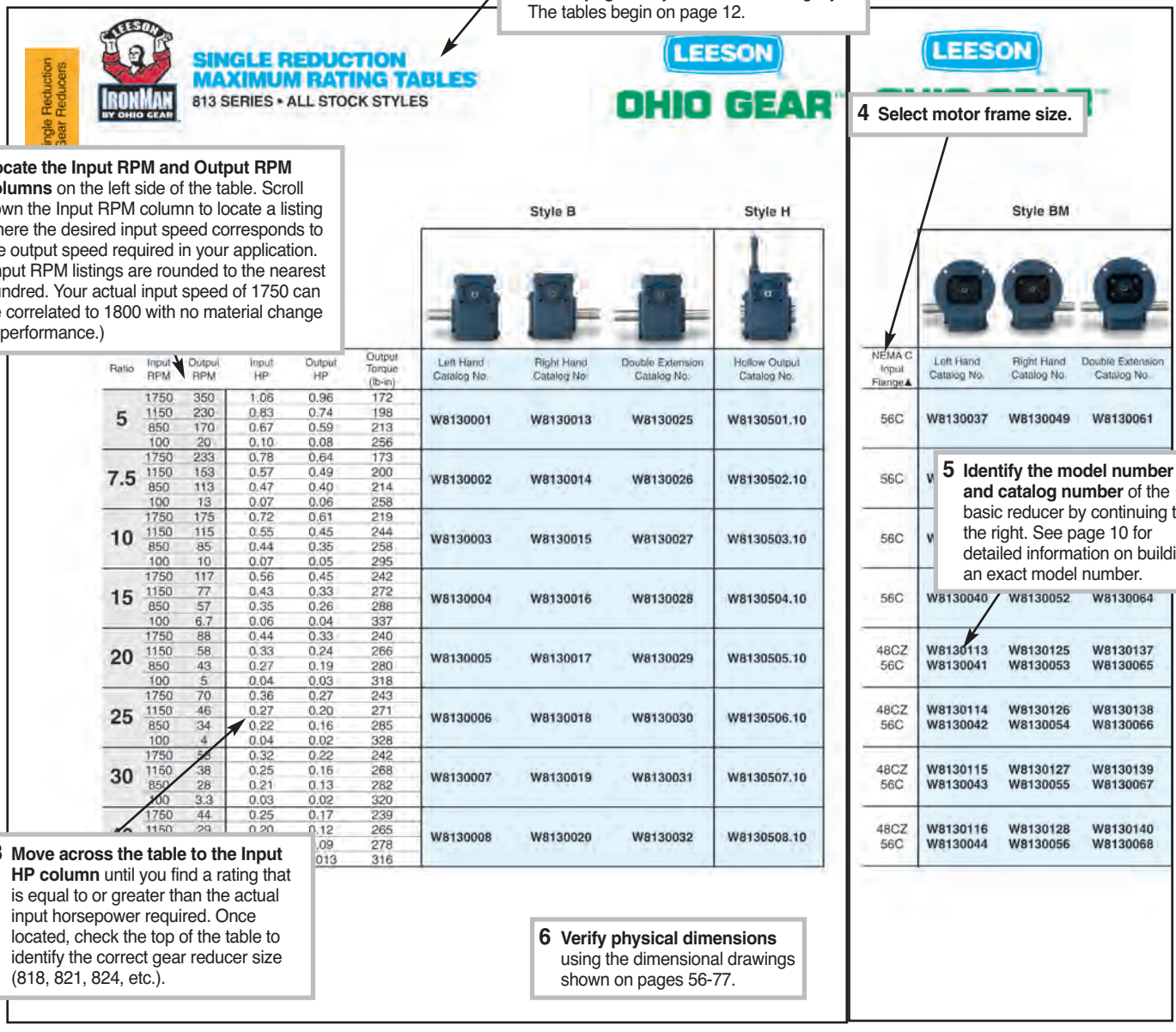
2 Locate the Input RPM and Output RPM columns on the left side of the table. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)

3 Move across the table to the Input HP column until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (818, 821, 824, etc.).

4 Select motor frame size.

5 Identify the model number and catalog number of the basic reducer by continuing to the right. See page 10 for detailed information on building an exact model number.

6 Verify physical dimensions using the dimensional drawings shown on pages 56-77.



SINGLE REDUCTION MAXIMUM RATING TABLES
813 SERIES • ALL STOCK STYLES

LEESON OHIO GEAR

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.
5	1750	350	1.06	0.96	172	W8130001	W8130013	W8130025	W8130501.10
	1150	230	0.83	0.74	198				
	850	170	0.67	0.59	213				
	100	20	0.10	0.08	256				
7.5	1750	233	0.78	0.64	173	W8130002	W8130014	W8130026	W8130502.10
	1150	153	0.57	0.49	200				
	850	113	0.47	0.40	214				
	100	13	0.07	0.06	258				
10	1750	175	0.72	0.61	219	W8130003	W8130015	W8130027	W8130503.10
	1150	115	0.55	0.45	244				
	850	85	0.44	0.35	258				
	100	10	0.07	0.05	295				
15	1750	117	0.56	0.45	242	W8130004	W8130016	W8130028	W8130504.10
	1150	77	0.43	0.33	272				
	850	57	0.35	0.26	288				
	100	6.7	0.06	0.04	337				
20	1750	88	0.44	0.33	240	W8130005	W8130017	W8130029	W8130505.10
	1150	58	0.33	0.24	266				
	850	43	0.27	0.19	280				
	100	5	0.04	0.03	318				
25	1750	70	0.36	0.27	243	W8130006	W8130018	W8130030	W8130506.10
	1150	46	0.27	0.20	271				
	850	34	0.22	0.16	285				
	100	4	0.04	0.02	328				
30	1750	58	0.32	0.22	242	W8130007	W8130019	W8130031	W8130507.10
	1150	38	0.25	0.16	268				
	850	28	0.21	0.13	282				
	100	3.3	0.03	0.02	320				
	1750	44	0.25	0.17	239	W8130008	W8130020	W8130032	W8130508.10
	1150	29	0.20	0.12	265				
				.09	278				
				013	316				

Style BM

NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.
56C	W8130037	W8130049	W8130061
56C	W		
56C	W		
56C	W8130040	W8130052	W8130064
48CZ 56C	W8130113 W8130041	W8130125 W8130053	W8130137 W8130065
48CZ 56C	W8130114 W8130042	W8130126 W8130054	W8130138 W8130066
48CZ 56C	W8130115 W8130043	W8130127 W8130055	W8130139 W8130067
48CZ 56C	W8130116 W8130044	W8130128 W8130056	W8130140 W8130068

SINGLE REDUCTION MAXIMUM RATING TABLES

813 SERIES • ALL STOCK STYLES

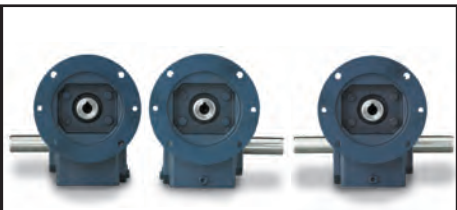
LEESON
OHIO GEAR™

813 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.
									
5	1750	350	1.06	0.96	172	W8130001	W8130013	W8130025	W8130501.10
	1150	230	0.83	0.74	198				
	850	170	0.67	0.59	213				
	100	20	0.10	0.08	256				
7.5	1750	233	0.78	0.64	173	W8130002	W8130014	W8130026	W8130502.10
	1150	153	0.57	0.49	200				
	850	113	0.47	0.40	214				
	100	13	0.07	0.06	258				
10	1750	175	0.72	0.61	219	W8130003	W8130015	W8130027	W8130503.10
	1150	115	0.55	0.45	244				
	850	85	0.44	0.35	258				
	100	10	0.07	0.05	295				
15	1750	117	0.56	0.45	242	W8130004	W8130016	W8130028	W8130504.10
	1150	77	0.43	0.33	272				
	850	57	0.35	0.26	288				
	100	6.7	0.06	0.04	337				
20	1750	88	0.44	0.33	240	W8130005	W8130017	W8130029	W8130505.10
	1150	58	0.33	0.24	266				
	850	43	0.27	0.19	280				
	100	5	0.04	0.03	318				
25	1750	70	0.36	0.27	243	W8130006	W8130018	W8130030	W8130506.10
	1150	46	0.27	0.20	271				
	850	34	0.22	0.16	285				
	100	4	0.04	0.02	328				
30	1750	58	0.32	0.22	242	W8130007	W8130019	W8130031	W8130507.10
	1150	38	0.25	0.16	268				
	850	28	0.21	0.13	282				
	100	3.3	0.03	0.02	320				
40	1750	44	0.25	0.17	239	W8130008	W8130020	W8130032	W8130508.10
	1150	29	0.20	0.12	265				
	850	21	0.17	0.09	278				
	100	2.5	0.03	0.013	316				
50	1750	35	0.23	0.13	233	W8130009	W8130021	W8130033	W8130509.10
	1150	23	0.18	0.10	268				
	850	17	0.15	0.08	282				
	100	2	0.03	0.010	316				
60	1750	29	0.18	0.10	220	W8130010	W8130022	W8130034	W8130510.10
	1150	19	0.15	0.07	244				
	850	14	0.12	0.06	261				
	100	1.7	0.02	0.008	300				
80	1750	22	0.12	0.06	181	W8130011	W8130023	W8130035	W8130511.10
	1150	14	0.09	0.05	200				
	850	11	0.08	0.04	209				
	100	1.3	0.01	0.005	237				
100	1750	18	0.08	0.04	142	W8130012	W8130024	W8130036	W8130512.10
	1150	12	0.06	0.03	156				
	850	9	0.05	0.02	163				
	100	1.0	0.01	0.003	185				

SINGLE REDUCTION MAXIMUM RATING TABLES

813 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
56C	**W8130037**	**W8130049**	**W8130061**	**W8130513.10**	**W8130073**	**W8130085**	**W8130097**	**W8130525.10**
56C	**W8130038**	**W8130050**	**W8130062**	**W8130514.10**	**W8130074**	**W8130086**	**W8130098**	**W8130526.10**
56C	**W8130039**	**W8130051**	**W8130063**	**W8130515.10**	**W8130075**	**W8130087**	**W8130099**	**W8130527.10**
56C	**W8130040**	**W8130052**	**W8130064**	**W8130516.10**	**W8130076**	**W8130088**	**W8130100**	**W8130528.10**
48CZ 56C	**W8130113** **W8130041**	**W8130125** **W8130053**	**W8130137** **W8130065**	**W8130541.10** **W8130517.10**	**W8130185** **W8130077**	**W8130197** **W8130089**	**W8130209** **W8130101**	**W8130565.10** **W8130529.10**
48CZ 56C	**W8130114** **W8130042**	**W8130126** **W8130054**	**W8130138** **W8130066**	**W8130542.10** **W8130518.10**	**W8130186** **W8130078**	**W8130198** **W8130090**	**W8130210** **W8130102**	**W8130566.10** **W8130530.10**
48CZ 56C	**W8130115** **W8130043**	**W8130127** **W8130055**	**W8130139** **W8130067**	**W8130543.10** **W8130519.10**	**W8130187** **W8130079**	**W8130199** **W8130091**	**W8130211** **W8130103**	**W8130567.10** **W8130531.10**
48CZ 56C	**W8130116** **W8130044**	**W8130128** **W8130056**	**W8130140** **W8130068**	**W8130544.10** **W8130520.10**	**W8130188** **W8130080**	**W8130200** **W8130092**	**W8130212** **W8130104**	**W8130568.10** **W8130532.10**
48CZ 56C	**W8130117** **W8130045**	**W8130129** **W8130057**	**W8130141** **W8130069**	**W8130545.10** **W8130521.10**	**W8130189** **W8130081**	**W8130201** **W8130093**	**W8130213** **W8130105**	**W8130569.10** **W8130533.10**
48CZ 56C	**W8130118** **W8130046**	**W8130130** **W8130058**	**W8130142** **W8130070**	**W8130546.10** **W8130522.10**	**W8130190** **W8130082**	**W8130202** **W8130094**	**W8130214** **W8130106**	**W8130570.10** **W8130534.10**
48CZ 56C	**W8130119** **W8130047**	**W8130131** **W8130059**	**W8130143** **W8130071**	**W8130547.10** **W8130523.10**	**W8130191** **W8130083**	**W8130203** **W8130095**	**W8130215** **W8130107**	**W8130571.10** **W8130535.10**
48CZ 56C	**W8130120** **W8130048**	**W8130132** **W8130060**	**W8130144** **W8130072**	**W8130548.10** **W8130524.10**	**W8130192** **W8130084**	**W8130204** **W8130096**	**W8130216** **W8130108**	**W8130572.10** **W8130536.10**

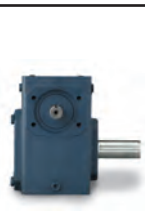
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

815 SERIES • ALL STOCK STYLES

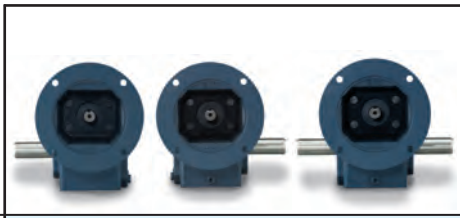
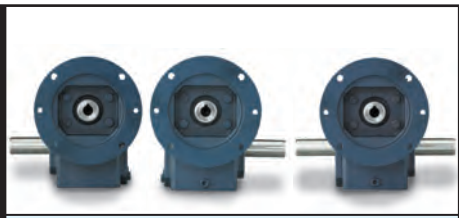
LEESON® OHIO GEAR™

815 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.
									
5	1750	350	1.62	1.46	263	W8150001	W8150013	W8150025	W8150501.10
	1150	230	1.32	1.17	316				
	850	170	1.10	0.96	347				
	100	20	0.02	0.14	443				
7.5	1750	233	1.24	1.09	294	W8150002	W8150014	W8150026	W8150502.10
	1150	153	1.01	0.87	350				
	850	113	0.84	0.71	383				
	100	13	0.14	0.10	484				
10	1750	175	1.02	0.87	313	W8150003	W8150015	W8150027	W8150503.10
	1150	115	0.83	0.69	372				
	850	85	0.69	0.56	406				
	100	10	0.12	0.08	511				
15	1750	117	0.77	0.62	334	W8150004	W8150016	W8150028	W8150504.10
	1150	77	0.64	0.49	396				
	850	57	0.53	0.40	433				
	100	6.7	0.09	0.06	542				
20	1750	88	0.64	0.48	349	W8150005	W8150017	W8150029	W8150505.10
	1150	58	0.53	0.38	411				
	850	43	0.44	0.31	447				
	100	5	0.08	0.04	556				
25	1750	70	0.54	0.40	353	W8150006	W8150018	W8150030	W8150506.10
	1150	46	0.45	0.31	414				
	850	34	0.38	0.25	450				
	100	4	0.07	0.04	556				
30	1750	58	0.47	0.32	343	W8150007	W8150019	W8150031	W8150507.10
	1150	38	0.40	0.25	406				
	850	28	0.34	0.20	443				
	100	3.3	0.07	0.03	555				
40	1750	44	0.39	0.24	347	W8150008	W8150020	W8150032	W8150508.10
	1150	29	0.33	0.19	408				
	850	21	0.28	0.15	444				
	100	2.5	0.06	0.02	552				
50	1750	35	0.33	0.19	339	W8150009	W8150021	W8150033	W8150509.10
	1150	23	0.28	0.15	398				
	850	17	0.24	0.12	432				
	100	2	0.05	0.02	533				
60	1750	29	0.28	0.15	323	W8150010	W8150022	W8150034	W8150510.10
	1150	19	0.24	0.12	378				
	850	14	0.21	0.09	410				
	100	1.7	0.04	0.01	505				
80	1750	22	0.20	0.09	269	W8150011	W8150023	W8150035	W8150511.10
	1150	14	0.18	0.07	314				
	850	11	0.15	0.06	340				
	100	1.3	0.03	0.01	418				
100	1750	18	0.15	0.06	213	W8150012	W8150024	W8150036	W8150512.10
	1150	12	0.13	0.05	248				
	850	9	0.11	0.04	268				
	100	1.0	0.02	0.01	328				

SINGLE REDUCTION MAXIMUM RATING TABLES

815 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
56C 143-5TC	W8150073 W8150109	W8150085 W8150121	W8150097 W8150133	W8150525.10 W8150537.10	W8150181 W8150217	W8150193 W8150229	W8150205 W8150241	W8150561.10 W8150573.10
56C 143-5TC	W8150074 W8150110	W8150086 W8150122	W8150098 W8150134	W8150526.10 W8150538.10	W8150182 W8150218	W8150194 W8150230	W8150206 W8150242	W8150562.10 W8150574.10
56C 143-5TC	W8150075 W8150111	W8150087 W8150123	W8150099 W8150135	W8150527.10 W8150539.10	W8150183 W8150219	W8150195 W8150231	W8150207 W8150243	W8150563.10 W8150575.10
56C 143-5TC	W8150076 W8150112	W8150088 W8150124	W8150100 W8150136	W8150528.10 W8150540.10	W8150184 W8150220	W8150196 W8150232	W8150208 W8150244	W8150564.10 W8150576.10
56C 143-5TC	W8150077 W8150113	W8150089 W8150125	W8150101 W8150137	W8150529.10 W8150541.10	W8150185 W8150221	W8150197 W8150233	W8150209 W8150245	W8150565.10 W8150577.10
56C	W8150078	W8150090	W8150102	W8150530.10	W8150186	W8150198	W8150210	W8150566.10
48CZ 56C	W8150043 W8150079	W8150055 W8150091	W8150067 W8150103	W8150519.10 W8150531.10	W8150151 W8150187	W8150163 W8150199	W8150175 W8150211	W8150555.10 W8150567.10
48CZ 56C	W8150044 W8150080	W8150056 W8150092	W8150068 W8150104	W8150520.10 W8150532.10	W8150152 W8150188	W8150164 W8150200	W8150176 W8150212	W8150556.10 W8150568.10
48CZ 56C	W8150045 W8150081	W8150057 W8150093	W8150069 W8150105	W8150521.10 W8150533.10	W8150153 W8150189	W8150165 W8150201	W8150177 W8150213	W8150557.10 W8150569.10
48CZ 56C	W8150046 W8150082	W8150058 W8150094	W8150070 W8150106	W8150522.10 W8150534.10	W8150154 W8150190	W8150166 W8150202	W8150178 W8150214	W8150558.10 W8150570.10
48CZ 56C	W8150047 W8150083	W8150059 W8150095	W8150071 W8150107	W8150523.10 W8150535.10	W8150155 W8150191	W8150167 W8150203	W8150179 W8150215	W8150559.10 W8150571.10
48CZ 56C	W8150048 W8150084	W8150060 W8150096	W8150072 W8150108	W8150524.10 W8150536.10	W8150156 W8150192	W8150168 W8150204	W8150180 W8150216	W8150560.10 W8150572.10

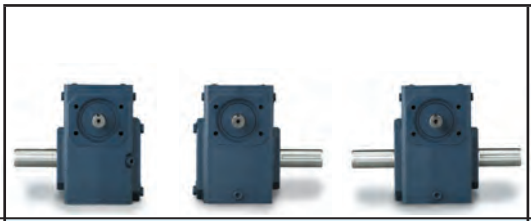
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

818 SERIES • ALL STOCK STYLES

LEESON
OHIO GEAR™

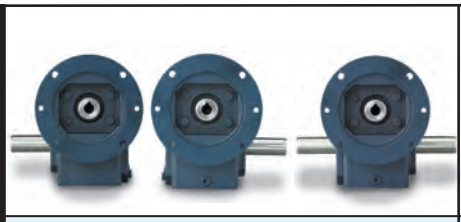
818 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B: Left Hand Catalog No.	Style B: Right Hand Catalog No.	Style B: Double Extension Catalog No.	Style H: Hollow Output Catalog No.*
									
5	1750	350	1.70	1.56	281	W8180001	W8180013	W8180025	W8180501.XX
	1150	230	1.39	1.26	339				
	850	170	1.15	1.03	373				
	100	20	0.19	0.15	478				
7.5	1750	233	1.67	1.50	404	W8180002	W8180014	W8180026	W8180502.XX
	1150	153	1.28	1.13	465				
	850	113	1.05	0.91	496				
	100	13	0.16	0.13	595				
10	1750	175	1.38	1.21	436	W8180003	W8180015	W8180027	W8180503.XX
	1150	115	1.06	0.91	496				
	850	85	0.87	0.71	529				
	100	10	0.13	0.10	622				
15	1750	117	1.05	0.87	470	W8180004	W8180016	W8180028	W8180504.XX
	1150	77	0.81	0.65	532				
	850	57	0.66	0.51	567				
	100	6.7	0.11	0.07	662				
20	1750	88	0.82	0.67	480	W8180005	W8180017	W8180029	W8180505.XX
	1150	58	0.53	0.49	542				
	850	43	0.52	0.39	577				
	100	5	0.08	0.05	672				
25	1750	70	0.67	0.53	477	W8180006	W8180018	W8180030	W8180506.XX
	1150	46	0.51	0.39	540				
	850	34	0.42	0.32	571				
	100	4	0.07	0.04	669				
30	1750	58	0.61	0.45	485	W8180007	W8180019	W8180031	W8180507.XX
	1150	38	0.48	0.33	547				
	850	28	0.40	0.26	582				
	100	3.3	0.07	0.04	677				
40	1750	44	0.48	0.33	480	W8180008	W8180020	W8180032	W8180508.XX
	1150	29	0.38	0.25	541				
	850	21	0.30	0.19	574				
	100	2.5	0.05	0.03	667				
50	1750	35	0.40	0.26	463	W8180009	W8180021	W8180033	W8180509.XX
	1150	23	0.30	0.19	520				
	850	17	0.25	0.15	551				
	100	2	0.04	0.02	638				
60	1750	29	0.32	0.20	434	W8180010	W8180022	W8180034	W8180510.XX
	1150	19	0.25	0.15	485				
	850	14	0.21	0.12	513				
	100	1.7	0.04	0.02	589				
80	1750	22	0.21	0.12	353	W8180011	W8180023	W8180035	W8180511.XX
	1150	14	0.16	0.09	394				
	850	11	0.14	0.07	415				
	100	1.3	0.02	0.01	478				
100	1750	18	0.14	0.08	277	W8180012	W8180024	W8180036	W8180512.XX
	1150	12	0.11	0.06	308				
	850	9	0.09	0.05	324				
	100	1.0	0.02	0.01	371				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

SINGLE REDUCTION MAXIMUM RATING TABLES

818 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
56C 143-5TC	**W8180037** **W8180073**	**W8180049** **W8180085**	**W8180061** **W8180097**	**W8180513.XX** **W8180525.XX**	**W8180109** **W8180145**	**W8180121** **W8180157**	**W8180133** **W8180169**	**W8180537.XX** **W8180549.XX**
56C 143-5TC	**W8180038** **W8180074**	**W8180050** **W8180086**	**W8180062** **W8180098**	**W8180514.XX** **W8180526.XX**	**W8180110** **W8180146**	**W8180122** **W8180158**	**W8180134** **W8180170**	**W8180538.XX** **W8180550.XX**
56C 143-5TC	**W8180039** **W8180075**	**W8180051** **W8180087**	**W8180063** **W8180099**	**W8180515.XX** **W8180527.XX**	**W8180111** **W8180147**	**W8180123** **W8180159**	**W8180135** **W8180171**	**W8180539.XX** **W8180551.XX**
56C 143-5TC	**W8180040** **W8180076**	**W8180052** **W8180088**	**W8180064** **W8180100**	**W8180516.XX** **W8180528.XX**	**W8180112** **W8180148**	**W8180124** **W8180160**	**W8180136** **W8180172**	**W8180540.XX** **W8180552.XX**
56C 143-5TC	**W8180041** **W8180077**	**W8180053** **W8180089**	**W8180065** **W8180101**	**W8180517.XX** **W8180529XX**	**W8180113** **W8180149**	**W8180125** **W8180161**	**W8180137** **W8180173**	**W8180541.XX** **W8180553.XX**
56C 143-5TC	**W8180042** **W8180078**	**W8180054** **W8180090**	**W8180066** **W8180102**	**W8180518.XX** **W8180530.XX**	**W8180114** **—**	**W8180126** **—**	**W8180138** **—**	**W8180542.XX** **—**
56C 143-5TC	**W8180043** **W8180079**	**W8180055** **W8180091**	**W8180067** **W8180103**	**W8180519.XX** **W8180531.XX**	**W8180115** **—**	**W8180127** **—**	**W8180139** **—**	**W8180543.XX** **—**
48CZ 56C 143-5TC	**W8180188** **W8180044** **W8180080**	**W8180200** **W8180056** **W8180092**	**W8180212** **W8180068** **W8180104**	**W8180568.XX** **W8180520.XX** **W8180532.XX**	**W8180224** **W8180116** **—**	**W8180236** **W8180128** **—**	**W8180248** **W8180140** **—**	**W8180580.XX** **W8180544.XX** **—**
48CZ 56C 143-5TC	**W8180189** **W8180045** **W8180081**	**W8180201** **W8180057** **W8180093**	**W8180213** **W8180069** **W8180105**	**W8180569.XX** **W8180521.XX** **W8180533.XX**	**W8180225** **W8180117** **—**	**W8180237** **W8180129** **—**	**W8180249** **W8180141** **—**	**W8180581.XX** **W8180545.XX** **—**
48CZ 56C 143-5TC	**W8180190** **W8180046** **W8180082**	**W8180202** **W8180058** **W8180094**	**W8180214** **W8180070** **W8180106**	**W8180570.XX** **W8180522.XX** **W8180534.XX**	**W8180226** **W8180118** **—**	**W8180238** **W8180130** **—**	**W8180250** **W8180142** **—**	**W8180582.XX** **W8180546.XX** **—**
48CZ 56C	**W8180191** **W8180047**	**W8180203** **W8180059**	**W8180215** **W8180071**	**W8180571.XX** **W8180523.XX**	**W8180227** **W8180119**	**W8180239** **W8180131**	**W8180251** **W8180143**	**W8180583.XX** **W8180547.XX**
48CZ 56C	**W8180192** **W8180048**	**W8180204** **W8180060**	**W8180216** **W8180072**	**W8180572.XX** **W8180524.XX**	**W8180228** **W8180120**	**W8180240** **W8180132**	**W8180252** **W8180144**	**W8180584.XX** **W8180548.XX**

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

821 SERIES • ALL STOCK STYLES

LEESON
OHIO GEAR™

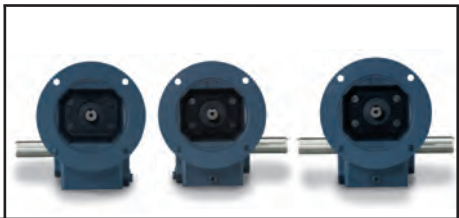
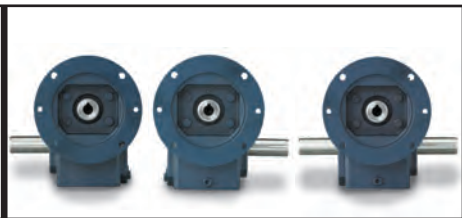
821 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
									
5	1750	350	2.51	2.32	418	W8210001	W8210013	W8210025	W8210501.XX
	1150	230	2.10	1.92	517				
	850	170	1.77	1.60	578				
	100	20	0.29	0.24	766				
7.5	1750	233	2.48	2.24	605	W8210002	W8210014	W8210026	W8210502.XX
	1150	153	2.02	1.72	705				
	850	113	1.58	1.40	758				
	100	13	0.24	0.20	923				
10	1750	175	2.10	1.86	671	W8210003	W8210015	W8210027	W8210503.XX
	1150	115	1.66	1.42	778				
	850	85	1.37	1.13	838				
	100	10	0.21	0.16	1009				
15	1750	117	1.58	1.34	725	W8210004	W8210016	W8210028	W8210504.XX
	1150	77	1.24	1.02	836				
	850	57	1.01	0.81	897				
	100	6.7	0.15	0.11	1071				
20	1750	88	1.25	1.03	742	W8210005	W8210017	W8210029	W8210505.XX
	1150	58	0.99	0.78	853				
	850	43	0.81	0.62	915				
	100	5	0.13	0.09	1090				
25	1750	70	1.01	0.82	735	W8210006	W8210018	W8210030	W8210506.XX
	1150	46	0.79	0.62	844				
	850	34	0.65	0.50	901				
	100	4	0.10	0.07	1076				
30	1750	58	0.90	0.69	749	W8210007	W8210019	W8210031	W8210507.XX
	1150	38	0.72	0.52	860				
	850	28	0.60	0.41	922				
	100	3.3	0.10	0.06	1096				
40	1750	44	0.72	0.52	742	W8210008	W8210020	W8210032	W8210508.XX
	1150	29	0.57	0.39	851				
	850	21	0.47	0.31	912				
	100	2.5	0.08	0.04	1083				
50	1750	35	0.57	0.40	720	W8210009	W8210021	W8210033	W8210509.XX
	1150	23	0.47	0.30	826				
	850	17	0.39	0.24	885				
	100	2	0.07	0.03	1051				
60	1750	29	0.49	0.31	674	W8210010	W8210022	W8210034	W8210510.XX
	1150	19	0.41	0.23	765				
	850	14	0.34	0.18	815				
	100	1.7	0.06	0.03	956				
80	1750	22	0.33	0.19	552	W8210011	W8210023	W8210035	W8210511.XX
	1150	14	0.25	0.14	628				
	850	11	0.21	0.12	667				
	100	1.3	0.04	0.02	787				
100	1750	18	0.22	0.12	433	W8210012	W8210024	W8210036	W8210512.XX
	1150	12	0.17	0.09	492				
	850	9	0.15	0.07	522				
	100	1.0	0.03	0.01	614				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

SINGLE REDUCTION MAXIMUM RATING TABLES

821 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
56C 143-5TC	**W8210037** **W8210073**	**W8210049** **W8210085**	**W8210061** **W8210097**	**W8210513.XX** **W8210525.XX**	**W8210109** **W8210145**	**W8210121** **W8210157**	**W8210133** **W8210169**	**W8210537.XX** **W8210549.XX**
56C 143-5TC	**W8210038** **W8210074**	**W8210050** **W8210086**	**W8210062** **W8210098**	**W8210514.XX** **W8210526.XX**	**W8210110** **W8210146**	**W8210122** **W8210158**	**W8210134** **W8210170**	**W8210538.XX** **W8210550.XX**
56C 143-5TC	**W8210039** **W8210075**	**W8210051** **W8210087**	**W8210063** **W8210099**	**W8210515.XX** **W8210527.XX**	**W8210111** **W8210147**	**W8210123** **W8210159**	**W8210135** **W8210171**	**W8210539.XX** **W8210551.XX**
56C 143-5TC	**W8210040** **W8210076**	**W8210052** **W8210088**	**W8210064** **W8210100**	**W8210516.XX** **W8210528.XX**	**W8210112** **W8210148**	**W8210124** **W8210160**	**W8210136** **W8210172**	**W8210540.XX** **W8210552.XX**
56C 143-5TC	**W8210041** **W8210077**	**W8210053** **W8210089**	**W8210065** **W8210101**	**W8210517.XX** **W8210529.XX**	**W8210113** **W8210149**	**W8210125** **W8210161**	**W8210137** **W8210173**	**W8210541.XX** **W8210553.XX**
56C 143-5TC	**W8210042** **W8210078**	**W8210054** **W8210090**	**W8210066** **W8210102**	**W8210518.XX** **W8210530.XX**	**W8210114** **W8210150**	**W8210126** **W8210162**	**W8210138** **W8210174**	**W8210542.XX** **W8210554.XX**
56C 143-5TC	**W8210043** **W8210079**	**W8210055** **W8210091**	**W8210067** **W8210103**	**W8210519.XX** **W8210531.XX**	**W8210115** **W8210151**	**W8210127** **W8210163**	**W8210139** **W8210175**	**W8210543.XX** **W8210555.XX**
56C 143-5TC	**W8210044** **W8210080**	**W8210056** **W8210092**	**W8210068** **W8210104**	**W8210520.XX** **W8210532.XX**	**W8210116** —	**W8210128** —	**W8210140** —	**W8210544.XX** —
56C 143-5TC	**W8210045** **W8210081**	**W8210057** **W8210093**	**W8210069** **W8210105**	**W8210521.XX** **W8210533.XX**	**W8210117** —	**W8210129** —	**W8210141** —	**W8210545.XX** —
48CZ 56C 143-5TC	**W8210190** **W8210046** **W8210082**	**W8210202** **W8210058** **W8210094**	**W8210214** **W8210070** **W8210106**	**W8210570.XX** **W8210522.XX** **W8210534.XX**	**W8210226** **W8210118** —	**W8210238** **W8210130** —	**W8210250** **W8210142** —	**W8210582.XX** **W8210546.XX** —
48CZ 56C	**W8210191** **W8210047**	**W8210203** **W8210059**	**W8210215** **W8210071**	**W8210571.XX** **W8210523.XX**	**W8210227** **W8210119**	**W8210239** **W8210131**	**W8210251** **W8210143**	**W8210583.XX** **W8210547.XX**
48CZ 56C	**W8210192** **W8210048**	**W8210204** **W8210060**	**W8210216** **W8210072**	**W8210572.XX** **W8210524.XX**	**W8210228** **W8210120**	**W8210240** **W8210132**	**W8210252** **W8210144**	**W8210584.XX** **W8210548.XX**

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

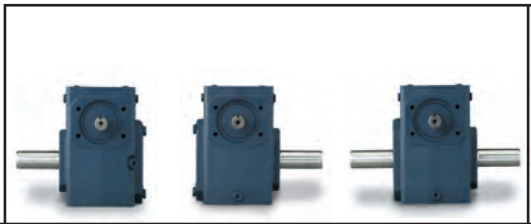
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

824 SERIES • ALL STOCK STYLES

LEESON OHIO GEAR™

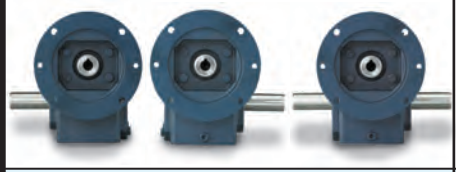
824 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
									
5	1750	350	3.89	3.63	653	W8240001	W8240013	W8240025	W8240501.XX
	1150	230	3.34	3.08	829				
	850	170	2.84	2.59	937				
	100	20	0.49	0.41	1286				
7.5	1750	233	3.47	3.20	863	W8240002	W8240014	W8240026	W8240502.XX
	1150	153	2.87	2.61	1053				
	850	113	2.40	2.15	1168				
	100	13	0.39	0.32	1523				
10	1750	175	3.13	2.75	992	W8240003	W8240015	W8240027	W8240503.XX
	1150	115	2.55	2.16	1182				
	850	85	2.12	1.74	1291				
	100	10	0.33	0.26	1607				
15	1750	117	2.33	1.99	1076	W8240004	W8240016	W8240028	W8240504.XX
	1150	77	1.90	1.55	1276				
	850	57	1.59	1.25	1389				
	100	6.7	0.25	0.18	1718				
20	1750	88	1.85	1.53	1101	W8240005	W8240017	W8240029	W8240505.XX
	1150	58	1.51	1.19	1299				
	850	43	1.27	0.95	1412				
	100	5	0.21	0.14	1737				
25	1750	70	1.56	1.21	1087	W8240006	W8240018	W8240030	W8240506.XX
	1150	46	1.18	0.93	1279				
	850	34	1.04	0.76	1379				
	100	4	0.16	0.11	1698				
30	1750	58	1.33	1.03	1113	W8240007	W8240019	W8240031	W8240507.XX
	1150	38	1.10	0.80	1314				
	850	28	0.93	0.64	1428				
	100	3.3	0.16	0.09	1758				
40	1750	44	1.05	0.76	1101	W8240008	W8240020	W8240032	W8240508.XX
	1150	29	0.88	0.59	1297				
	850	21	0.74	0.47	1407				
	100	2.5	0.13	0.07	1726				
50	1750	35	0.86	0.59	1065	W8240009	W8240021	W8240033	W8240509.XX
	1150	23	0.72	0.45	1245				
	850	17	0.62	0.36	1347				
	100	2	0.11	0.05	1638				
60	1750	29	0.72	0.47	1007	W8240010	W8240022	W8240034	W8240510.XX
	1150	19	0.57	0.36	1173				
	850	14	0.47	0.29	1266				
	100	1.7	0.08	0.04	1531				
80	1750	22	0.46	0.29	830	W8240011	W8240023	W8240035	W8240511.XX
	1150	14	0.37	0.22	946				
	850	11	0.31	0.18	1011				
	100	1.3	0.06	0.02	1202				
100	1750	18	0.30	0.18	648	W8240012	W8240024	W8240036	W8240512.XX
	1150	12	0.25	0.14	735				
	850	9	0.21	0.11	784				
	100	1.0	0.04	0.02	926				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

SINGLE REDUCTION MAXIMUM RATING TABLES

824 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
143-5TC 182-4TC	**W8240073** **W8240109**	**W8240085** **W8240121**	**W8240097** **W8240133**	**W8240525.XX** **W8240537.XX**	**W8240181** **W8240217**	**W8240193** **W8240229**	**W8240205** **W8240241**	**W8240561.XX** **W8240573.XX**
143-5TC 182-4TC	**W8240074** **W8240110**	**W8240086** **W8240122**	**W8240098** **W8240134**	**W8240526.XX** **W8240538.XX**	**W8240182** **W8240218**	**W8240194** **W8240230**	**W8240206** **W8240242**	**W8240562.XX** **W8240574.XX**
143-5TC 182-4TC	**W8240075** **W8240111**	**W8240087** **W8240123**	**W8240099** **W8240135**	**W8240527.XX** **W8240539.XX**	**W8240183** **W8240219**	**W8240195** **W8240231**	**W8240207** **W8240243**	**W8240563.XX** **W8240575.XX**
56C 143-5TC	**W8240040** **W8240076**	**W8240052** **W8240088**	**W8240064** **W8240100**	**W8240516.XX** **W8240528.XX**	**W8240148** **W8240184**	**W8240160** **W8240196**	**W8240172** **W8240208**	**W8240552.XX** **W8240564.XX**
56C 143-5TC	**W8240041** **W8240077**	**W8240053** **W8240089**	**W8240065** **W8240101**	**W8240517.XX** **W8240529.XX**	**W8240149** **W8240185**	**W8240161** **W8240197**	**W8240173** **W8240209**	**W8240553.XX** **W8240565.XX**
56C 143-5TC	**W8240042** **W8240078**	**W8240054** **W8240090**	**W8240066** **W8240102**	**W8240518.XX** **W8240530.XX**	**W8240150** **W8240186**	**W8240162** **W8240198**	**W8240174** **W8240210**	**W8240554.XX** **W8240566.XX**
56C 143-5TC	**W8240043** **W8240079**	**W8240055** **W8240091**	**W8240067** **W8240103**	**W8240519.XX** **W8240531.XX**	**W8240151** **W8240187**	**W8240163** **W8240199**	**W8240175** **W8240211**	**W8240555.XX** **W8240567.XX**
56C 143-5TC	**W8240044** **W8240080**	**W8240056** **W8240092**	**W8240068** **W8240104**	**W8240520.XX** **W8240532.XX**	**W8240152** **W8240188**	**W8240164** **W8240200**	**W8240176** **W8240212**	**W8240556.XX** **W8240568.XX**
56C 143-5TC	**W8240045** **W8240081**	**W8240057** **W8240093**	**W8240069** **W8240105**	**W8240521.XX** **W8240533.XX**	**W8240153** **W8240189**	**W8240165** **W8240201**	**W8240177** **W8240213**	**W8240557.XX** **W8240569.XX**
56C 143-5TC	**W8240046** **W8240082**	**W8240058** **W8240094**	**W8240070** **W8240106**	**W8240522.XX** **W8240534.XX**	**W8240154** —	**W8240166** —	**W8240178** —	**W8240558.XX** —
56C	**W8240047**	**W8240059**	**W8240071**	**W8240523.XX**	**W8240155**	**W8240167**	**W8240179**	**W8240559.XX**
56C	**W8240048**	**W8240060**	**W8240072**	**W8240524.XX**	**W8240156**	**W8240168**	**W8240180**	**W8240560.XX**

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

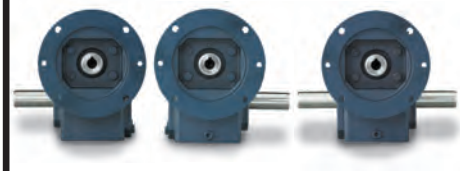
826 SERIES • ALL STOCK STYLES

LEESON OHIO GEAR™

826 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
									
5	1750	350	4.80	4.50	810	W8260001	W8260013	W8260025	W8260501.XX
	1150	230	4.05	3.75	1028				
	850	170	3.47	3.18	1179				
	100	20	0.61	0.51	1617				
7.5	1750	233	4.27	3.95	1068	W8260002	W8260014	W8260026	W8260502.XX
	1150	153	3.58	3.28	1322				
	850	113	3.01	2.72	1477				
	100	13	0.50	0.42	1962				
10	1750	175	3.99	3.65	1315	W8260003	W8260015	W8260027	W8260503.XX
	1150	115	3.26	2.91	1596				
	850	85	2.70	2.37	1758				
	100	10	0.43	0.35	2206				
15	1750	117	3.04	2.64	1427	W8260004	W8260016	W8260028	W8260504.XX
	1150	77	2.46	2.09	1719				
	850	57	2.02	1.70	1886				
	100	6.7	0.31	0.23	2164				
20	1750	88	2.42	2.03	1463	W8260005	W8260017	W8260029	W8260505.XX
	1150	58	1.96	1.60	1757				
	850	43	1.60	1.30	1926				
	100	5	0.26	0.19	2332				
25	1750	70	2.03	1.61	1445	W8260006	W8260018	W8260030	W8260506.XX
	1150	46	1.55	1.24	1704				
	850	34	1.29	1.02	1841				
	100	4	0.21	0.14	2275				
30	1750	58	1.78	1.37	1479	W8260007	W8260019	W8260031	W8260507.XX
	1150	38	1.44	1.08	1773				
	850	28	1.20	0.87	1941				
	100	3.3	0.20	0.12	2292				
40	1750	44	1.39	1.02	1464	W8260008	W8260020	W8260032	W8260508.XX
	1150	29	1.14	0.80	1754				
	850	21	0.95	0.65	1920				
	100	2.5	0.17	0.09	2345				
50	1750	35	1.12	0.79	1416	W8260009	W8260021	W8260033	W8260509.XX
	1150	23	0.93	0.61	1678				
	850	17	0.77	0.49	1826				
	100	2	0.13	0.07	2206				
60	1750	29	0.96	0.62	1343	W8260010	W8260022	W8260034	W8260510.XX
	1150	19	0.77	0.48	1587				
	850	14	0.64	0.39	1726				
	100	1.7	0.11	0.05	2002				
80	1750	22	0.60	0.38	1095	W8260011	W8260023	W8260035	W8260511.XX
	1150	14	0.52	0.29	1284				
	850	11	0.42	0.24	1382				
	100	1.3	0.08	0.03	1695				
100	1750	18	0.40	0.24	856	W8260012	W8260024	W8260036	W8260512.XX
	1150	12	0.35	0.18	996				
	850	9	0.28	0.15	1069				
	100	1.0	0.05	0.02	1299				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
143-5TC 182-4TC	**W8260073** **W8260109**	**W8260085** **W8260121**	**W8260097** **W8260133**	**W8260525.XX** **W8260537.XX**	**W8260181** **W8260217**	**W8260193** **W8260229**	**W8260205** **W8260241**	**W8260561.XX** **W8260573.XX**
143-5TC 182-4TC	**W8260074** **W8260110**	**W8260086** **W8260122**	**W8260098** **W8260134**	**W8260526.XX** **W8260538.XX**	**W8260182** **W8260218**	**W8260194** **W8260230**	**W8260206** **W8260242**	**W8260562.XX** **W8260574.XX**
143-5TC 182-4TC	**W8260075** **W8260111**	**W8260087** **W8260123**	**W8260099** **W8260135**	**W8260527.XX** **W8260539.XX**	**W8260183** **W8260219**	**W8260195** **W8260231**	**W8260207** **W8260243**	**W8260563.XX** **W8260575.XX**
143-5TC 182-4TC	**W8260076** **W8260112**	**W8260088** **W8260124**	**W8260100** **W8260136**	**W8260528.XX** **W8260540.XX**	**W8260184** **W8260220**	**W8260196** **W8260232**	**W8260208** **W8260244**	**W8260564.XX** **W8260576.XX**
56C 143-5TC	**W8260041** **W8260077**	**W8260053** **W8260089**	**W8260065** **W8260101**	**W8260517.XX** **W8260529.XX**	**W8260149** **W8260185**	**W8260161** **W8260197**	**W8260173** **W8260209**	**W8260553.XX** **W8260565.XX**
56C 143-5TC	**W8260042** **W8260078**	**W8260054** **W8260090**	**W8260066** **W8260102**	**W8260518.XX** **W8260530.XX**	**W8260150** **W8260186**	**W8260162** **W8260198**	**W8260174** **W8260210**	**W8260554.XX** **W8260566.XX**
56C 143-5TC	**W8260043** **W8260079**	**W8260055** **W8260091**	**W8260067** **W8260103**	**W8260519.XX** **W8260531.XX**	**W8260151** **W8260187**	**W8260163** **W8260199**	**W8260175** **W8260211**	**W8260555.XX** **W8260567.XX**
56C 143-5TC	**W8260044** **W8260080**	**W8260056** **W8260092**	**W8260068** **W8260104**	**W8260520.XX** **W8260532.XX**	**W8260152** **W8260188**	**W8260164** **W8260200**	**W8260176** **W8260212**	**W8260556.XX** **W8260568.XX**
56C 143-5TC	**W8260045** **W8260081**	**W8260057** **W8260093**	**W8260069** **W8260105**	**W8260521.XX** **W8260533.XX**	**W8260153** **W8260189**	**W8260165** **W8260201**	**W8260177** **W8260213**	**W8260557.XX** **W8260569.XX**
56C 143-5TC	**W8260046** **W8260082**	**W8260058** **W8260094**	**W8260070** **W8260106**	**W8260522.XX** **W8260534.XX**	**W8260154** **W8260190**	**W8260166** **W8260202**	**W8260178** **W8260214**	**W8260558.XX** **W8260570.XX**
56C	**W8260047**	**W8260059**	**W8260071**	**W8260523.XX**	**W8260155**	**W8260167**	**W8260179**	**W8260559.XX**
56C	**W8260048**	**W8260060**	**W8260072**	**W8260524.XX**	**W8260156**	**W8260168**	**W8260180**	**W8260560.XX**

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

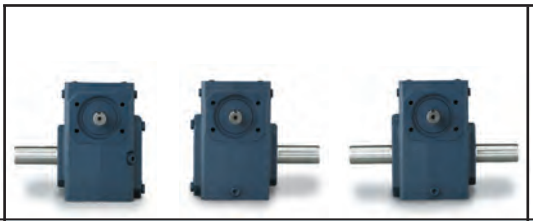
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

830 SERIES • ALL STOCK STYLES

LEESON OHIO GEAR™

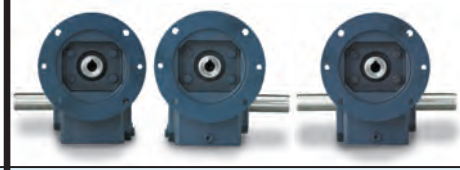
830 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
									
5	1750	350	6.68	6.29	1131	W8300001	W8300013	W8300025	W8300501.XX
	1150	230	5.65	5.25	1413				
	850	170	4.95	4.56	1650				
	100	20	0.92	0.78	2454				
7.5	1750	233	6.05	5.62	1519	W8300002	W8300014	W8300026	W8300502.XX
	1150	153	5.21	4.78	1930				
	850	113	4.44	4.02	2185				
	100	13	0.77	0.64	3003				
10	1750	175	5.91	5.32	1915	W8300003	W8300015	W8300027	W8300503.XX
	1150	115	5.17	4.36	2390				
	850	85	4.18	3.66	2650				
	100	10	0.69	0.56	3522				
15	1750	117	4.41	3.86	2085	W8300004	W8300016	W8300028	W8300504.XX
	1150	77	3.64	3.12	2562				
	850	57	3.08	2.60	2822				
	100	6.7	0.52	0.40	3677				
20	1750	88	3.49	2.97	2141	W8300005	W8300017	W8300029	W8300505.XX
	1150	58	3.05	2.41	2640				
	850	43	2.47	2.01	2911				
	100	5	0.43	0.30	3808				
25	1750	70	3.03	2.40	2160	W8300006	W8300018	W8300030	W8300506.XX
	1150	46	2.39	1.93	2643				
	850	34	2.03	1.60	2903				
	100	4	0.35	0.24	3760				
30	1750	58	2.48	2.01	2167	W8300007	W8300019	W8300031	W8300507.XX
	1150	38	2.06	1.61	2648				
	850	28	1.76	1.34	2908				
	100	3.3	0.31	0.20	3762				
40	1750	44	2.05	1.49	2146	W8300008	W8300020	W8300032	W8300508.XX
	1150	29	1.65	1.20	2637				
	850	21	1.42	1.00	2904				
	100	2.5	0.27	0.15	3784				
50	1750	35	1.59	1.16	2085	W8300009	W8300021	W8300033	W8300509.XX
	1150	23	1.34	0.93	2545				
	850	17	1.15	0.77	2793				
	100	2	0.22	0.12	3607				
60	1750	29	1.32	0.92	1980	W8300010	W8300022	W8300034	W8300510.XX
	1150	19	1.12	0.74	2416				
	850	14	1.02	0.61	2651				
	100	1.7	0.19	0.09	3424				
80	1750	22	0.90	0.59	1684	W8300011	W8300023	W8300035	W8300511.XX
	1150	14	0.76	0.46	1996				
	850	11	0.65	0.38	2179				
	100	1.3	0.13	0.05	2731				
100	1750	18	0.60	0.37	1321	W8300012	W8300024	W8300036	W8300512.XX
	1150	12	0.51	0.29	1554				
	850	9	0.44	0.23	1691				
	100	1.0	0.09	0.03	2100				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

SINGLE REDUCTION MAXIMUM RATING TABLES

830 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
182-4TC	**W8300109**	**W8300121**	**W8300133**	**W8300537.XX**	**W8300253**	**W8300265**	**W8300277**	**W8300585.XX**
182-4TC	**W8300110**	**W8300122**	**W8300134**	**W8300538.XX**	**W8300254**	**W8300266**	**W8300278**	**W8300586.XX**
143-5TC 182-4TC	**W8300075** **W8300111**	**W8300087** **W8300123**	**W8300099** **W8300135**	**W8300527.XX** **W8300539.XX**	**W8300219** **W8300255**	**W8300231** **W8300267**	**W8300243** **W8300279**	**W8300575.XX** **W8300587.XX**
143-5TC 182-4TC	**W8300076** **W8300112**	**W8300088** **W8300124**	**W8300100** **W8300136**	**W8300528.XX** **W8300540.XX**	**W8300220** **W8300256**	**W8300232** **W8300268**	**W8300244** **W8300280**	**W8300576.XX** **W8300588.XX**
143-5TC 182-4TC	**W8300077** **W8300113**	**W8300089** **W8300125**	**W8300101** **W8300137**	**W8300529.XX** **W8300541.XX**	**W8300221** **W8300257**	**W8300233** **W8300269**	**W8300245** **W8300281**	**W8300577.XX** **W8300589.XX**
143-5TC 182-4TC	**W8300078** **W8300114**	**W8300090** **W8300126**	**W8300102** **W8300138**	**W8300530.XX** **W8300542.XX**	**W8300222** **W8300258**	**W8300234** **W8300270**	**W8300246** **W8300282**	**W8300578.XX** **W8300590.XX**
143-5TC	**W8300079**	**W8300091**	**W8300103**	**W8300531.XX**	**W8300223**	**W8300235**	**W8300247**	**W8300579.XX**
56C 143-5TC	**W8300044** **W8300080**	**W8300056** **W8300092**	**W8300068** **W8300104**	**W8300520.XX** **W8300532.XX**	**W8300188** **W8300224**	**W8300200** **W8300236**	**W8300212** **W8300248**	**W8300568.XX** **W8300580.XX**
56C 143-5TC	**W8300045** **W8300081**	**W8300057** **W8300093**	**W8300069** **W8300105**	**W8300521.XX** **W8300533.XX**	**W8300189** **W8300225**	**W8300201** **W8300237**	**W8300213** **W8300249**	**W8300569.XX** **W8300581.XX**
56C 143-5TC	**W8300046** **W8300082**	**W8300058** **W8300094**	**W8300070** **W8300106**	**W8300522.XX** **W8300534.XX**	**W8300190** **W8300226**	**W8300202** **W8300238**	**W8300214** **W8300250**	**W8300570.XX** **W8300582.XX**
56C 143-5TC	**W8300047** **W8300083**	**W8300059** **W8300095**	**W8300071** **W8300107**	**W8300523.XX** **W8300535.XX**	**W8300191** **W8300227**	**W8300203** **W8300239**	**W8300215** **W8300251**	**W8300571.XX** **W8300583.XX**
56C	**W8300048**	**W8300060**	**W8300072**	**W8300524.XX**	**W8300192**	**W8300204**	**W8300216**	**W8300572.XX**

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

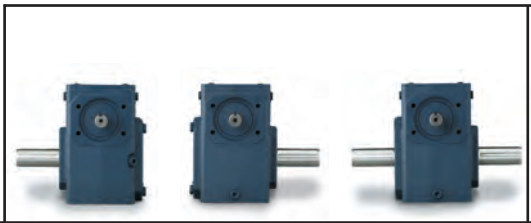
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

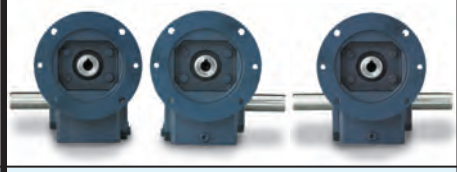
832 SERIES • ALL STOCK STYLES

LEESON
OHIO GEAR™

832 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
									
5	1750	350	9.14	8.61	1602	W8320097	W8320101	W8320105	W8320557.XX
	1150	230	7.69	7.17	1995				
	850	170	6.80	6.28	2349				
	100	20	1.29	1.10	3571				
7.5	1750	233	7.84	7.32	1976	W8320098	W8320102	W8320106	W8320558.XX
	1150	153	6.64	6.11	2469				
	850	113	5.76	5.24	2845				
	100	13	1.14	0.95	4075				
10	1750	175	7.03	6.51	2343	W8320001	W8320009	W8320017	W8320501.XX
	1150	115	5.97	5.45	2932				
	850	85	5.06	4.45	3220				
	100	10	0.86	0.69	4372				
15	1750	117	5.28	4.72	2551	W8320002	W8320010	W8320018	W8320502.XX
	1150	77	4.53	3.97	3207				
	850	57	3.77	3.19	3466				
	100	6.7	0.65	0.49	4647				
20	1750	88	4.19	3.66	2633	W8320003	W8320011	W8320019	W8320503.XX
	1150	58	3.48	2.91	3189				
	850	43	3.13	2.45	3542				
	100	5	0.53	0.38	4728				
25	1750	70	3.47	2.95	2658	W8320004	W8320012	W8320020	W8320504.XX
	1150	46	2.91	2.41	3248				
	850	34	2.49	1.97	3567				
	100	4	0.45	0.30	4751				
30	1750	58	3.09	2.39	2578	W8320005	W8320013	W8320021	W8320505.XX
	1150	38	2.50	1.96	3221				
	850	28	2.15	1.65	3573				
	100	3.3	0.40	0.25	4754				
40	1750	44	2.35	1.83	2641	W8320006	W8320014	W8320022	W8320506.XX
	1150	29	2.02	1.51	3251				
	850	21	1.71	1.22	3535				
	100	2.5	0.34	0.19	4698				
50	1750	35	1.91	1.43	2568	W8320007	W8320015	W8320023	W8320507.XX
	1150	23	1.62	1.13	3095				
	850	17	1.41	0.95	3432				
	100	2	0.28	0.15	4558				
60	1750	29	1.57	1.13	2437	W8320008	W8320016	W8320024	W8320508.XX
	1150	19	1.35	0.91	2951				
	850	14	1.19	0.75	3258				
	100	1.7	0.25	0.11	4327				
80	1750	22	1.05	0.68	1962	W8320099	W8320103	W8320107	W8320559.XX
	1150	14	0.90	0.55	2413				
	850	11	0.79	0.46	2657				
	100	1.3	0.16	0.07	3464				
100	1750	18	0.71	0.43	1546	W8320100	W8320104	W8320108	W8320560.XX
	1150	12	0.61	0.34	1885				
	850	9	0.53	0.29	2068				
	100	1.0	0.11	0.04	2666				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
182-4TC 213-5TC	**W8320205** **W8320217**	**W8320209** **W8320229**	**W8320213** **W8320241**	**W8320569.XX** **W8320573.XX**	**W8320277** **W8320289**	**W8320281** **W8320301**	**W8320285** **W8320313**	**W8320593.XX** **W8320597.XX**
182-4TC 213-5TC	**W8320206** **W8320218**	**W8320210** **W8320230**	**W8320214** **W8320242**	**W8320570.XX** **W8320574.XX**	**W8320278** **W8320290**	**W8320282** **W8320302**	**W8320286** **W8320314**	**W8320594.XX** **W8320598.XX**
143-5TC 182-4TC	**W8320049** **W8320073**	**W8320057** **W8320081**	**W8320065** **W8320089**	**W8320517.XX** **W8320525.XX**	**W8320145** **W8320169**	**W8320153** **W8320177**	**W8320161** **W8320185**	**W8320541.XX** **W8320549.XX**
143-5TC 182-4TC	**W8320050** **W8320074**	**W8320058** **W8320082**	**W8320066** **W8320090**	**W8320518.XX** **W8320526.XX**	**W8320146** **W8320170**	**W8320154** **W8320178**	**W8320162** **W8320186**	**W8320542.XX** **W8320550.XX**
143-5TC 182-4TC	**W8320051** **W8320075**	**W8320059** **W8320083**	**W8320067** **W8320091**	**W8320519.XX** **W8320527.XX**	**W8320147** **W8320171**	**W8320155** **W8320179**	**W8320163** **W8320187**	**W8320543.XX** **W8320551.XX**
143-5TC 182-4TC	**W8320052** **W8320076**	**W8320060** **W8320084**	**W8320068** **W8320092**	**W8320520.XX** **W8320528.XX**	**W8320148** **W8320172**	**W8320156** **W8320180**	**W8320164** **W8320188**	**W8320544.XX** **W8320552.XX**
143-5TC 182-4TC	**W8320053** **W8320077**	**W8320061** **W8320085**	**W8320069** **W8320093**	**W8320521.XX** **W8320529.XX**	**W8320149** **W8320173**	**W8320157** **W8320181**	**W8320165** **W8320189**	**W8320545.XX** **W8320553.XX**
56C 143-5TC 182-4TC	**W8320030** **W8320054** **W8320078**	**W8320038** **W8320062** **W8320086**	**W8320046** **W8320070** **W8320094**	**W8320514.XX** **W8320522.XX** **W8320530.XX**	**W8320126** **W8320150** —	**W8320134** **W8320158** —	**W8320142** **W8320166** —	**W8320538.XX** **W8320546.XX** —
56C 143-5TC 182-4TC	**W8320031** **W8320055** **W8320079**	**W8320039** **W8320063** **W8320087**	**W8320047** **W8320071** **W8320095**	**W8320515.XX** **W8320523.XX** **W8320531.XX**	**W8320127** **W8320151** —	**W8320135** **W8320159** —	**W8320143** **W8320167** —	**W8320539.XX** **W8320547.XX** —
56C 143-5TC 182-4TC	**W8320032** **W8320056** **W8320080**	**W8320040** **W8320064** **W8320088**	**W8320048** **W8320072** **W8320096**	**W8320516.XX** **W8320524.XX** **W8320532.XX**	**W8320128** **W8320152** —	**W8320136** **W8320160** —	**W8320144** **W8320168** —	**W8320540.XX** **W8320548.XX** —
56C 143-5TC	**W8320111** **W8320195**	**W8320115** **W8320199**	**W8320119** **W8320203**	**W8320563.XX** **W8320567.XX**	**W8320255** **W8320267**	**W8320259** **W8320271**	**W8320263** **W8320275**	**W8320587.XX** **W8320591.XX**
56C	**W8320112**	**W8320116**	**W8320120**	**W8320564.XX**	**W8320256**	**W8320260**	**W8320264**	**W8320588.XX**

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

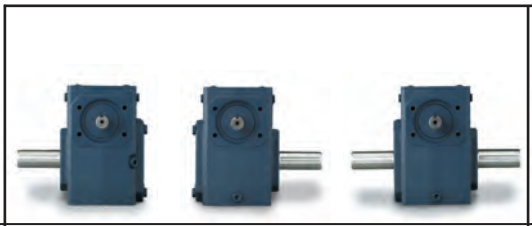
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

842 SERIES • ALL STOCK STYLES

LEESON OHIO GEAR™

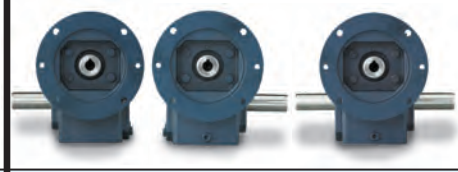
842 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
									
5	1750	350	15.55	14.75	2742	W8420001	W8420013	W8420025	W8420501.XX
	1150	230	13.21	12.41	3451				
	850	170	11.63	10.83	4051				
	100	20	2.52	2.16	7043				
7.5	1750	233	14.06	13.24	3574	W8420002	W8420014	W8420026	W8420502.XX
	1150	153	11.74	10.92	4411				
	850	113	10.55	9.72	5279				
	100	13	2.10	1.77	8371				
10	1750	175	12.90	12.04	4332	W8420003	W8420015	W8420027	W8420503.XX
	1150	115	10.92	10.05	5413				
	850	85	9.57	8.72	6311				
	100	10	1.80	1.49	9358				
15	1750	117	9.30	8.43	4553	W8420004	W8420016	W8420028	W8420504.XX
	1150	77	7.92	7.04	5688				
	850	57	6.98	6.11	6637				
	100	6.7	1.35	1.04	9862				
20	1750	88	7.59	6.72	4840	W8420005	W8420017	W8420029	W8420505.XX
	1150	58	6.49	5.62	6050				
	850	43	5.69	4.83	6992				
	100	5	1.10	0.80	10136				
25	1750	70	6.24	5.41	4872	W8420006	W8420018	W8420030	W8420506.XX
	1150	46	5.35	4.52	6082				
	850	34	4.66	3.85	6972				
	100	4	0.90	0.63	9898				
30	1750	58	5.23	4.37	4720	W8420007	W8420019	W8420031	W8420507.XX
	1150	38	4.52	3.65	5899				
	850	28	4.01	3.16	6857				
	100	3.3	0.84	0.53	10092				
40	1750	44	4.20	3.37	4847	W8420008	W8420020	W8420032	W8420508.XX
	1150	29	3.66	2.81	6059				
	850	21	3.24	2.41	6986				
	100	2.5	0.68	0.40	10067				
50	1750	35	3.39	2.61	4704	W8420009	W8420021	W8420033	W8420509.XX
	1150	23	2.97	2.18	5870				
	850	17	2.62	1.86	6717				
	100	2	0.56	0.30	9497				
60	1750	29	2.70	2.00	4322	W8420010	W8420022	W8420034	W8420510.XX
	1150	19	2.44	1.72	5555				
	850	14	2.16	1.46	6326				
	100	1.7	0.46	0.23	8828				
80	1750	22	1.79	1.26	3620	W8420011	W8420023	W8420035	W8420511.XX
	1150	14	1.59	1.05	4519				
	850	11	1.39	0.88	5068				
	100	1.3	0.29	0.14	6804				
100	1750	18	1.20	0.79	2852	W8420012	W8420024	W8420036	W8420512.XX
	1150	12	1.06	0.66	3527				
	850	9	0.93	0.54	3937				
	100	1.0	0.20	0.08	5219				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

SINGLE REDUCTION MAXIMUM RATING TABLES

842 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
182-4TC 213-5TC 254-6TC	W8420109 W8420145 W8420181	W8420121 W8420157 W8420193	W8420133 W8420169 W8420205	W8420537.XX W8420549.XX W8420561.XX	W8420289 W8420325 W8420361	W8420301 W8420337 W8420373	W8420313 W8420349 W8420385	W8420597.XX W8420609.XX W8420621.XX
182-4TC 213-5TC	W8420110 W8420146	W8420122 W8420158	W8420134 W8420170	W8420538.XX W8420550.XX	W8420290 W8420326	W8420302 W8420338	W8420314 W8420350	W8420598.XX W8420610.XX
182-4TC 213-5TC	W8420111 W8420147	W8420123 W8420159	W8420135 W8420171	W8420539.XX W8420551.XX	W8420291 W8420327	W8420303 W8420339	W8420315 W8420351	W8420599.XX W8420611.XX
182-4TC 213-5TC	W8420112 W8420148	W8420124 W8420160	W8420136 W8420172	W8420540.XX W8420552.XX	W8420292 W8420328	W8420304 W8420340	W8420316 W8420352	W8420600.XX W8420612.XX
182-4TC 213-5TC	W8420113 W8420149	W8420125 W8420161	W8420137 W8420173	W8420541.XX W8420553.XX	W8420293 W8420329	W8420305 W8420341	W8420317 W8420353	W8420601.XX W8420613.XX
143-5TC 182-4TC	W8420078 W8420114	W8420090 W8420126	W8420102 W8420138	W8420530.XX W8420542.XX	W8420258 W8420294	W8420270 W8420306	W8420282 W8420318	W8420590.XX W8420602.XX
143-5TC 182-4TC	W8420079 W8420115	W8420091 W8420127	W8420103 W8420139	W8420531.XX W8420543.XX	W8420259 W8420295	W8420271 W8420307	W8420283 W8420319	W8420591.XX W8420603.XX
143-5TC 182-4TC	W8420080 W8420116	W8420092 W8420128	W8420104 W8420140	W8420532.XX W8420544.XX	W8420260 W8420296	W8420272 W8420308	W8420284 W8420320	W8420592.XX W8420604.XX
143-5TC 182-4TC	W8420081 W8420117	W8420093 W8420129	W8420105 W8420141	W8420533.XX W8420545.XX	W8420261 W8420297	W8420273 W8420309	W8420285 W8420321	W8420593.XX W8420605.XX
56C 143-5TC	W8420046 W8420082	W8420058 W8420094	W8420070 W8420106	W8420522.XX W8420534.XX	W8420226 W8420262	W8420238 W8420274	W8420250 W8420286	W8420582.XX W8420594.XX
56C 143-5TC	W8420047 W8420083	W8420059 W8420095	W8420071 W8420107	W8420523.XX W8420535.XX	W8420227 W8420263	W8420239 W8420275	W8420251 W8420287	W8420583.XX W8420595.XX
56C 143-5TC	W8420048 W8420084	W8420060 W8420096	W8420072 W8420108	W8420524.XX W8420536.XX	W8420228 W8420264	W8420240 W8420276	W8420252 W8420288	W8420584.XX W8420596.XX

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

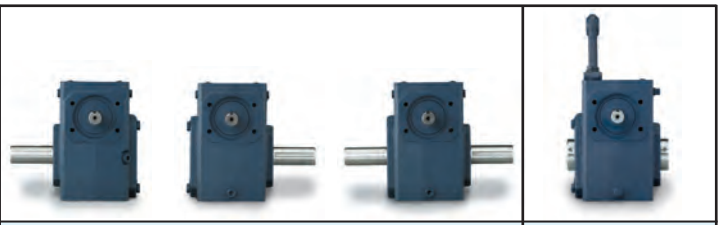
▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

852 SERIES • ALL STOCK STYLES

LEESON
OHIO GEAR™

852 Series

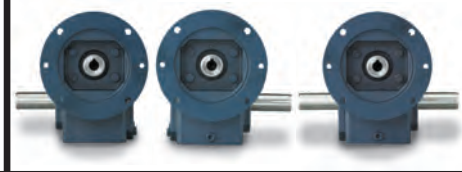


Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Style B Left Hand Catalog No.	Style B Right Hand Catalog No.	Style B Double Extension Catalog No.	Style H Hollow Output Catalog No.*
5	1750	350	28.17	26.85	4953	W8520085	W8520090	W8520095	W8520501.XX
	1150	230	23.90	22.59	6233				
	850	170	21.21	19.90	7382				
	100	20	5.49	4.77	14009				
7.5	1750	233	24.01	22.69	6125	W8520086	W8520091	W8520096	W8520502.XX
	1150	153	20.41	19.09	7709				
	850	113	17.88	16.56	8995				
	100	13	4.08	3.46	16323				
10	1750	175	19.40	18.08	6508	W8520001	W8520008	W8520015	W8520503.XX
	1150	115	16.54	15.21	8190				
	850	85	14.55	13.23	9578				
	100	10	3.34	2.72	17142				
15	1750	117	14.34	13.98	7012	W8520002	W8520009	W8520016	W8520504.XX
	1150	77	12.29	10.93	8824				
	850	57	10.89	9.52	10341				
	100	6.7	2.56	1.93	18228				
20	1750	88	11.32	9.96	7174	W8520003	W8520010	W8520017	W8520505.XX
	1150	58	9.75	8.38	9028				
	850	43	8.68	7.31	10587				
	100	5	2.10	1.47	18561				
25	1750	70	9.38	8.02	7221	W8520087	W8520092	W8520097	W8520506.XX
	1150	46	8.12	6.75	9088				
	850	34	7.26	5.89	10660				
	100	4	1.81	1.18	18641				
30	1750	58	8.04	6.70	7235	W8520004	W8520011	W8520018	W8520507.XX
	1150	38	7.00	5.64	9104				
	850	28	6.28	4.92	10681				
	100	3.3	1.61	0.99	18653				
40	1750	44	6.29	4.97	7159	W8520005	W8520012	W8520019	W8520508.XX
	1150	29	5.52	4.18	9009				
	850	21	4.99	3.65	10571				
	100	2.5	1.34	0.73	18434				
50	1750	35	5.14	3.86	6950	W8520006	W8520013	W8520020	W8520509.XX
	1150	23	4.54	3.25	8746				
	850	17	4.14	2.83	10263				
	100	2	1.16	0.57	17886				
60	1750	29	4.27	3.06	6598	W8520007	W8520014	W8520021	W8520510.XX
	1150	19	3.80	2.57	8304				
	850	14	3.48	2.24	9744				
	100	1.7	1.01	0.45	16976				
80	1750	22	2.91	1.90	5478	W8520088	W8520093	W8520098	W8520511.XX
	1150	14	2.62	1.60	6894				
	850	11	2.42	1.40	8090				
	100	1.3	0.74	0.28	14089				
100	1750	18	2.07	1.29	4646	W8520089	W8520094	W8520099	W8520512.XX
	1150	12	1.82	1.05	5663				
	850	9	1.75	0.95	6879				
	100	1.0	0.52	0.18	11331				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

SINGLE REDUCTION MAXIMUM RATING TABLES

852 SERIES • ALL STOCK STYLES

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
213-5TC 254-6TC	W8520187 W8520202	W8520192 W8520207	W8520197 W8520212	W8520549.XX W8520561.XX	W8520325 W8520361	W8520337 W8520373	W8520349 W8520385	W8520609.XX W8520621.XX
213-5TC 254-6TC	W8520188 W8520203	W8520193 W8520208	W8520198 W8520213	W8520550.XX W8520562.XX	W8520326 W8520362	W8520338 W8520374	W8520350 W8520386	W8520610.XX W8520622.XX
213-5TC 254-6TC	W8520043 W8520064	W8520050 W8520071	W8520057 W8520078	W8520551.XX W8520563.XX	W8520327 W8520363	W8520339 W8520375	W8520351 W8520387	W8520611.XX W8520623.XX
213-5TC 254-6TC	W8520044 W8520065	W8520051 W8520072	W8520058 W8520079	W8520552.XX W8520564.XX	W8520328 W8520364	W8520340 W8520376	W8520352 W8520388	W8520612.XX W8520624.XX
182-4TC 213-5TC	W8520024 W8520045	W8520031 W8520052	W8520038 W8520059	W8520541.XX W8520553.XX	W8520293 W8520329	W8520305 W8520341	W8520317 W8520353	W8520601.XX W8520613.XX
182-4TC 213-5TC	W8520174 W8520189	W8520179 W8520194	W8520184 W8520199	W8520542.XX W8520554.XX	W8520294 W8520330	W8520306 W8520342	W8520318 W8520354	W8520602.XX W8520614.XX
182-4TC 213-5TC	W8520025 W8520046	W8520032 W8520053	W8520039 W8520060	W8520543.XX W8520555.XX	W8520295 W8520331	W8520307 W8520343	W8520319 W8520355	W8520603.XX W8520615.XX
143-5TC 182-4TC	W8520143 W8520026	W8520155 W8520033	W8520167 W8520040	W8520532.XX W8520544.XX	W8520260 W8520296	W8520272 W8520308	W8520284 W8520320	W8520592.XX W8520604.XX
143-5TC 182-4TC	W8520144 W8520027	W8520156 W8520034	W8520168 W8520041	W8520533.XX W8520545.XX	W8520261 W8520297	W8520273 W8520309	W8520285 W8520321	W8520593.XX W8520605.XX
143-5TC 182-4TC	W8520145 W8520028	W8520157 W8520035	W8520169 W8520042	W8520534.XX W8520546.XX	W8520262 W8520298	W8520274 W8520310	W8520286 W8520322	W8520594.XX W8520606.XX
143-5TC 182-4TC	W8520146 W8520175	W8520158 W8520180	W8520170 W8520185	W8520535.XX W8520547.XX	W8520263 W8520299	W8520275 W8520311	W8520287 W8520323	W8520595.XX W8520607.XX
143-5TC	W8520147	W8520159	W8520171	W8520536.XX	W8520264	W8520276	W8520288	W8520596.XX

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION MAXIMUM RATING TABLES

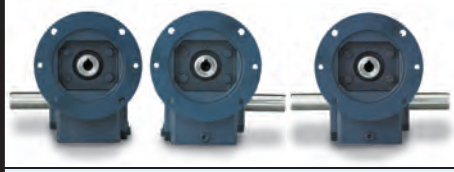
860 SERIES • ALL STOCK STYLES

LEESON
OHIO GEAR™

860 Series

						Style B			Style H
									
Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	1750	350	35.04	33.49	6028	W8600085	W8600090	W8600095	W8600501.XX
	1150	230	29.70	28.17	7585				
	850	170	26.34	24.81	8984				
	100	20	6.70	5.85	18412				
7.5	1750	233	29.39	27.85	7520	W8600086	W8600091	W8600096	W8600502.XX
	1150	153	24.96	23.43	9493				
	850	113	21.42	19.93	10825				
	100	13	5.31	4.53	21388				
10	1750	175	23.99	22.44	8080	W8600001	W8600008	W8600015	W8600503.XX
	1150	115	20.43	18.88	10168				
	850	85	17.68	16.16	11703				
	100	10	4.37	3.59	22615				
15	1750	117	17.62	16.05	8664	W8600002	W8600009	W8600016	W8600504.XX
	1150	77	15.08	13.50	10904				
	850	57	13.16	11.60	12597				
	100	6.7	3.33	2.54	23987				
20	1750	88	13.96	12.38	8912	W8600003	W8600010	W8600017	W8600505.XX
	1150	58	12.00	10.41	11215				
	850	43	10.54	8.97	12985				
	100	5	2.73	1.94	24498				
25	1750	70	11.54	9.97	8971	W8600087	W8600092	W8600097	W8600506.XX
	1150	46	9.97	8.39	11290				
	850	34	8.79	7.23	13080				
	100	4	2.35	1.56	24605				
30	1750	58	9.84	8.28	8941	W8600004	W8600011	W8600018	W8600507.XX
	1150	38	8.54	6.97	11252				
	850	28	7.56	6.00	13032				
	100	3.3	2.08	1.30	24551				
40	1750	44	7.71	6.18	8894	W8600005	W8600012	W8600019	W8600508.XX
	1150	29	6.74	5.20	11193				
	850	21	6.02	4.48	12977				
	100	2.5	1.74	0.97	24333				
50	1750	35	6.28	4.80	8635	W8600006	W8600013	W8600020	W8600509.XX
	1150	23	5.53	4.04	10866				
	850	17	4.97	3.48	12601				
	100	2	1.49	0.75	23609				
60	1750	29	5.18	3.78	8155	W8600007	W8600014	W8600021	W8600510.XX
	1150	19	4.59	3.18	10263				
	850	14	4.14	2.74	11894				
	100	1.7	1.30	0.59	22346				
80	1750	22	3.70	2.52	7264	W8600088	W8600093	W8600098	W8600511.XX
	1150	14	3.32	2.12	9142				
	850	11	3.04	1.84	10679				
	100	1.3	0.95	0.38	19249				
100	1750	18	2.57	1.64	5886	W8600089	W8600094	W8600099	W8600512.XX
	1150	12	2.32	1.38	7408				
	850	9	2.15	1.20	8674				
	100	1.0	0.69	0.24	15389				

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

	Style BM			Style HM	Style BMQ			Style HMQ
								
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
254-6TC	**W8600130**	**W8600135**	**W8600140**	**W8600537.XX**	**W8600289**	**W8600301**	**W8600313**	**W8600597.XX**
254-6TC	**W8600131**	**W8600136**	**W8600141**	**W8600538.XX**	**W8600290**	**W8600302**	**W8600314**	**W8600598.XX**
213-5TC 254-6TC	**W8600043** **W8600064**	**W8600050** **W8600071**	**W8600057** **W8600078**	**W8600527.XX** **W8600539.XX**	**W8600255** **W8600291**	**W8600267** **W8600303**	**W8600279** **W8600315**	**W8600587.XX** **W8600599.XX**
213-5TC 254-6TC	**W8600044** **W8600065**	**W8600051** **W8600072**	**W8600058** **W8600079**	**W8600528.XX** **W8600540.XX**	**W8600256** **W8600292**	**W8600268** **W8600304**	**W8600280** **W8600316**	**W8600588.XX** **W8600600.XX**
182-4TC 213-5TC	**W8600024** **W8600045**	**W8600031** **W8600052**	**W8600038** **W8600059**	**W8600517.XX** **W8600529.XX**	**W8600221** **W8600257**	**W8600233** **W8600269**	**W8600245** **W8600281**	**W8600577.XX** **W8600589.XX**
182-4TC 213-5TC	**W8600102** **W8600117**	**W8600107** **W8600122**	**W8600112** **W8600127**	**W8600518.XX** **W8600530.XX**	**W8600222** **W8600258**	**W8600234** **W8600270**	**W8600246** **W8600282**	**W8600578.XX** **W8600590.XX**
182-4TC 213-5TC	**W8600025** **W8600046**	**W8600032** **W8600053**	**W8600039** **W8600060**	**W8600519.XX** **W8600531.XX**	**W8600223** **W8600259**	**W8600235** **W8600271**	**W8600247** **W8600283**	**W8600579.XX** **W8600591.XX**
182-4TC 213-5TC	**W8600026** **W8600047**	**W8600033** **W8600054**	**W8600040** **W8600061**	**W8600520.XX** **W8600532.XX**	**W8600224** **W8600260**	**W8600236** **W8600272**	**W8600248** **W8600284**	**W8600580.XX** **W8600592.XX**
182-4TC	**W8600027**	**W8600034**	**W8600041**	**W8600521.XX**	**W8600225**	**W8600237**	**W8600249**	**W8600581.XX**
143-5TC 182-4TC	— **W8600028**	— **W8600035**	— **W8600042**	— **W8600522.XX**	**W8600190** **W8600226**	**W8600202** **W8600238**	**W8600214** **W8600250**	**W8600570.XX** **W8600582.XX**
143-5TC 182-4TC	— **W8600103**	— **W8600108**	— **W8600113**	— **W8600523.XX**	**W8600191** **W8600227**	**W8600203** **W8600239**	**W8600215** **W8600251**	**W8600571.XX** **W8600583.XX**
143-5TC 182-4TC	— **W8600104**	— **W8600109**	— **W8600114**	— **W8600524.XX**	**W8600192** —	**W8600204** —	**W8600216** —	**W8600572.XX** —

*Catalog numbers are for hollow output shafts. Refer to page 35 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲Consult LEESON for other motor flanges available.

SINGLE REDUCTION
WEIGHTS

LEESON
OHIO GEAR™

SINGLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

Reducer Style	Reducer Size										
	813	815	818	821	824	826	830	832	842	852	860
Solid Output Shaft											
BMQ	17	22	24	30	46	59	80	83	146	247	344
BM	21	27	29	34	47	60	91	94	154	254	361
B	14	20	22	27	38	51	76	79	136	232	321
TMQ & UMQ	19	24	26	33	54	69	96	99	156	269	364
TM & UM	24	29	32	37	60	70	107	110	164	276	371
T & U	17	22	25	30	46	61	92	95	146	254	341
JMQ	18	24	26	33	49	63	86	89	157	265	-----
JM	22	29	31	37	50	64	97	100	165	272	-----
J	15	22	24	30	41	55	82	85	177	250	-----
VHMQ & VLMQ	20	26	27	48	54	70	94	97	174	282	371
VHM & VLM	25	31	33	42	55	71	105	108	182	289	378
VH & VL	18	24	26	35	46	62	90	93	164	267	348
FMQ	19	24	26	34	56	69	96	99	152	265	356
FM	24	29	32	38	62	71	107	110	166	272	363
F	17	22	25	31	48	61	92	95	148	250	333
BFMQ	23	-----	30	40	56	72	-----	-----	-----	-----	-----
BFM	27	-----	35	44	57	73	-----	-----	-----	-----	-----
BF	20	-----	28	37	48	64	-----	-----	-----	-----	-----
CMQ	19	-----	26	-----	56	-----	-----	-----	-----	-----	-----
CM	24	-----	32	-----	62	-----	-----	-----	-----	-----	-----
C	17	-----	26	-----	56	-----	-----	-----	-----	-----	-----
RMQ	-----	29	31	39	53	76	93	114	166	261	-----
RM	-----	34	36	43	54	77	104	125	174	268	-----
R	-----	27	29	36	46	68	89	110	156	246	-----
Hollow Output Shaft											
HMQ	17	22	25	33	47	57	80	83	146	247	344
HM	21	27	30	37	52	62	91	94	154	254	361
H	14	20	23	28	44	54	76	79	136	222	321
FHMQ	18	24	27	34	52	62	96	99	158	265	356
FHM	22	29	33	40	57	67	107	110	166	272	363
FH	15	22	26	32	49	59	92	95	148	250	333
BFHMQ	23	-----	31	-----	43	57	70	-----	-----	-----	-----
BFHM	27	-----	36	-----	47	62	75	-----	-----	-----	-----
BFH	20	-----	29	-----	38	54	67	-----	-----	-----	-----

Δ Weights include oil.

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size										
	813	815	818	821	824	826	830	832	842	852	860
T/U	3	3	3	3	8	10	16	16	18	22	31
J	1	2	2	3	3	4	6	6	11	18	--
VL/VH	4	4	4	8	8	11	14	14	28	36	36
F (Cast Iron)	1	2	3	4	5	5	16	16	12	28	12
BF (Steel)	2	--	4	4	7	9	--	--	--	--	--
R	--	7	7	9	9	17	15	31	24	15	--

HOLLOW SHAFT BORE SIZES (Inches)*

Fraction Size	Decimal Size	Output Bore Code	813	815	818	821	824	826	830	832	842	852	860	Keyway**
5/8	0.625	10	■	■	■									3/16 x 3/32
11/16	0.688	11			■									3/16 x 3/32
3/4	0.750	12			■									3/16 x 3/32
7/8	0.875	14			■									3/16 x 3/32
1	1.000	16			■	■	■	■						1/4 x 1/8
1-1/8	1.125	18				■	■	■						1/4 x 1/8
1-3/16	1.188	19				■	■	■	■	■				1/4 x 1/8
1-1/4	1.250	20				■	■	■	■	■				1/4 x 1/8
1-7/16	1.438	23				■	■	■	■	■	■			3/8 x 3/16
1-1/2	1.500	24							■	■	■			3/8 x 3/16
1-5/8	1.625	26							■	■	■			3/8 x 3/16
1-11/16	1.688	27							■	■	■			3/8 x 3/16
1-3/4	1.750	28							■	■	■			3/8 x 3/16
1-7/8	1.875	30									■			1/2 x 1/4
1-15/16	1.938	31							■	■	■			1/2 x 1/4
2	2.000	32									■	■	■	1/2 x 1/4
2-3/16	2.188	35									■	■	■	1/2 x 1/4
2-1/4	2.250	36										■	■	1/2 x 1/4
2-7/16	2.438	39										■	■	5/8 x 5/16
2-1/2	2.500	40										■	■	5/8 x 5/16
2-11/16	2.688	43										■	■	5/8 x 5/16
2-15/16	2.938	47										■	■	3/4 x 3/8
3	3.000	48										■	■	3/4 x 3/8
3-3/16	3.188	51										■	■	3/4 x 3/8
3-7/16	3.438	55										■	■	7/8 x 7/16

■ Stock Bore Sizes.

* Other bore sizes are available. Contact LEESON for sizes and availability.

** Dimensions refer to customer driven shaft.

NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above. Refer to page 10 for complete model number description.

SINGLE REDUCTION "HOW TO USE" QUICK SELECTIONS

LEESON
OHIO GEAR™

How To Use Quick Selections

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages 12-33. Selection of the appropriate gear reducer can be made using those tables or the Quick Selections on the following pages.

BEFORE YOU START:

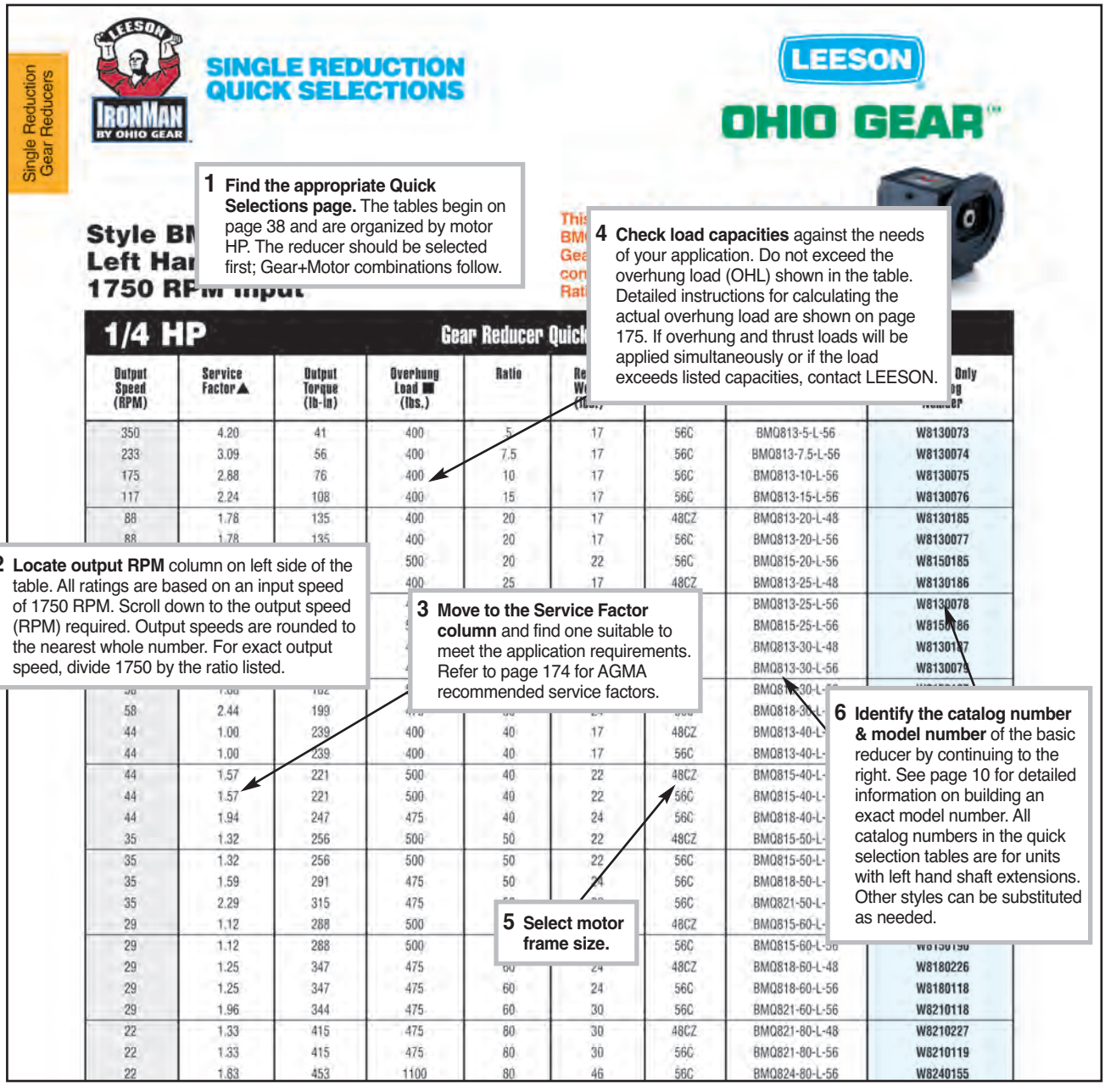
Identify the Service Factor of the application.

Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

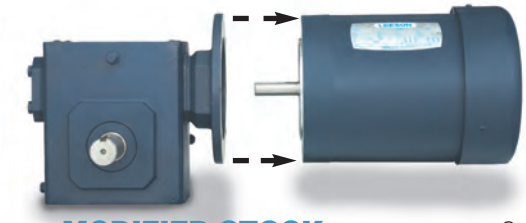
Identify the mounting style required by your application from the style charts shown on pages 6-9. Note the basic mounting style (BMQ, BM, etc.).

To select the proper gear reducer size, use the Quick Selections as shown:



LEESON®
OHIO GEAR™
GEAR+MOTOR™

SINGLE REDUCTION "HOW TO USE" QUICK SELECTIONS



STOCK GEAR+MOTORS™

Start with an IRONMAN BY OHIO GEAR™ reducer and add a LEESON industrial-duty NEMA C face motor to produce a GEAR+MOTOR™.

A wide variety of single phase, three phase and DC motors—suitable for almost every industrial application need—have been pre-selected and assembled to reducers to provide a variety of torque and output speed combinations…ready for shipment. Saves time and expense.

LEESON WASHGUARD® GEAR+MOTORS™ for food processing and high-humidity applications are listed on pages 130-145.

MODIFIED STOCK GEAR+MOTORS™

All stock GEAR+MOTORS™ can also be modified by the addition of any of the accessories shown on page 150. Specify the stock GEAR+MOTOR™ and the accessory item or Mod-Squad Service desired.

Mod-Squad Gearmotor Assembly Service

Can't find the right gearmotor to suit your need from the preselected units. Refer to pages 154-162 for the industry's widest range of stock NEMA C face motors. Select the motor and the reducer you want. LEESON's Gear Mod-Squad will assemble and ship your custom selected gearmotor. Simply specify the reducer and the motor (by catalog numbers) and order Mod-Squad Service GM1.

Accessory items can also be assembled to custom selected gearmotors. Simply add the Mod-Squad service number to your order. See pages 150-151. **NOTE:** A GEAR+MOTOR™ catalog number consists of the worm reducer catalog number followed by the motor's catalog number.

LEESON
OHIO GEAR™
SINGLE REDUCTION QUICK SELECTIONS
Single Reduction Gear Reducers

1/4 HP Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V Catalog No.	Wgt.◆ (lbs.)	TEFC, 1 Phase 115/230V Catalog No.	Wgt.◆ (lbs.)	DC SCR 90V Catalog No.	Wgt.◆ (lbs.)	DC SCR 180V Catalog No.	Wgt.◆ (lbs.)
W8130073-101767	36	W8130073-114639	35	W8130073-098002	36	W8130073-098003	39
W8130074-101767	36	W8130074-114639	35	W8130074-098002	36	W8130074-098003	39
W8130075-101767	36	W8130075-114639	35	W8130075-098002	36	W8130075-098003	39
W8130076-101767	36	W8130076-114639	35	W8130076-098002	36	W8130076-098003	39
W8130185-101981	34	W8130185-101765	35	Available in 56C only	—	Available in 56C only	—
W8130077-101767	36	W8130077-114639	35	W8130077-098002	36	W8130077-098003	39
W8150185-101767	41	W8150185-114639	40	W8150185-098002	41	W8150185-098003	44
W8130186-101981	34	W8130186-101765	35	Available in 56C only	—	Available in 56C only	—
					36	W8130078-098003	39
					41	W8150186-098003	44
					—	Available in 56C only	—
W8130079-101767	36				36	W8130079-098003	39
W8150187-101767	41				41	W8150187-098003	44
W8180115-101767	43	W8180115-114639	42	W8180115-098002	43	W8180115-098003	46
W8130188-101981	34	W8130188-101765	35	Available in 56C only	—	Available in 56C only	—
W8130080-101767	36	W8130080-114639	35	W8130080-098002	36	W8130080-098003	39
W8150152-101981	39	W8150152-101765	40	Available in 56C only	—	Available in 56C only	—
W8150188-101767	41	W8150188-114639	40	W8150188-098002	41	W8150188-098003	44
W8180116-101767	43	W8180116-114639	42	W8180116-098002	43	W8180116-098003	46
W8150153-101981	39	W8150153-101765	40	Available in 56C only	—	Available in 56C only	—
W8150189-101767	41	W8150189-114639	40	W8150189-098002	41	W8150189-098003	44
W8180117-101767	43	W8180117-114639	42	W8180117-098002	43	W8180117-098003	46
W8210117-101767	49	W8210117-114639	48	W8210117-098002	49	W8210117-098003	52
W8150154-101981	39	W8150154-101765	40	Available in 56C only	—	Available in 56C only	—
W8150190-101767	41	W8150190-114639	40	W8150190-098002	41	W8150190-098003	44
W8180226-101981	41	W8180226-101765	42	Available in 56C only	—	Available in 56C only	—
W8180118-101767	43	W8180118-114639	42	W8180118-098002	43	W8180118-098003	46
W8210118-101767	49	W8210118-114639	48	W8210118-098002	49		
W8210227-101981	47	W8210227-101765	48	Available in 56C only	—		
W8210119-101767	49	W8210119-114639	48	W8210119-098002	49		
W8240155-101767	65	W8240155-114639	64	W8240155-098002	65		

7 Identify motor requirements for GEAR+MOTOR™ selections.

8 Identify the catalog number of the GEAR+MOTOR™ by continuing to the right. See page 10 for detailed information on building an exact catalog number.

9 Verify physical dimensions using the dimensional drawings shown on pages 56-77.

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

1/4 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	4.20	41	400	5	17	56C	BMQ813-5-L-56	W8130073
233	3.09	56	400	7.5	17	56C	BMQ813-7.5-L-56	W8130074
175	2.88	76	400	10	17	56C	BMQ813-10-L-56	W8130075
117	2.24	108	400	15	17	56C	BMQ813-15-L-56	W8130076
88	1.78	135	400	20	17	48CZ	BMQ813-20-L-48	W8130185
88	1.78	135	400	20	17	56C	BMQ813-20-L-56	W8130077
88	2.57	136	500	20	22	56C	BMQ815-20-L-56	W8150185
70	1.43	170	400	25	17	48CZ	BMQ813-25-L-48	W8130186
70	1.43	170	400	25	17	56C	BMQ813-25-L-56	W8130078
70	2.18	162	500	25	22	56C	BMQ815-25-L-56	W8150186
58	1.26	192	400	30	17	48CZ	BMQ813-30-L-48	W8130187
58	1.26	192	400	30	17	56C	BMQ813-30-L-56	W8130079
58	1.88	182	500	30	22	56C	BMQ815-30-L-56	W8150187
58	2.44	199	475	30	24	56C	BMQ818-30-L-56	W8180115
44	1.00	239	400	40	17	48CZ	BMQ813-40-L-48	W8130188
44	1.00	239	400	40	17	56C	BMQ813-40-L-56	W8130080
44	1.57	221	500	40	22	48CZ	BMQ815-40-L-48	W8150152
44	1.57	221	500	40	22	56C	BMQ815-40-L-56	W8150188
44	1.94	247	475	40	24	56C	BMQ818-40-L-56	W8180116
35	1.32	256	500	50	22	48CZ	BMQ815-50-L-48	W8150153
35	1.32	256	500	50	22	56C	BMQ815-50-L-56	W8150189
35	1.59	291	475	50	24	56C	BMQ818-50-L-56	W8180117
35	2.29	315	475	50	30	56C	BMQ821-50-L-56	W8210117
29	1.12	288	500	60	22	48CZ	BMQ815-60-L-48	W8150154
29	1.12	288	500	60	22	56C	BMQ815-60-L-56	W8150190
29	1.25	347	475	60	24	48CZ	BMQ818-60-L-48	W8180226
29	1.25	347	475	60	24	56C	BMQ818-60-L-56	W8180118
29	1.96	344	475	60	30	56C	BMQ821-60-L-56	W8210118
22	1.33	415	475	80	30	48CZ	BMQ821-80-L-48	W8210227
22	1.33	415	475	80	30	56C	BMQ821-80-L-56	W8210119
22	1.83	453	1100	80	46	56C	BMQ824-80-L-56	W8240155
22	2.40	457	1025	80	59	56C	BMQ826-80-L-56	W8260155
18	1.26	513	1100	100	46	56C	BMQ824-100-L-56	W8240156
18	1.64	522	1025	100	59	56C	BMQ826-100-L-56	W8260156
18	2.48	533	1500	100	80	56C	BMQ830-100-L-56	W8300192

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

SINGLE REDUCTION QUICK SELECTIONS

1/4 HP — Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8130073-101767	36	W8130073-114639	35	W8130073-098002	36	W8130073-098003	39
W8130074-101767	36	W8130074-114639	35	W8130074-098002	36	W8130074-098003	39
W8130075-101767	36	W8130075-114639	35	W8130075-098002	36	W8130075-098003	39
W8130076-101767	36	W8130076-114639	35	W8130076-098002	36	W8130076-098003	39
W8130185-101981	34	W8130185-101765	35	Available in 56C only	—	Available in 56C only	—
W8130077-101767	36	W8130077-114639	35	W8130077-098002	36	W8130077-098003	39
W8150185-101767	41	W8150185-114639	40	W8150185-098002	41	W8150185-098003	44
W8130186-101981	34	W8130186-101765	35	Available in 56C only	—	Available in 56C only	—
W8130078-101767	36	W8130078-114639	35	W8130078-098002	36	W8130078-098003	39
W8150186-101767	41	W8150186-114639	40	W8150186-098002	41	W8150186-098003	44
W6130187-101981	34	W8130187-101765	35	Available in 56C only	—	Available in 56C only	—
W8130079-101767	36	W8130079-114639	35	W8130079-098002	36	W8130079-098003	39
W8150187-101767	41	W8150187-114639	40	W8150187-098002	41	W8150187-098003	44
W8180115-101767	43	W8180115-114639	42	W8180115-098002	43	W8180115-098003	46
W8130188-101981	34	W8130188-101765	35	Available in 56C only	—	Available in 56C only	—
W8130080-101767	36	W8130080-114639	35	W8130080-098002	36	W8130080-098003	39
W8150152-101981	39	W8150152-101765	40	Available in 56C only	—	Available in 56C only	—
W8150188-101767	41	W8150188-114639	40	W8150188-098002	41	W8150188-098003	44
W8180116-101767	43	W8180116-114639	42	W8180116-098002	43	W8180116-098003	46
W8150153-101981	39	W8150153-101765	40	Available in 56C only	—	Available in 56C only	—
W8150189-101767	41	W8150189-114639	40	W8150189-098002	41	W8150189-098003	44
W8180117-101767	43	W8180117-114639	42	W8180117-098002	43	W8180117-098003	46
W8210117-101767	49	W8210117-114639	48	W8210117-098002	49	W8210117-098003	52
W8150154-101981	39	W8150154-101765	40	Available in 56C only	—	Available in 56C only	—
W8150190-101767	41	W8150190-114639	40	W8150190-098002	41	W8150190-098003	44
W8180226-101981	41	W8180226-101765	42	Available in 56C only	—	Available in 56C only	—
W8180118-101767	43	W8180118-114639	42	W8180118-098002	43	W8180118-098003	46
W8210118-101767	49	W8210118-114639	48	W8210118-098002	49	W8210118-098003	52
W8210227-101981	47	W8210227-101765	48	Available in 56C only	—	Available in 56C only	—
W8210119-101767	49	W8210119-114639	48	W8210119-098002	49	W8210119-098003	52
W8240155-101767	65	W8240155-114639	64	W8240155-098002	65	W8240155-098003	68
W8260155-101767	78	W8260155-114639	77	W8260155-098002	78	W8260155-098003	81
W8240156-101767	65	W8240156-114639	64	W8240156-098002	65	W8240156-098003	68
W8260156-101767	78	W8260156-114639	77	W8260156-098002	78	W8260156-098003	81
W8300192-101767	99	W8300192-114639	98	W8300192-098002	99	W8300192-098003	102

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

1/3 HP — Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	3.19	54	400	5	17	56C	BMQ813-5-L-56	W8130073
233	2.34	74	400	7.5	17	56C	BMQ813-7.5-L-56	W8130074
175	2.19	100	400	10	17	56C	BMQ813-10-L-56	W8130075
117	1.70	142	400	15	17	56C	BMQ813-15-L-56	W8130076
117	2.35	142	500	15	22	56C	BMQ815-15-L-56	W8150184
88	1.35	178	400	20	17	48CZ	BMQ813-20-L-48	W8130185
88	1.35	178	400	20	17	56C	BMQ813-20-L-56	W8130077
88	1.95	179	500	20	22	56C	BMQ815-20-L-56	W8150185
88	2.51	191	475	20	24	56C	BMQ818-20-L-56	W8180113
70	1.08	225	400	25	17	48CZ	BMQ813-25-L-48	W8130186
70	1.08	225	400	25	17	56C	BMQ813-25-L-56	W8130078
70	1.65	214	500	25	22	56C	BMQ815-25-L-56	W8150186
70	2.02	236	475	25	24	56C	BMQ818-25-L-56	W8180114
58	1.42	241	500	30	22	48CZ	BMQ815-30-L-48	W8150151
58	1.42	241	500	30	22	56C	BMQ815-30-L-56	W8150187
58	1.84	263	450	30	24	56C	BMQ818-30-L-56	W8180115
58	2.71	276	475	30	30	56C	BMQ821-30-L-56	W8210115
44	1.19	291	500	40	22	48CZ	BMQ815-40-L-48	W8150152
44	1.19	291	500	40	22	56C	BMQ815-40-L-56	W8150188
44	1.47	326	475	40	24	56C	BMQ818-40-L-56	W8180116
44	2.20	338	475	40	30	56C	BMQ821-40-L-56	W8210116
35	1.00	338	500	50	22	48CZ	BMQ815-50-L-48	W8150153
35	1.00	338	500	50	22	56C	BMQ815-50-L-56	W8150189
35	1.20	385	475	50	24	48CZ	BMQ818-50-L-48	W8180225
35	1.20	385	475	50	24	56C	BMQ818-50-L-56	W8180117
35	1.73	416	475	50	30	56C	BMQ821-50-L-56	W8210117
29	1.48	454	475	60	30	48CZ	BMQ821-60-L-48	W8210226
29	1.48	454	475	60	30	56C	BMQ821-60-L-56	W8210118
29	2.16	466	1100	60	46	56C	BMQ824-60-L-56	W8240154
22	1.01	548	475	80	30	48CZ	BMQ821-80-L-48	W8210227
22	1.01	548	475	80	30	56C	BMQ821-80-L-56	W8210119
22	1.39	598	1100	80	46	56C	BMQ824-80-L-56	W8240155
22	1.82	603	1025	80	59	56C	BMQ826-80-L-56	W8260155
18	1.24	689	1025	100	59	56C	BMQ826-100-L-56	W8260156
18	1.88	703	1500	100	80	56C	BMQ830-100-L-56	W8300192
18	2.19	705	1450	100	83	56C	BMQ832-100-L-56	W8320256

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

1/3 HP — Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V		Explosion-Proof, 3 Phase, TENV, 230/460V		Explosion-Proof, 1 Phase, TENV, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8130073-101769	37	W8130073-101766	39	W8130073-098004	40	W8130073-098005	40	W8130073-111931	46	W8130073-111075	58
W8130074-101769	37	W8130074-101766	39	W8130074-098004	40	W8130074-098005	40	W8130074-111931	46	W8130074-111075	58
W8130075-101769	37	W8130075-101766	39	W8130075-098004	40	W8130075-098005	40	W8130075-111931	46	W8130075-111075	58
W8130076-101769	37	W8130076-101766	39	W8130076-098004	40	W8130076-098005	40	W8130076-111931	46	W8130076-111075	58
W8150184-101769	42	W8150184-101766	44	W8150184-098004	45	W8150184-098005	45	W8150184-111931	51	W8150184-111075	63
W8130185-102664	37	W8130185-102663	39	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8130077-101769	37	W8130077-101766	39	W8130077-098004	40	W8130077-098005	40	W8130077-111931	46	W8130077-111075	58
W8150185-101769	42	W8150185-101766	44	W8150185-098004	45	W8150185-098005	45	W8150185-111931	51	W8150185-111075	63
W8180113-101769	44	W8180113-101766	46	W8180113-098004	47	W8180113-098005	47	W8180113-111931	53	W8180113-111075	65
W8130186-102664	37	W8130186-102663	39	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8130078-101769	37	W8130078-101766	39	W8130078-098004	40	W8130078-098005	40	W8130078-111931	46	W8130078-111075	58
W8150186-101769	42	W8150186-101766	44	W8150186-098004	45	W8150186-098005	45	W8150186-111931	51	W8150186-111075	63
W8180114-101769	44	W8180114-101766	46	W8180114-098004	47	W8180114-098005	47	W8180114-111931	53	W8180114-111075	65
W8150151-102664	42	W8150151-102663	44	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8150187-101769	42	W8150187-101766	44	W8150187-098004	45	W8150187-098005	45	W8150187-111931	51	W8150187-111075	63
W8180115-101769	44	W8180115-101766	46	W8180115-098004	47	W8180115-098005	47	W8180115-111931	53	W8180115-111075	65
W8210115-101769	50	W8210115-101766	52	W8210115-098004	53	W8210115-098005	53	W8210115-111931	59	W8210115-111075	71
W8150152-102664	42	W8150152-102663	44	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8150188-101769	42	W8150188-101766	44	W8150188-098004	45	W8150188-098005	45	W8150188-111931	51	W8150188-111075	63
W8180116-101769	44	W8180116-101766	46	W8180116-098004	47	W8180116-098005	47	W8180116-111931	53	W8180116-111075	65
W8210116-101769	50	W8210116-101766	52	W8210116-098004	53	W8210116-098005	53	W8210116-111931	59	W8210116-111075	71
W8150153-102664	42	W8150153-102663	44	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8150189-101769	42	W8150189-101766	44	W8150189-098004	45	W8150189-098005	45	W8150189-111931	51	W8150189-111075	63
W8180225-102664	44	W8180225-102663	46	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8180117-101769	44	W8180117-101766	46	W8180117-098004	47	W8180117-098005	47	W8180117-111931	53	W8180117-111075	65
W8210117-101769	50	W8210117-101766	52	W8210117-098004	53	W8210117-098005	53	W8210117-111931	59	W8210117-111075	71
W8210226-102664	50	W8210226-102663	52	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8210118-101769	50	W8210118-101766	52	W8210118-098004	53	W8210118-098005	53	W8210118-111931	59	W8210118-111075	71
W8240154-101769	66	W8240154-101766	68	W8240154-098004	69	W8240154-098005	69	W8240154-111931	75	W8240154-111075	87
W8210227-102664	50	W8210227-102663	52	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8210119-101769	50	W8210119-101766	52	W8210119-098004	53	W8210119-098005	53	W8210119-111931	59	W8210119-111075	71
W8240155-101769	66	W8240155-101766	68	W8240155-098004	69	W8240155-098005	69	W8240155-111931	75	W8240155-111075	87
W8260155-101769	79	W8260155-101766	81	W8260155-098004	82	W8260155-098005	82	W8260155-111931	88	W8260155-111075	100
W8260156-101769	79	W8260156-101766	81	W8260156-098004	82	W8260156-098005	82	W8260156-111931	88	W8260156-111075	100
W8300192-101769	100	W8300192-101766	102	W8300192-098004	103	W8300192-098005	103	W8300192-111931	109	W8300192-111075	121
W8320256-101769	103	W8320256-101766	105	W8320256-098004	106	W8320256-098005	106	W8320256-111931	112	W8320256-111075	124

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

1/2 HP — Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	2.12	81	400	5	17	56C	BMQ813-5-L-56	W8130073
233	1.54	112	400	7.5	17	56C	BMQ813-7.5-L-56	W8130074
175	1.45	151	400	10	17	56C	BMQ813-10-L-56	W8130075
175	2.05	153	500	10	22	56C	BMQ815-10-L-56	W8150183
117	1.13	215	400	15	17	56C	BMQ813-15-L-56	W8130076
117	1.55	215	500	15	22	56C	BMQ815-15-L-56	W8150184
117	2.10	224	475	15	24	56C	BMQ818-15-L-56	W8180112
88	1.29	271	500	20	22	56C	BMQ815-20-L-56	W8150185
88	1.66	289	475	20	24	56C	BMQ818-20-L-56	W8180113
88	2.52	295	475	20	30	56C	BMQ821-20-L-56	W8210113
70	1.09	324	500	25	22	56C	BMQ815-25-L-56	W8150186
70	1.34	357	475	25	24	56C	BMQ818-25-L-56	W8180114
70	2.02	364	475	25	30	56C	BMQ821-25-L-56	W8210114
58	1.22	398	475	30	24	56C	BMQ818-30-L-56	W8180115
58	1.80	417	475	30	30	56C	BMQ821-30-L-56	W8210115
58	2.65	420	1100	30	46	56C	BMQ824-30-L-56	W8240151
44	1.45	512	475	40	30	56C	BMQ821-40-L-56	W8210116
44	2.12	520	1100	40	46	56C	BMQ824-40-L-56	W8240152
35	1.14	630	475	50	30	56C	BMQ821-50-L-56	W8210117
35	1.72	619	1100	50	46	56C	BMQ824-50-L-56	W8240153
35	2.25	630	1025	50	59	56C	BMQ826-50-L-56	W8260153
29	0.98	687	475	60	30	48CZ	BMQ821-60-L-48	W8210226
29	0.98	687	475	60	30	56C	BMQ821-60-L-56	W8210118
29	1.43	706	1100	60	46	56C	BMQ824-60-L-56	W8240154
29	1.90	707	1025	60	59	56C	BMQ826-60-L-56	W8260154
29	2.62	757	1500	60	80	56C	BMQ830-60-L-56	W8300190
22	1.20	913	1025	80	59	56C	BMQ826-80-L-56	W8260155
22	1.80	936	1500	80	80	56C	BMQ830-80-L-56	W8300191
22	2.10	933	1450	80	83	56C	BMQ832-80-L-56	W8320255
18	1.24	1066	1500	100	80	56C	BMQ830-100-L-56	W8300192
18	1.45	1068	1450	100	83	56C	BMQ832-100-L-56	W8320256
18	2.47	1154	2250	100	146	56C	BMQ842-100-L-56	W8420228

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

SINGLE REDUCTION QUICK SELECTIONS

1/2 HP — Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V		Explosion-Proof, 3 Phase, TENV, 230/460V		Explosion-Proof, 1 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8130073-110458	36	W8130073-110056*	38	W8130073-098000	43	W8130073-098008	42	W8130073-111930	51	W8130073-111085	62
W8130074-110458	36	W8130074-110056*	38	W8130074-098000	43	W8130074-098008	42	W8130074-111930	51	W8130074-111085	62
W8130075-110458	36	W8130075-110056*	38	W8130075-098000	43	W8130075-098008	42	W8130075-111930	51	W8130075-111085	62
W8150183-110458	41	W8150183-110056*	43	W8150183-098000	48	W8150183-098008	47	W8150183-111930	56	W8150183-111085	67
W8130076-110458	36	W8130076-110056*	38	W8130076-098000	43	W8130076-098008	42	W8130076-111930	51	W8130076-111085	62
W8150184-110458	41	W8150184-110056*	43	W8150184-098000	48	W8150184-098008	47	W8150184-111930	56	W8150184-111085	67
W8180112-110458	43	W8180112-110056*	45	W8180112-098000	50	W8180112-098008	49	W8180112-111930	58	W8180112-111085	69
W8150185-110458	41	W8150185-110056*	43	W8150185-098000	48	W8150185-098008	47	W8150185-111930	56	W8150185-111085	67
W8180113-110458	43	W8180113-110056*	45	W8180113-098000	50	W8180113-098008	49	W8180113-111930	58	W8180113-111085	69
W8210113-110458	49	W8210113-110056*	51	W8210113-098000	56	W8210113-098008	55	W8210113-111930	64	W8210113-111085	75
W8150186-110458	41	W8150186-110056*	43	W8150186-098000	48	W8150186-098008	47	W8150186-111930	56	W8150186-111085	67
W8180114-110458	43	W8180114-110056*	45	W8180114-098000	50	W8180114-098008	49	W8180114-111930	58	W8180114-111085	69
W8210114-110458	49	W8210114-110056*	51	W8210114-098000	56	W8210114-098008	55	W8210114-111930	64	W8210114-111085	75
W8180115-110458	43	W8180115-110056*	45	W8180115-098000	50	W8180115-098008	49	W8180115-111930	58	W8180115-111085	69
W8210115-110458	49	W8210115-110056*	51	W8210115-098000	56	W8210115-098008	55	W8210115-111930	64	W8210115-111085	75
W8240151-110458	65	W8240151-110056*	67	W8240151-098000	72	W8240151-098008	71	W8240151-111930	80	W8240151-111085	91
W8210116-110458	49	W8210116-110056*	51	W8210116-098000	56	W8210116-098008	55	W8210116-111930	64	W8210116-111085	75
W8240152-110458	65	W8240152-110056*	67	W8240152-098000	72	W8240152-098008	71	W8240152-111930	80	W8240152-111085	91
W8210117-110458	49	W8210117-110056*	51	W8210117-098000	56	W8210117-098008	55	W8210117-111930	64	W8210117-111085	75
W8240153-110458	65	W8240153-110056*	67	W8240153-098000	72	W8240153-098008	71	W8240153-111930	80	W8240153-111085	91
W8260153-110458	78	W8260153-110056*	80	W8260153-098000	85	W8260153-098008	84	W8260153-111930	93	W8260153-111085	104
W8210226-100486	54	W8210226-102665*	54	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8210118-110458	49	W8210118-110056*	51	W8210118-098000	56	W8210118-098008	55	W8210118-111930	64	W8210118-111085	75
W8240154-110458	65	W8240154-110056*	67	W8240154-098000	72	W8240154-098008	71	W8240154-111930	80	W8240154-111085	91
W8260154-110458	78	W8260154-110056*	80	W8260154-098000	85	W8260154-098008	84	W8260154-111930	93	W8260154-111085	104
W8300190-110458	99	W8300190-110056*	101	W8300190-098000	106	W8300190-098008	105	W8300190-111930	114	W8300190-111085	125
W8260155-110458	78	W8260155-110056*	80	W8260155-098000	85	W8260155-098008	84	W8260155-111930	93	W8260155-111085	104
W8300191-110458	99	W8300191-110056*	101	W8300191-098000	106	W8300191-098008	105	W8300191-111930	114	W8300191-111085	125
W8320255-110458	102	W8320255-110056*	104	W8320255-098000	109	W8320255-098008	108	W8320255-111930	117	W8320255-111085	128
W8300192-110458	99	W8300192-110056*	101	W8300192-098000	106	W8300192-098008	105	W8300192-111930	114	W8300192-111085	125
W8320256-110458	102	W8320256-110056*	104	W8320256-098000	109	W8320256-098008	108	W8320256-111930	117	W8320256-111085	128
W8420228-110458	165	W8420228-110056*	167	W8420228-098000	172	W8420228-098008	171	W8420228-111930	180	W8420228-111085	191

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
*These totally enclosed single phase motors have 1.15 service factor
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

3/4 HP — Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.41	122	400	5	17	56C	BMQ813-5-L-56	**W8130073**
350	2.16	122	500	5	22	56C	BMQ815-5-L-56	**W8150181**
233	1.03	168	400	7.5	17	56C	BMQ813-7.5-L-56	**W8130074**
233	1.64	179	500	7.5	22	56C	BMQ815-7.5-L-56	**W8150182**
233	2.22	182	475	7.5	24	56C	BMQ818-7.5-L-56	**W8180110**
175	1.36	230	500	10	22	56C	BMQ815-10-L-56	**W8150183**
175	1.85	236	475	10	24	56C	BMQ818-10-L-56	**W8180111**
175	2.81	239	475	10	30	56C	BMQ821-10-L-56	**W8210111**
117	1.03	323	500	15	22	56C	BMQ815-15-L-56	**W8150184**
117	1.40	336	475	15	24	56C	BMQ818-15-L-56	**W8180112**
117	2.11	344	475	15	30	56C	BMQ821-15-L-56	**W8210112**
88	1.11	434	475	20	24	56C	BMQ818-20-L-56	**W8180113**
88	1.68	442	475	20	30	56C	BMQ821-20-L-56	**W8210113**
88	2.48	444	1100	20	46	56C	BMQ824-20-L-56	**W8240149**
70	1.35	546	475	25	30	56C	BMQ821-30-L-56	**W8210114**
70	2.07	525	1100	25	46	56C	BMQ824-25-L-56	**W8240150**
58	1.20	626	475	30	30	56C	BMQ821-30-L-56	**W8210115**
58	1.77	629	1100	30	46	56C	BMQ824-30-L-56	**W8240151**
58	2.36	628	1025	30	59	56C	BMQ826-30-L-56	**W8260151**
44	1.41	780	1100	40	46	56C	BMQ824-40-L-56	**W8240152**
44	1.87	784	1025	40	59	56C	BMQ826-40-L-56	**W8260152**
44	2.75	781	1500	40	80	56C	BMQ830-40-L-56	**W8300188**
35	1.15	928	1100	50	46	56C	BMQ824-50-L-56	**W8240153**
35	1.50	945	1025	50	59	56C	BMQ826-50-L-56	**W8260153**
35	2.11	986	1500	50	80	56C	BMQ830-50-L-56	**W8300189**
29	1.27	1060	1025	60	59	56C	BMQ826-60-L-56	**W8260154**
29	1.74	1135	1500	60	80	56C	BMQ830-60-L-56	**W8300190**
29	2.08	1169	1450	60	83	56C	BMQ832-60-L-56	**W8320128**
22	1.20	1404	1500	80	80	56C	BMQ830-80-L-56	**W8300191**
22	1.40	1399	1450	80	83	56C	BMQ832-80-L-56	**W8320255**
22	2.40	1509	2250	80	146	56C	BMQ842-80-L-56	**W8420227**
18	1.65	1732	2250	100	146	56C	BMQ842-100-L-56	**W8420228**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

3/4 HP — Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V		Explosion-Proof, 3 Phase, TENV, 230/460V		Explosion-Proof, 1 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8130073-110047	39	W8130073-110057*	42	W8130073-098032	53	W8130073-098069	53	W8130073-111935	53	W8130073-111086	67
W8150181-110047	44	W8150181-110057*	47	W8150181-098032	58	W8150181-098069	58	W8150181-111935	58	W8150181-111086	72
W8130074-110047	39	W8130074-110057*	42	W8130074-098032	53	W8130074-098069	53	W8130074-111935	53	W8130074-111086	67
W8150182-110047	44	W8150182-110057*	47	W8150182-098032	58	W8150182-098069	58	W8150182-111935	58	W8150182-111086	72
W8180110-110047	46	W8180110-110057*	49	W8180110-098032	60	W8180110-098069	60	W8180110-111935	60	W8180110-111086	74
W8150183-110047	44	W8150183-110057*	47	W8150183-098032	58	W8150183-098069	58	W8150183-111935	58	W8150183-111086	72
W8180111-110047	46	W8180111-110057*	49	W8180111-098032	60	W8180111-098069	60	W8180111-111935	60	W8180111-111086	74
W8210111-110047	52	W8210111-110057*	47	W8210111-098032	66	W8210111-098069	66	W8210111-111935	66	W8210111-111086	80
W8150184-110047	44	W8150184-110057*	47	W8150184-098032	58	W8150184-098069	58	W8150184-111935	58	W8150184-111086	72
W8180112-110047	46	W8180112-110057*	49	W8180112-098032	60	W8180112-098069	60	W8180112-111935	60	W8180112-111086	74
W8210112-110047	52	W8210112-110057*	55	W8210112-098032	66	W8210112-098069	66	W8210112-111935	66	W8210112-111086	80
W8180113-110047	46	W8180113-110057*	49	W8180113-098032	60	W8180113-098069	60	W8180113-111935	60	W8180113-111086	74
W8210113-110047	52	W8210113-110057*	55	W8210113-098032	66	W8210113-098069	66	W8210113-111935	66	W8210113-111086	80
W8240149-110047	68	W8240149-110057*	71	W8240149-098032	82	W8240149-098069	82	W8240149-111935	82	W8240149-111086	96
W8210114-110047	52	W8210114-110057*	55	W8210114-098032	66	W8210114-098069	66	W8210114-111935	66	W8210114-111086	80
W8240150-110047	68	W8240150-110057*	71	W8240150-098032	82	W8240150-098069	82	W8240150-111935	82	W8240150-111086	96
W8210115-110047	52	W8210115-110057*	55	W8210115-098032	66	W8210115-098069	66	W8210115-111935	66	W8210115-111086	80
W8240151-110047	68	W8240151-110057*	71	W8240151-098032	82	W8240151-098069	82	W8240151-111935	82	W8240151-111086	96
W8260151-110047	81	W8260151-110057*	84	W8260151-098032	95	W8260151-098069	95	W8260151-111935	95	W8260151-111086	109
W8240152-110047	68	W8240152-110057*	71	W8240152-098032	82	W8240152-098069	82	W8240152-111935	82	W8240152-111086	96
W8260152-110047	81	W8260152-110057*	84	W8260152-098032	95	W8260152-098069	95	W8260152-111935	95	W8260152-111086	109
W8300188-110047	102	W8300188-110057*	105	W8300188-098032	116	W8300188-098069	116	W8300188-111935	116	W8300188-111086	130
W8240153-110047	68	W8240153-110057*	71	W8240153-098032	82	W8240153-098069	82	W8240153-111935	82	W8240153-111086	96
W8260153-110047	81	W8260153-110057*	84	W8260153-098032	95	W8260153-098069	95	W8260153-111935	95	W8260153-111086	109
W8300189-110047	102	W8300189-110057*	105	W8300189-098032	116	W8300189-098069	116	W8300189-111935	116	W8300189-111086	130
W8260154-110047	81	W8260154-110057*	84	W8260154-098032	95	W8260154-098069	95	W8260154-111935	95	W8260154-111086	109
W8300190-110047	102	W8300190-110057*	105	W8300190-098032	116	W8300190-098069	116	W8300190-111935	116	W8300190-111086	130
W8320128-110047	105	W8320128-110057*	108	W8320128-098032	119	W8320128-098069	119	W8320128-111935	119	W8320128-111086	133
W8300191-110047	102	W8300191-110057*	105	W8300191-098032	116	W8300191-098069	116	W8300191-111935	116	W8300191-111086	130
W8320255-110047	105	W8320255-110057*	108	W8320255-098032	119	W8320255-098069	119	W8320255-111935	119	W8320255-111086	133
W8420227-110047	168	W8420227-110057*	171	W8420227-098032	182	W8420227-098069	182	W8420227-111935	182	W8420227-111086	196
W8420228-110047	168	W8420228-110057*	171	W8420228-098032	182	W8420228-098069	182	W8420228-111935	182	W8420228-111086	196

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
*These totally enclosed single phase motors have 1.15 service factor
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

1 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.06	162	400	5	17	56C	BMQ813-5-L-56	W8130073
350	1.61	163	500	5	22	56C	BMQ815-5-L-56	W8150181
350	2.52	166	475	5	30	143-5TC	BMQ821-5-L-140	W8210145
233	1.24	238	500	7.5	22	56C	BMQ815-7.5-L-56	W8150182
233	1.24	238	500	7.5	22	143-5TC	BMQ815-7.5-L-140	W8150218
233	1.67	242	475	7.5	24	56C	BMQ818-7.5-L-56	W8180110
233	2.48	244	475	7.5	30	143-5TC	BMQ821-7.5-L-140	W8210146
175	1.02	307	500	10	22	56C	BMQ815-10-L-56	W8150183
175	1.38	315	475	10	24	56C	BMQ818-10-L-56	W8180111
175	2.10	319	475	10	30	143-5TC	BMQ821-10-L-140	W8210147
117	1.05	448	475	15	24	56C	BMQ818-15-L-56	W8180112
117	1.58	459	475	15	30	56C	BMQ821-15-L-56	W6210112
117	2.34	460	1100	15	46	56C	BMQ824-15-L-56	W8240148
88	1.26	590	475	20	30	56C	BMQ821-20-L-56	W8210113
88	1.86	592	1100	20	46	56C	BMQ824-20-L-56	W8240149
88	2.43	602	1025	20	59	56C	BMQ826-20-L-56	W8260149
70	1.01	728	475	25	30	56C	BMQ821-25-L-56	W8210114
70	1.56	699	1100	25	46	56C	BMQ824-25-L-56	W8240150
58	1.33	839	1100	30	46	56C	BMQ824-30-L-56	W8240151
58	1.77	837	1025	30	59	56C	BMQ826-30-L-56	W8260151
58	2.47	878	1500	30	80	143-5TC	BMQ830-30-L-140	W8300223
44	1.06	1040	1100	40	46	56C	BMQ824-40-L-56	W8240152
44	1.40	1045	1025	40	59	56C	BMQ826-40-L-56	W8260152
44	2.06	1042	1500	40	80	143-5TC	BMQ830-40-L-140	W8300224
35	1.12	1260	1025	50	59	56C	BMQ826-50-L-56	W8260153
35	1.59	1315	1500	50	80	56C	BMQ830-50-L-56	W8300189
35	1.91	1347	1450	50	83	56C	BMQ832-50-L-56	W8320127
29	1.31	1513	1500	60	80	56C	BMQ830-60-L-56	W8300190
29	1.31	1513	1500	60	80	143-5TC	BMQ830-60-L-140	W8300226
29	1.56	1558	1450	60	83	56C	BMQ832-60-L-56	W8320128
29	2.68	1613	2250	60	146	143-5TC	BMQ842-60-L-140	W8420262
22	1.05	1865	1450	80	83	56C	BMQ832-80-L-56	W8320255
22	1.80	2012	2250	80	146	56C	BMQ842-80-L-56	W8420227
22	2.92	1875	2750	80	247	143-5TC	BMQ852-80-L-140	W8520263
18	1.24	2309	2250	100	146	56C	BMQ842-100-L-56	W8420228
18	2.13	2182	2750	100	247	143-5TC	BMQ852-100-L-140	W8520264

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

SINGLE REDUCTION QUICK SELECTIONS

1 HP Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V		Explosion-Proof, 3 Phase, TENV, 230/460V		Explosion-Proof, 1 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8130073-110048	41	W8130073-110058*	50	W8130073-108022	64	W8130073-108023	56	W8130073-111926	63	W8130073-110852	70
W8150181-110048	46	W8150181-110058*	55	W8150181-108022	69	W8150181-108023	61	W8150181-111926	68	W8150181-110852	75
W8210145-120024	56	W8210145-121001	62	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8150182-110048	46	W8150182-110058*	55	W8150182-108022	69	W8150182-108023	61	W8150182-111926	68	W8150182-110852	75
W8150218-120024	48	W8150218-121001	54	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8180110-110048	48	W8180110-110058*	57	W8180110-108022	71	W8180110-108023	63	W8180110-111926	70	W8180110-110852	77
W8210146-120024	56	W8210146-121001	62	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8150183-110048	46	W8150183-110058*	55	W8150183-108022	69	W8150183-108023	61	W8150183-111926	68	W8150183-110852	75
W8180111-110048	48	W8180111-110058*	57	W8180111-108022	71	W8180111-108023	63	W8180111-111926	70	W8180111-110852	77
W8210147-120024	56	W8210147-121001	62	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8180112-110048	48	W8180112-110058*	57	W8180112-108022	71	W8180112-108023	63	W8180112-111926	70	W8180112-110852	77
W8210112-110048	54	W8210112-110058*	63	W8210112-108022	77	W8210112-108023	69	W8210112-111926	76	W8210112-110852	83
W8240148-110048	70	W8240148-110058*	79	W8240148-108022	93	W8240148-108023	85	W8240148-111926	92	W8240148-110852	99
W8210113-110048	54	W8210113-110058*	63	W8210113-108022	77	W8210113-108023	69	W8210113-111926	76	W8210113-110852	83
W8240149-110048	70	W8240149-110058*	79	W8240149-108022	93	W8240149-108023	85	W8240149-111926	92	W8240149-110852	99
W8260149-110048	83	W8260149-110058*	92	W8260149-108022	106	W8260149-108023	98	W8260149-111926	105	W8260149-110852	112
W8210114-110048	54	W8210114-110058*	63	W8210114-108022	77	W8210114-108023	69	W8210114-111926	76	W8210114-110852	83
W8240150-110048	70	W8240150-110058*	79	W8240150-108022	93	W8240150-108023	85	W8240150-111926	92	W8240150-110852	99
W8240151-110048	70	W8240151-110058*	79	W8240151-108022	93	W8240151-108023	85	W8240151-111926	92	W8240151-110852	99
W8260151-110048	83	W8260151-110058*	92	W8260151-108022	106	W8260151-108023	98	W8260151-111926	105	W8260151-110852	112
W8300223-120024	106	W8300223-121001	112	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8240152-110048	70	W8240152-110058*	79	W8240152-108022	93	W8240152-108023	85	W8240152-111926	92	W8240152-110852	99
W8260152-110048	83	W8260152-110058*	92	W8260152-108022	106	W8260152-108023	98	W8260152-111926	105	W8260152-110852	112
W8300224-120024	106	W8300224-121001	112	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8260153-110048	83	W8260153-110058*	92	W8260153-108022	106	W8260153-108023	98	W8260153-111926	105	W8260153-110852	112
W8300189-110048	104	W8300189-110058*	113	W8300189-108022	127	W8300189-108023	119	W8300189-111926	126	W8300189-110852	133
W8320127-110048	107	W8320127-110058*	116	W8320127-108022	130	W8320127-108023	122	W8320127-111926	129	W8320127-110852	136
W8300190-110048	104	W8300190-110058*	113	W8300190-108022	127	W8300190-108023	119	W8300190-111926	126	W8300190-110852	133
W8300226-120024	106	W8300226-121001	112	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8320128-110048	107	W8320128-110058*	116	W8320128-108022	130	W8320128-108023	122	W8320128-111926	129	W8320128-110852	136
W8420262-120024	172	W8420262-121001	178	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8320255-110048	107	W8320255-110058*	116	W8320255-108022	130	W8320255-108023	122	W8320255-111926	129	W8320255-110852	136
W8420227-110048	170	W8420227-110058*	179	W8420227-108022	193	W8420227-108023	185	W8420227-111926	192	W8420227-110852	199
W8520263-120024	273	W8520263-121001	279	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—
W8420228-110048	170	W8420228-110058*	179	W8420228-108022	193	W8420228-108023	185	W8420228-111926	192	W8420228-110852	199
W8520264-120024	273	W8520264-121001	279	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—	Available in 56C only	—

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
*These totally enclosed single phase motors have 1.15 service factor
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

1-1/2 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.07	245	500	5	22	56C	BMQ815-5-L-56	W8150181
350	1.67	250	475	5	30	143-5TC	BMQ821-5-L-140	W8210145
350	2.59	252	1100	5	46	143-5TC	BMQ824-5-L-140	W8240181
233	1.11	363	475	7.5	24	56C	BMQ818-7.5-L-56	W8180110
233	1.65	366	475	7.5	30	143-5TC	BMQ821-7.5-L-140	W8210146
233	2.31	374	1100	7.5	46	143-5TC	BMQ824-7.5-L-140	W8240182
175	1.40	478	475	10	30	143-5TC	BMQ821-10-L-140	W8210147
175	2.08	476	1100	10	46	143-5TC	BMQ824-10-L-140	W8240183
117	1.05	688	475	15	30	56C	BMQ821-15-L-56	W8210112
117	1.56	691	1100	15	46	143-5TC	BMQ824-15-L-140	W8240184
117	2.03	703	1025	15	59	143-5TC	BMQ826-15-L-140	W8260184
88	1.24	887	1100	20	46	56C	BMQ824-20-L-56	W8240149
88	1.24	887	1100	20	46	143-5TC	BMQ824-20-L-140	W8240185
88	1.62	902	1025	20	59	143-5TC	BMQ826-20-L-140	W8260185
88	2.34	915	1500	20	80	143-5TC	BMQ830-20-L-140	W8300221
70	1.04	1049	1100	25	46	56C	BMQ824-25-L-56	W8240150
70	1.36	1066	1025	25	59	56C	BMQ826-25-L-56	W8260150
70	1.36	1066	1025	25	59	143-5TC	BMQ826-25-L-140	W8260186
70	2.02	1069	1500	25	80	143-5TC	BMQ830-25-L-140	W8300222
58	1.18	1255	1025	30	59	56C	BMQ826-30-L-56	W8260151
58	1.64	1318	1500	30	80	143-5TC	BMQ830-30-L-140	W8300223
58	2.05	1260	1450	30	83	143-5TC	BMQ832-30-L-140	W8320149
44	1.37	1562	1500	40	80	143-5TC	BMQ830-40-L-140	W8300224
44	1.57	1678	1450	40	83	143-5TC	BMQ832-40-L-140	W8320150
44	2.82	1720	2250	40	146	143-5TC	BMQ842-40-L-140	W8420260
35	1.06	1972	1500	50	80	56C	BMQ830-50-L-56	W8300189
35	1.27	2020	1450	50	83	56C	BMQ832-50-L-56	W8320127
35	1.27	2020	1450	50	83	143-5TC	BMQ832-50-L-140	W8320151
35	2.26	2081	2250	50	146	143-5TC	BMQ842-50-L-140	W8420261
29	1.04	2338	1450	60	83	56C	BMQ832-60-L-56	W8320128
29	1.79	2420	2250	60	146	143-5TC	BMQ842-60-L-140	W8420262
29	2.83	2335	2750	60	247	143-5TC	BMQ852-60-L-140	W8520262
22	1.20	3018	2250	80	146	56C	BMQ842-80-L-56	W8420227
22	1.20	3018	2250	80	146	143-5TC	BMQ842-80-L-140	W8420263
22	1.95	2813	2750	80	247	143-5TC	BMQ852-80-L-140	W8520263
18	1.42	3272	2750	100	247	143-5TC	BMQ852-100-L-140	W8520264
18	1.76	3340	3700	100	344	143-5TC	BMQ860-100-L-140	W8600192

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.




1-1/2 HP Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 180V		Explosion-Proof, 3 Phase, TENV, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8150181-110125	51	W8150181-110420*	59	W8150181-108092	75	W8150181-111941	68
W8210145-120037	62	W8210145-120017*	70	W8210145-108262**	84	Available in 56C only	—
W8240181-120037	78	W8240181-120017*	86	W8240181-108262**	100	Available in 56C only	—
W8180110-110125	53	W8180110-110420*	61	W8180110-108092	77	W8180110-111941	70
W8210146-120037	62	W8210146-120017*	70	W8210146-108262**	84	Available in 56C only	—
W8240182-120037	78	W8240182-120017*	86	W8240182-108262**	100	Available in 56C only	—
W8210147-120037	62	W8210147-120017*	70	W8210147-108262**	84	Available in 56C only	—
W8240183-120037	78	W8240183-120017*	86	W8240183-108262**	100	Available in 56C only	—
W8210112-110125	59	W8210112-110420*	67	W8210112-108092	83	W8210112-111941	76
W8240184-120037	78	W8240184-120017*	86	W8240184-108262**	100	Available in 56C only	—
W8260184-120037	91	W8260184-120017*	99	W8260184-108262**	113	Available in 56C only	—
W8240149-110125	75	W8240149-110420*	83	W8240149-108092	99	W8240149-111941	92
W8240185-120037	78	W8240185-120017*	86	W8240185-108262**	100	Available in 56C only	—
W8260185-120037	91	W8260185-120017*	99	W8260185-108262**	113	Available in 56C only	—
W8300221-120037	112	W8300221-120017*	120	W8300221-108262**	134	Available in 56C only	—
W8240150-110125	75	W8240150-110420*	83	W8240150-108092	99	W8240150-111941	92
W8260150-110125	88	W8260150-110420*	96	W8260150-108092	112	W8260150-111941	105
W8260186-120037	91	W8260186-120017*	99	W8260186-108262**	113	Available in 56C only	—
W8300222-120037	112	W8300222-120017*	120	W8300222-108262**	134	Available in 56C only	—
W8260151-110125	88	W8260151-110420*	96	W8260151-108092	112	W8260151-111941	105
W8300223-120037	112	W8300223-120017*	120	W8300223-108262**	134	Available in 56C only	—
W8320149-120037	115	W8320149-120017*	123	W8320149-108262**	137	Available in 56C only	—
W8300224-120037	112	W8300224-120017*	120	W8300224-108262**	134	Available in 56C only	—
W8320150-120037	115	W8320150-120017*	123	W8320150-108262**	137	Available in 56C only	—
W8420260-120037	178	W8420260-120017*	186	W8420260-108262**	200	Available in 56C only	—
W8300189-110125	109	W8300189-110420*	117	W8300189-108092	133	W8300189-111941	126
W8320127-110125	112	W8320127-110420*	120	W8320127-108092	136	W8320127-111941	129
W8320151-120037	115	W8320151-120017*	123	W8320151-108262**	137	Available in 56C only	—
W8420261-120037	178	W8420261-120017*	186	W8420261-108262**	200	Available in 56C only	—
W8320128-110125	112	W8320128-110420*	120	W8320128-108092	136	W8320128-111941	129
W8420262-120037	178	W8420262-120017*	186	W8420262-108262**	200	Available in 56C only	—
W8520262-120037	279	W8520262-120017*	287	W8520262-108262**	301	Available in 56C only	—
W8420227-110125	175	W8420227-110420*	183	W8420227-108092	199	W8420227-111941	192
W8420263-120037	178	W8420263-120017*	186	W8420263-108262**	200	Available in 56C only	—
W8520263-120037	279	W8520263-120017*	287	W8520263-108262**	301	Available in 56C only	—
W8520264-120037	279	W8520264-120017*	287	W8520264-108262**	301	Available in 56C only	—
W8600192-120037	376	W8600192-120017*	384	W8600192-108262**	398	Available in 56C only	—

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
* Motor has capacitor start/capacitor run design for reduced amperage, others are capacitor start/induction run
**Motor has NEMA 145TC frame shaft 7/8" x 2 1/4" and NEMA 56 removable base
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

2 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.26	333	475	5	30	143-5TC	BMQ821-5-L-140	**W8210145**
350	1.94	336	1100	5	46	143-5TC	BMQ824-5-L-140	**W8240181**
233	1.24	489	475	7.5	30	143-5TC	BMQ821-7.5-L-140	**W8210146**
233	1.73	499	1100	7.5	46	143-5TC	BMQ824-7.5-L-140	**W8240182**
233	2.13	501	1025	7.5	59	143-5TC	BMQ826-7.5-L-140	**W8260182**
175	1.05	638	475	10	30	56C	BMQ821-10-L-56	**W8210111**
175	1.56	635	1100	10	46	143-5TC	BMQ824-10-L-140	**W8240183**
175	2.00	659	1025	10	59	143-5TC	BMQ826-10-L-140	**W8260183**
117	1.17	921	1100	15	46	56C	BMQ824-15-L-56	**W8240148**
117	1.52	938	1025	15	59	143-5TC	BMQ826-15-L-140	**W8260184**
117	2.21	943	1500	15	80	143-5TC	BMQ830-15-L-140	**W8300220**
88	1.22	1203	1025	20	59	143-5TC	BMQ826-20-L-140	**W8260185**
88	1.75	1221	1500	20	80	143-5TC	BMQ830-20-L-140	**W8300221**
88	2.10	1251	1450	20	83	143-5TC	BMQ832-20-L-140	**W8320147**
70	1.02	1422	1025	25	59	56C	BMQ826-25-L-56	**W8260150**
70	1.52	1425	1500	25	80	143-5TC	BMQ830-25-L-140	**W8300222**
70	3.12	1562	2250	25	146	143-5TC	BMQ842-25-L-140	**W8420258**
58	1.23	1758	1500	30	80	143-5TC	BMQ830-30-L-140	**W8300223**
58	1.53	1680	1450	30	83	143-5TC	BMQ832-30-L-140	**W8320149**
58	2.60	1816	2250	30	146	143-5TC	BMQ842-30-L-140	**W8420259**
44	1.03	2083	1500	40	80	56C	BMQ830-40-L-56	**W8300188**
44	2.11	2294	2250	40	146	143-5TC	BMQ842-40-L-140	**W8420260**
35	1.70	2774	2250	50	146	143-5TC	BMQ842-50-L-140	**W8420261**
35	2.57	2705	2750	50	247	143-5TC	BMQ852-50-L-140	**W8520261**
29	1.34	3226	2250	60	146	143-5TC	BMQ842-60-L-140	**W8420262**
29	2.12	3113	2750	60	247	143-5TC	BMQ852-60-L-140	**W8520262**
22	1.46	3750	2750	80	247	143-5TC	BMQ852-80-L-140	**W8520263**
22	1.86	3903	3700	80	344	143-5TC	BMQ860-80-L-140	**W8600191**
18	1.06	4363	2750	100	247	143-5TC	BMQ852-100-L-140	**W8520264**
18	1.32	4453	3700	100	344	143-5TC	BMQ860-100-L-140	**W8600192**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.




2 HP Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 180V		Explosion-Proof, 3 Phase TENV, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8210145-120038	65	W8210145-120060*	75	W8210145-128010	113	W8210145-121178	80
W8240181-120038	81	W8240181-120060*	91	W8240181-128010	129	W8240181-121178	96
W8210146-120038	65	W8210146-120060*	75	W8210146-128010	113	W8210146-121178	80
W8240182-120038	81	W8240182-120060*	91	W8240182-128010	129	W8240182-121178	96
W8260182-120038	94	W8260182-120060*	104	W8260182-128010	142	W8260182-121178	109
W8210111-110451	64	W8210111-112136*	71	Available in 145TC only	—	Available in 145TC only	—
W8240183-120038	81	W8240183-120060*	91	W8240183-128010	129	W8240183-121178	96
W8260183-120038	94	W8260183-120060*	104	W8260183-128010	142	W8260183-121178	109
W8240148-110451	80	W8240148-112136*	87	Available in 145TC only	—	Available in 145TC only	—
W8260184-120038	94	W8260184-120060*	104	W8260184-128010	142	W8260184-121178	109
W8300220-120038	115	W8300220-120060*	125	W8300220-128010	163	W8300220-121178	130
W8260185-120038	94	W8260185-120060*	104	W8260185-128010	142	W8260185-121178	109
W8300221-120038	115	W8300221-120060*	125	W8300221-128010	163	W8300221-121178	130
W8320147-120038	118	W8320147-120060*	128	W8320147-128010	166	W8320147-121178	133
W8260150-110451	93	W8260150-112136*	100	Available in 145TC only	—	Available in 145TC only	—
W8300222-120038	115	W8300222-120060*	125	W8300222-128010	163	W8300222-121178	130
W8420258-120038	181	W8420258-120060*	191	W8420258-128010	229	W8420258-121178	196
W8300223-120038	115	W8300223-120060*	125	W8300223-128010	163	W8300223-121178	130
W8320149-120038	118	W8320149-120060*	128	W8320149-128010	166	W8320149-121178	133
W8420259-120038	181	W8420259-120060*	191	W8420259-128010	229	W8420259-121178	196
W8300188-110451	114	W8300188-112136*	121	Available in 145TC only	—	Available in 145TC only	—
W8420260-120038	181	W8420260-120060*	191	W8420260-128010	229	W8420260-121178	196
W8420261-120038	181	W8420261-120060*	191	W8420261-128010	229	W8420261-121178	196
W8520261-120038	282	W8520261-120060*	292	W8520261-128010	330	W8520261-121178	297
W8420262-120038	181	W8420262-120060*	191	W8420262-128010	229	W8420262-121178	196
W8520262-120038	282	W8520262-120060*	292	W8520262-128010	330	W8520262-121178	297
W8520263-120038	282	W8520263-120060*	292	W8520263-128010	330	W8520263-121178	297
W8600191-120038	379	W8600191-120060*	389	W8600191-128010	427	W8600191-121178	394
W8520264-120038	282	W8520264-120060*	292	W8520264-128010	330	W8520264-121178	297
W8600192-120038	379	W8600192-120060*	389	W8600192-128010	427	W8600192-121178	394

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
* Motor has capacitor start/capacitor run design for reduced amperage, others are capacitor start/induction run.
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

3 HP — Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.30	504	1100	5	46	182-4TC	BMQ824-5-L-180	**W8240217**
350	1.60	506	1025	5	59	182-4TC	BMQ826-5-L-180	**W8260217**
350	2.23	508	1500	5	80	182-4TC	BMQ830-5-L-180	**W8300253**
233	1.15	748	1100	7.5	46	182-4TC	BMQ824-7.5-L-180	**W8240218**
233	1.42	752	1025	7.5	59	182-4TC	BMQ826-7.5-L-180	**W8260218**
233	2.01	754	1500	7.5	80	182-4TC	BMQ830-7.5-L-180	**W8300254**
175	1.04	952	1100	10	46	182-4TC	BMQ824-10-L-180	**W8240219**
175	1.33	988	1025	10	59	182-4TC	BMQ826-10-L-180	**W8260219**
175	1.97	972	1500	10	80	182-4TC	BMQ830-10-L-180	**W8300255**
117	1.01	1406	1025	15	59	182-4TC	BMQ826-15-L-180	**W8260220**
117	1.47	1415	1500	15	80	182-4TC	BMQ830-15-L-180	**W8300256**
117	1.76	1446	1450	15	83	182-4TC	BMQ832-15-L-180	**W8320169**
88	1.17	1831	1500	20	80	182-4TC	BMQ830-20-L-180	**W8300257**
88	1.40	1877	1450	20	83	182-4TC	BMQ832-20-L-180	**W8320171**
88	2.54	1903	2250	20	146	182-4TC	BMQ842-20-L-180	**W8420293**
70	1.01	2138	1500	25	80	182-4TC	BMQ830-25-L-180	**W8300258**
70	2.08	2342	2250	25	146	182-4TC	BMQ842-25-L-180	**W8420294**
58	1.02	2520	1450	30	83	182-4TC	BMQ832-30-L-180	**W8320173**
58	1.73	2726	2250	30	146	182-4TC	BMQ842-30-L-180	**W8420295**
58	2.66	2715	2750	30	247	182-4TC	BMQ852-30-L-180	**W8520330**
44	1.41	3441	2250	40	146	182-4TC	BMQ842-40-L-180	**W8420296**
44	2.11	3395	2750	40	247	182-4TC	BMQ852-40-L-180	**W8520296**
35	1.13	4161	2250	50	146	182-4TC	BMQ842-50-L-180	**W8420297**
35	1.71	4058	2750	50	247	182-4TC	BMQ852-50-L-180	**W8520297**
35	2.09	4125	3700	50	344	182-4TC	BMQ860-50-L-180	**W8600225**
29	1.41	4670	2750	60	247	182-4TC	BMQ852-60-L-180	**W8520298**
29	1.72	4752	3700	60	344	182-4TC	BMQ860-60-L-180	**W8600226**
22	1.24	5855	3700	80	344	182-4TC	BMQ860-80-L-180	**W8600227**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

SINGLE REDUCTION QUICK SELECTIONS

3 HP Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		Explosion-Proof, 3 Phase TENV, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8240217-131491	98	W8240217-131545	128	W8240217-158003^	156
W8260217-131491	111	W8260217-131545	141	W8260217-158003^	169
W8300253-131491	132	W8300253-131545	162	W8300253-158003^	190
W8240218-131491	98	W8240218-131545	128	W8240218-158003^	156
W8260218-131491	111	W8260218-131545	141	W8260218-158003^	169
W8300254-131491	132	W8300254-131545	162	W8300254-158003^	190
W8240219-131491	98	W8240219-131545	128	W8240219-158003^	156
W8260219-131491	111	W8260219-131545	141	W8260219-158003^	169
W8300255-131491	132	W8300255-131545	162	W8300255-158003^	190
W8260220-131491	111	W8260220-131545	141	W8260220-158003^	169
W8300256-131491	132	W8300256-131545	162	W8300256-158003^	190
W8320169-131491	135	W8320169-131545	165	W8320169-158003^	193
W8300257-131491	132	W8300257-131545	162	W8300257-158003^	190
W8320171-131491	135	W8320171-131545	165	W8320171-158003^	193
W8420293-131491	198	W8420293-131545	228	W8420293-158003^	256
W8300258-131491	132	W8300258-131545	162	W8300258-158003^	190
W8420294-131491	198	W8420294-131545	228	W8420294-158003^	256
W8320173-131491	135	W8320173-131545	165	W8320173-158003^	193
W8420295-131491	198	W8420295-131545	228	W8420295-158003^	256
W8520330-131491	299	W8520330-131545	329	W8520330-158003^	357
W8420296-131491	198	W8420296-131545	228	W8420296-158003^	256
W8520296-131491	299	W8520296-131545	329	W8520296-158003^	357
W8420297-131491	198	W8420297-131545	228	W8420297-158003^	256
W8520297-131491	299	W8520297-131545	329	W8520297-158003^	357
W8600225-131491	396	W8600225-131545	426	W8600225-158003^	454
W8520298-131491	299	W8520298-131545	329	W8520298-158003^	357
W8600226-131491	396	W8600226-131545	426	W8600226-158003^	454
W8600227-131491	396	W8600227-131545	426	W8600227-158003^	454

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
^ Explosion-proof motors are Class I,Group D-Class II, Group F & G
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION QUICK SELECTIONS

LEESON
OHIO GEAR™

Style BMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style BMQ, left hand output reducers and Gear+Motors™. For other reducer configurations, see the Maximum Rating Tables beginning on page 12.

5 HP — Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.34	847	1500	5	80	182-4TC	BMQ830-5-L-180	W8300253
350	1.89	849	1450	5	83	182-4TC	BMQ832-5-L-180	W8320277
233	1.21	1257	1500	7.5	80	182-4TC	BMQ830-7.5-L-180	W8300254
233	1.57	1262	1450	7.5	83	182-4TC	BMQ832-7.5-L-180	W8320278
233	2.81	1273	2250	7.5	146	182-4TC	BMQ842-7.5-L-180	W8420290
175	1.18	1620	1500	10	80	182-4TC	BMQ830-10-L-180	W8300255
175	1.41	1667	1450	10	83	182-4TC	BMQ832-10-L-180	W8320169
175	2.58	1680	2250	10	146	182-4TC	BMQ842-10-L-180	W8420291
117	1.06	2410	1450	15	83	182-4TC	BMQ832-15-L-180	W8320170
117	1.86	2442	2250	15	146	182-4TC	BMQ842-15-L-180	W8420292
88	1.53	3172	2250	20	146	182-4TC	BMQ842-20-L-180	W8420293
88	2.28	3152	2750	20	247	182-4TC	BMQ852-20-L-180	W8520293
70	1.25	3904	2250	25	146	182-4TC	BMQ842-25-L-180	W8420294
70	1.87	3853	2750	25	247	182-4TC	BMQ852-25-L-180	W8520294
58	1.04	4543	2250	30	146	182-4TC	BMQ842-30-L-180	W8420295
58	1.60	4525	2750	30	247	182-4TC	BMQ852-30-L-180	W8520330
58	1.96	4571	3700	30	344	182-4TC	BMQ860-30-L-180	W8600223
44	1.27	5658	2750	40	247	182-4TC	BMQ852-40-L-180	W8520296
44	1.55	5735	3700	40	344	182-4TC	BMQ860-40-L-180	W8600224
35	1.03	6763	2750	50	247	182-4TC	BMQ852-50-L-180	W8520297
35	1.26	6875	3700	50	344	182-4TC	BMQ860-50-L-180	W8600225
29	1.03	7920	3700	60	344	182-4TC	BMQ860-60-L-180	W8600226

7-1/2 HP — Gear Reducer Quick Selections

350	1.26	1273	1450	5	83	213-5TC	BMQ832-5-L-210	W8320289
350	2.14	1281	2200	5	146	213-5TC	BMQ842-5-L-210	W8420325
233	1.04	1892	1450	7.5	83	182-4TC	BMQ832-7.5-L-180	W8320278
233	1.87	1910	2250	7.5	146	213-5TC	BMQ842-7.5-L-210	W8420326
175	1.72	2521	2250	10	146	213-5TC	BMQ842-10-L-210	W8420327
117	1.24	3663	2250	15	146	182-4TC	BMQ842-15-L-180	W8420292
117	1.78	3940	2750	15	247	213-5TC	BMQ852-15-L-210	W8520328
88	1.02	4758	2250	20	146	182-4TC	BMQ842-20-L-182	W8420293
88	1.52	4728	2750	20	247	213-5TC	BMQ852-20-L-210	W8520329
88	1.87	4764	3700	20	344	213-5TC	BMQ860-20-L-210	W8600257
70	1.25	5780	2750	25	247	182-4TC	BMQ852-25-L-182	W8520294
70	1.54	5833	3700	25	344	213-5TC	BMQ860-25-L-210	W8600258
58	1.07	6788	2750	30	247	182-4TC	BMQ852-30-L-182	W8520330
58	1.30	6856	3700	30	344	182-4TC	BMQ860-30-L-182	W8600223
44	1.03	8603	3700	40	344	182-4TC	BMQ860-40-L-180	W8600224

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

SINGLE REDUCTION QUICK SELECTIONS

5 HP Gear+Motor™ Quick Selections

TEFC, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		Explosion-Proof, 3 Phase TENV, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8300253-131492	144	W8300253-131540*	184	W8300253-158005^	190
W8320277-131492	147	W8320277-131540*	187	W8320277-158005^	193
W8300254-131492	144	W8300254-131540*	184	W8300254-158005^	190
W8320278-131492	147	W8320278-131540*	187	W8320278-158005^	193
W8420290-131492	210	W8420290-131540*	250	W8420290-158005^	256
W8300255-131492	144	W8300255-131540*	184	W8300255-158005^	190
W8320169-131492	147	W8320169-131540*	187	W8320169-158005^	193
W8420291-131492	210	W8420291-131540*	250	W8420291-158005^	256
W8320170-131492	147	W8320170-131540*	187	W8320170-158005^	193
W8420292-131492	210	W8420292-131540*	250	W8420292-158005^	256
W8420293-131492	210	W8420293-131540*	250	W8420293-158005^	256
W8520293-131492	311	W8520293-131540*	351	W8520293-158005^	357
W8420294-131492	210	W8420294-131540*	250	W8420294-158005^	256
W8520294-131492	311	W8520294-131540*	351	W8520294-158005^	357
W8420295-131492	210	W8420295-131540*	250	W8420295-158005^	256
W8520330-131492	311	W8520330-131540*	351	W8520330-158005^	357
W8600223-131492	408	W8600223-131540*	448	W8600223-158005^	454
W8520296-131492	311	W8520296-131540*	351	W8520296-158005^	357
W8600224-131492	408	W8600224-131540*	448	W8600224-158005^	454
W8520297-131492	311	W8520297-131540*	351	W8520297-158005^	357
W8600225-131492	408	W8600225-131540*	448	W8600225-158005^	454
W8600226-131492	408	W8600226-131540*	448	W8600226-158005^	454

7-1/2 HP Gear+Motor™ Quick Selections

W8320289-131528	185	—	—	—	—
W8420325-131528	248	—	—	—	—
W8320278-131606	149	—	—	—	—
W8420326-131528	248	—	—	—	—
W8420327-131528	248	—	—	—	—
W8420292-131606	212	—	—	—	—
W8520328-131528	349	—	—	—	—
W8420293-131606	212	—	—	—	—
W8520329-131528	349	—	—	—	—
W8600257-131528	446	—	—	—	—
W8520294-131606	313	—	—	—	—
W8600258-131528	446	—	—	—	—
W8520330-131606	313	—	—	—	—
W8600223-131606	410	—	—	—	—
W8600224-131606	410	—	—	—	—

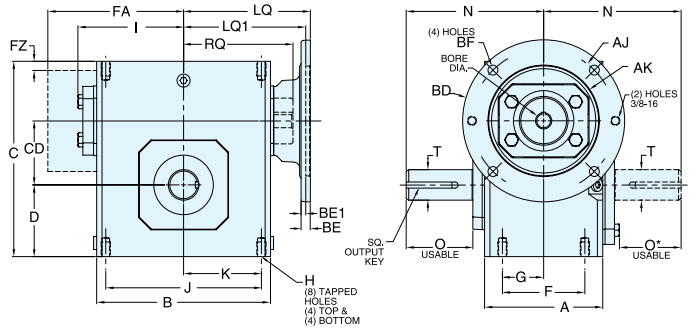
GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
* Motor has capacitor start/capacitor run design for reduced amperage, others are capacitor start/induction run.
^ Explosion-proof motors are Class I,Group D-Class II, Group F & G
◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE BMQ



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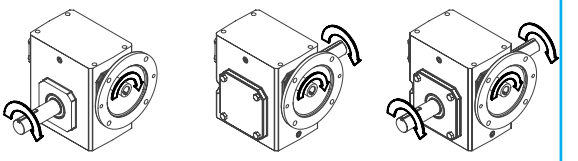
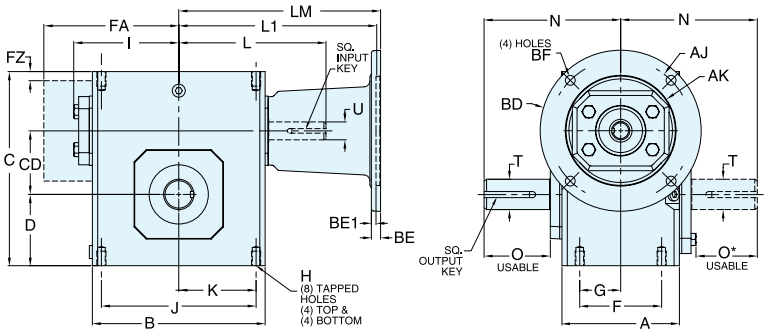


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE BMQ DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H Tap Size	H Depth	I	J	K	N	O	O*	T +0.000 -0.0015	Output Key
813	2.82	3.80	4.66	1.72	1.33	2.00	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	4.00	2.16	1.94	0.625	3/16 X 1.38
815	3.44	4.88	5.38	1.91	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.31	2.11	1.90	0.750	3/16 X 1.38
818	3.56	5.06	5.75	2.06	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.31	2.05	1.84	0.875	3/16 X 1.38
821	3.81	5.80	6.38	2.28	2.06	2.88	1.44	3/8-16 UNC	0.63	3.61	5.00	2.50	4.68	2.29	2.08	1.000	1/4 X 1.44
824	4.06	6.12	6.94	2.50	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.14	2.66	2.44	1.125	1/4 X 1.44
826	4.84	7.12	8.00	2.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	5.63	2.73	2.52	1.125	1/4 X 1.44
830	5.25	8.12	8.88	3.25	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.75	3.60	3.36	1.250	1/4 X 1.56
832	5.75	8.50	9.38	3.50	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	7.06	3.66	3.42	1.375	3/8 X 2.50
842	6.13	10.25	11.38	4.44	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	8.12	4.50	4.21	1.875	1/2 X 2.50
852	7.19	13.00	14.00	5.12	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	9.06	4.78	4.53	2.000	1/2 X 2.50
860**	8.13	14.25	16.50	6.50	6.00	6.38	3.19	5/8-11 UNC	1.00	N/A	12.75	6.38	10.00	4.65	4.65	2.500	5/8 X 4.00

STYLE BM



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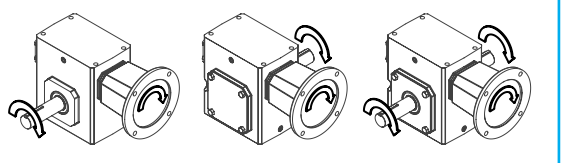
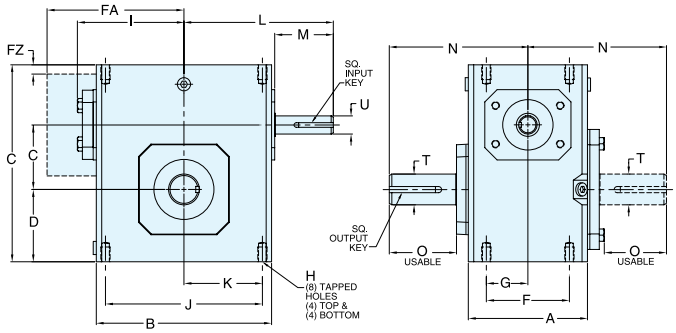


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE BM DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H Tap Size	H Depth	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Input Key	Output Key
813	2.82	3.80	4.66	1.72	1.33	2.00	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	3.82	4.00	2.16	1.94	0.625	0.500	1/8 X 1.00	3/16 X 1.38
815	3.44	4.88	5.38	1.91	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.35	4.31	2.11	1.90	0.750	0.625	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	5.75	2.06	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.45	4.31	2.05	1.84	0.875	0.625	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	6.38	2.28	2.06	2.88	1.44	3/8-16 UNC	0.63	3.61	5.00	2.50	4.82	4.68	2.29	2.08	1.000	0.625	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	6.94	2.50	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.51	5.14	2.66	2.44	1.125	0.750	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	8.00	2.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	6.07	5.63	2.73	2.52	1.125	0.750	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	8.88	3.25	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.57	6.75	3.60	3.36	1.250	0.875	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	9.38	3.50	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	6.76	7.06	3.66	3.42	1.375	0.875	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	11.38	4.44	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	9.57	8.12	4.50	4.21	1.875	1.250	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	14.00	5.12	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	10.88	9.06	4.78	4.53	2.000	1.250	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	16.50	6.50	6.00	6.38	3.19	5/8-11 UNC	1.00	N/A	12.75	6.38	11.78	10.00	4.65	4.65	2.500	1.500	3/8 X 3.00	5/8 X 4.00

STYLE B



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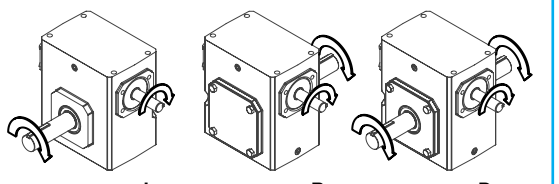


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE B DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H Tap Size	H Depth	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Input Key	Output Key
813	2.82	3.80	4.66	1.72	1.33	2.00	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	3.82	1.76	4.00	2.16	1.94	0.625	0.500	1/8 X 1.00	3/16 X 1.38
815	3.44	4.88	5.38	1.91	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.35	1.76	4.31	2.11	1.90	0.750	0.625	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	5.75	2.06	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.45	1.76	4.31	2.05	1.84	0.875	0.625	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	6.38	2.28	2.06	2.88	1.44	3/8-16 UNC	0.63	3.61	5.00	2.50	4.82	1.76	4.68	2.29	2.08	1.000	0.625	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	6.94	2.50	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.51	2.38	5.14	2.66	2.44	1.125	0.750	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	8.00	2.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	6.07	2.38	5.63	2.73	2.52	1.125	0.750	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	8.88	3.25	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.57	2.38	6.75	3.60	3.36	1.250	0.875	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	9.38	3.50	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	6.76	2.38	7.06	3.66	3.42	1.375	0.875	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	11.38	4.44	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	9.57	3.47	8.12	4.50	4.21	1.875	1.250	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	14.00	5.12	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	10.88	3.38	9.06	4.78	4.53	2.000	1.250	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	16.50	6.50	6.00	6.38	3.19	5/8-11 UNC	1.00	N/A	12.75	6.38	11.78	3.41	10.00	4.65	4.65	2.500	1.500	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	L1 250TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

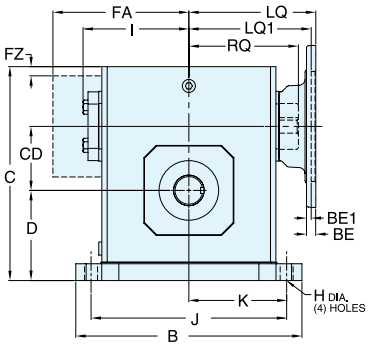
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

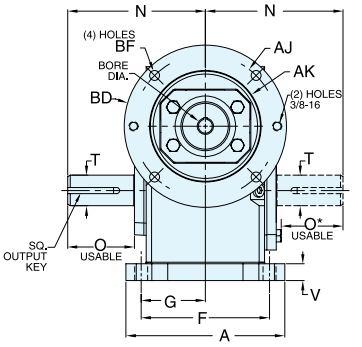
⋆ Applies to double output shaft
⋆⋆ Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"
▲ Keyway width by depth
❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE TMQ





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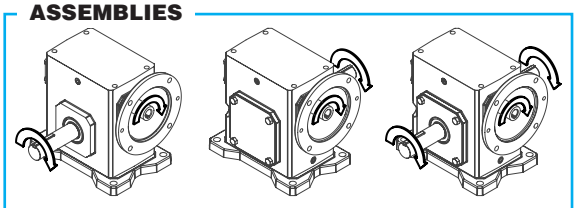
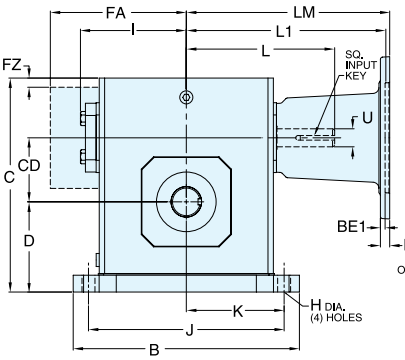


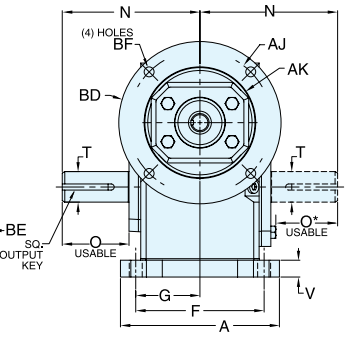
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE TMQ DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	I	J	K	N	O	O*	T +0.000 -0.0015	V	Output Key
813	4.24	5.37	5.19	2.25	1.33	3.31	1.66	0.34	2.61	4.37	2.19	4.00	2.16	1.94	0.625	0.53	3/16 X 1.38
815	5.56	6.50	5.97	2.50	1.54	4.31	2.16	0.41	3.14	5.25	2.63	4.31	2.11	1.90	0.750	0.59	3/16 X 1.38
818	5.75	6.99	6.44	2.75	1.75	4.50	2.25	0.41	3.24	5.75	2.88	4.31	2.05	1.84	0.875	0.69	3/16 X 1.38
821	6.00	7.69	7.09	3.00	2.06	4.69	2.34	0.47	3.61	6.38	3.19	4.68	2.29	2.08	1.000	0.72	1/4 X 1.44
824	6.19	8.37	7.69	3.25	2.38	4.88	2.44	0.49	3.77	7.06	3.53	5.14	2.66	2.44	1.125	0.75	1/4 X 1.44
826	6.50	9.25	8.75	3.69	2.63	5.25	2.63	0.53	4.34	8.00	4.00	5.63	2.73	2.52	1.125	0.75	1/4 X 1.44
830	7.50	10.00	9.63	4.00	3.00	5.88	2.94	0.53	4.84	8.44	4.22	6.75	3.60	3.36	1.250	0.75	1/4 X 1.56
832	7.75	11.12	10.25	4.38	3.25	6.13	3.06	0.53	5.02	9.50	4.75	7.06	3.66	3.42	1.375	0.88	3/8 X 2.50
842	9.75	13.24	12.38	5.44	4.25	7.63	3.81	0.66	6.10	11.12	5.56	8.12	4.50	4.21	1.875	1.00	1/2 X 2.50
852	10.50	16.24	15.13	6.25	5.25	8.38	4.19	0.78	7.50	14.12	7.06	9.06	4.78	4.53	2.000	1.13	1/2 X 2.50
860**	12.00	18.99	17.75	7.75	6.00	9.50	4.75	0.91	N/A	16.49	8.25	10.00	4.65	4.65	2.500	1.25	5/8 X 4.00

STYLE TM





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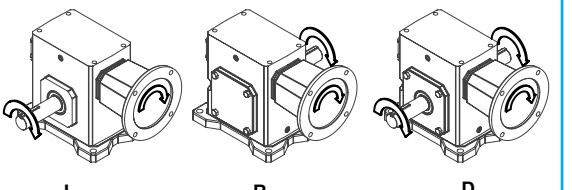
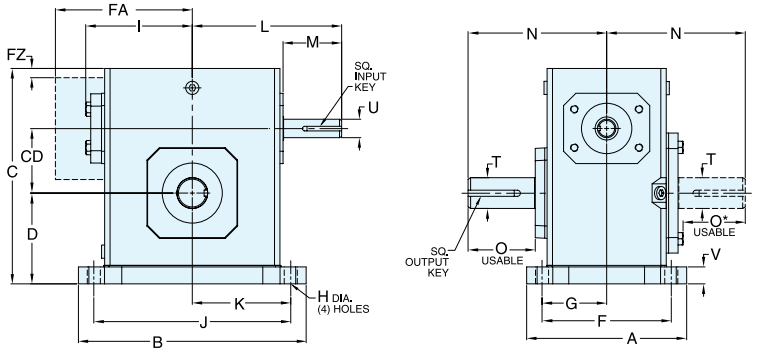


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE TM DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.19	2.25	1.33	3.31	1.66	0.34	2.61	4.37	2.19	3.82	4.00	2.16	1.94	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.97	2.50	1.54	4.31	2.16	0.41	3.14	5.25	2.63	4.35	4.31	2.11	1.90	0.750	0.625	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	6.44	2.75	1.75	4.50	2.25	0.41	3.24	5.75	2.88	4.45	4.31	2.05	1.84	0.875	0.625	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	7.09	3.00	2.06	4.69	2.34	0.47	3.61	6.38	3.19	4.82	4.68	2.29	2.08	1.000	0.625	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	7.69	3.25	2.38	4.88	2.44	0.49	3.77	7.06	3.53	5.51	5.14	2.66	2.44	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	8.75	3.69	2.63	5.25	2.63	0.53	4.34	8.00	4.00	6.07	5.63	2.73	2.52	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	9.63	4.00	3.00	5.88	2.94	0.53	4.84	8.44	4.22	6.57	6.75	3.60	3.36	1.250	0.875	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	10.25	4.38	3.25	6.13	3.06	0.53	5.02	9.50	4.75	6.76	7.06	3.66	3.42	1.375	0.875	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	12.38	5.44	4.25	7.63	3.81	0.66	6.10	11.12	5.56	9.57	8.12	4.50	4.21	1.875	1.250	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	15.13	6.25	5.25	8.38	4.19	0.78	7.50	14.12	7.06	10.88	9.06	4.78	4.53	2.000	1.250	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	17.75	7.75	6.00	9.50	4.75	0.91	N/A	16.49	8.25	11.78	10.00	4.65	4.65	2.500	1.500	1.25	3/8 X 3.00	5/8 X 4.00

STYLE T



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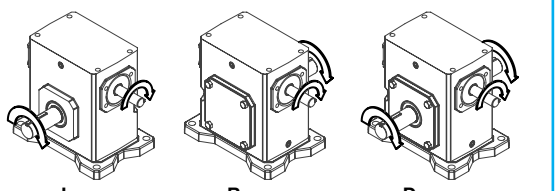


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE T DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.19	2.25	1.33	3.31	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.97	2.50	1.54	4.31	2.16	0.41	3.14	5.25	2.63	4.35	1.76	4.31	2.11	1.90	0.750	0.625	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	6.44	2.75	1.75	4.50	2.25	0.41	3.24	5.75	2.88	4.45	1.76	4.31	2.05	1.84	0.875	0.625	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	7.09	3.00	2.06	4.69	2.34	0.47	3.61	6.38	3.19	4.82	1.76	4.68	2.29	2.08	1.000	0.625	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	7.69	3.25	2.38	4.88	2.44	0.49	3.77	7.06	3.53	5.51	2.38	5.14	2.66	2.44	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	8.75	3.69	2.63	5.25	2.63	0.53	4.34	8.00	4.00	6.07	2.38	5.63	2.73	2.52	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	9.63	4.00	3.00	5.88	2.94	0.53	4.84	8.44	4.22	6.57	2.38	6.75	3.60	3.36	1.250	0.875	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	10.25	4.38	3.25	6.13	3.06	0.53	5.02	9.50	4.75	6.76	2.38	7.06	3.66	3.42	1.375	0.875	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	12.38	5.44	4.25	7.63	3.81	0.66	6.10	11.12	5.56	9.57	3.47	8.12	4.50	4.21	1.875	1.250	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	15.13	6.25	5.25	8.38	4.19	0.78	7.50	14.12	7.06	10.88	3.38	9.06	4.78	4.53	2.000	1.250	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	17.75	7.75	6.00	9.50	4.75	0.91	N/A	16.49	8.25	11.78	3.41	10.00	4.65	4.65	2.500	1.500	1.25	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM		L1		LQ	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD■	D132D	D63D	D71D	D80D	D90D	D100LD■	D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

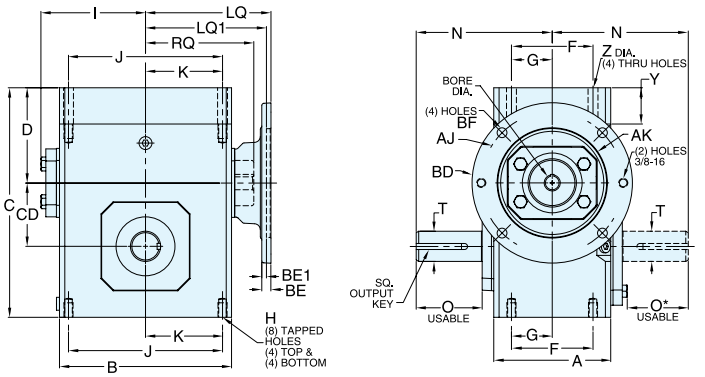
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⋆ Applies to double output shaft
⋆⋆ Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"
▲ Keyway width by depth
❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

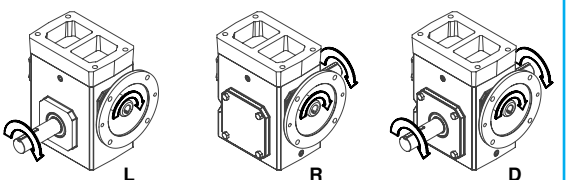
SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE RMQ



ASSEMBLIES

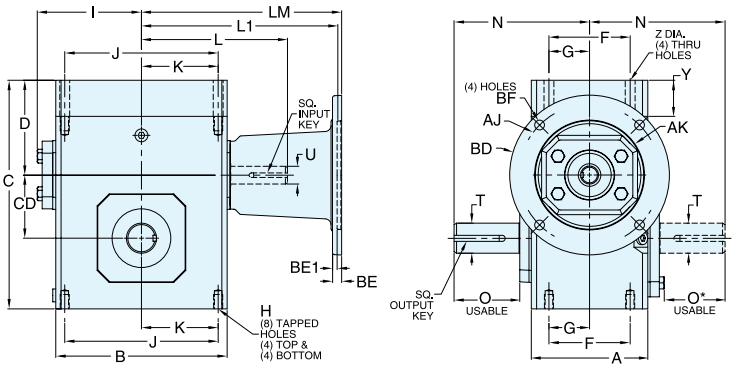


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE RMQ DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H Tap Size	H Depth	I	J	K	N	O	O*	T +0.000 -0.0015	Y	Z	Output Key
815	3.44	4.88	7.38	3.93	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.31	2.11	1.90	0.750	2.00	0.34	3/16 X 1.38
818	3.56	5.06	7.75	3.94	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.31	2.05	1.84	0.875	2.00	0.34	3/16 X 1.38
821	3.81	5.80	8.38	4.03	2.06	2.88	1.44	3/8-16 UNC	0.63	3.61	5.00	2.50	4.68	2.29	2.08	1.000	2.00	0.34	1/4 X 1.44
824	4.06	6.12	8.94	4.06	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.14	2.66	2.44	1.125	2.00	0.41	1/4 X 1.44
826	4.84	7.12	9.50	3.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	5.63	2.73	2.52	1.125	1.50	0.41	1/4 X 1.44
830	5.25	8.12	11.01	4.76	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.75	3.60	3.36	1.250	2.13	0.47	1/4 X 1.56
832	5.75	8.50	11.50	4.75	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	7.06	3.66	3.42	1.375	2.13	0.47	3/8 X 2.50
842	6.13	10.25	13.51	4.82	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	8.12	4.50	4.21	1.875	2.13	0.66	1/2 X 2.50
852	7.19	13.00	15.25	4.88	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	9.06	4.78	4.53	2.000	1.25	0.66	1/2 X 2.50

STYLE RM



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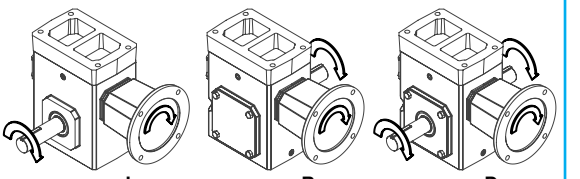
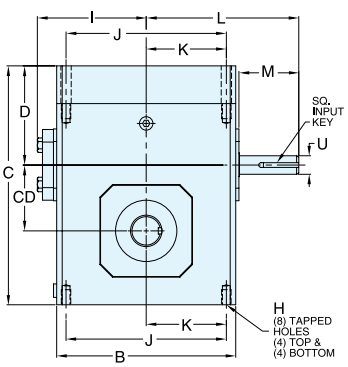


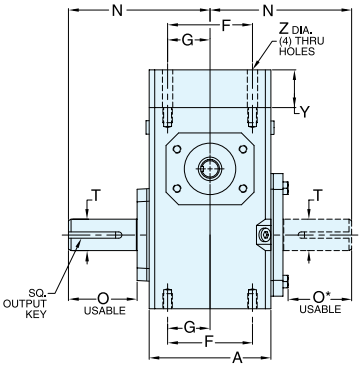
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE RM DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H Tap Size	H Depth	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Y	Z	Input Key	Output Key
815	3.44	4.88	7.38	3.93	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.35	4.31	2.11	1.90	0.750	0.625	2.00	0.34	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	7.75	3.94	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.45	4.31	2.05	1.84	0.875	0.625	2.00	0.34	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	8.38	4.03	2.06	2.88	1.44	3/8-16 UNC	0.63	3.61	5.00	2.50	4.82	4.68	2.29	2.08	1.000	0.625	2.00	0.34	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	8.94	4.06	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.51	5.14	2.66	2.44	1.125	0.750	2.00	0.41	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	9.50	3.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	6.07	5.63	2.73	2.52	1.125	0.750	1.50	0.41	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	11.01	4.76	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.57	6.75	3.60	3.36	1.250	0.875	2.13	0.47	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	11.50	4.75	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	6.76	7.06	3.66	3.42	1.375	0.875	2.13	0.47	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	13.51	4.82	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	9.57	8.12	4.50	4.21	1.875	1.250	2.13	0.66	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	15.25	4.88	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	10.88	9.06	4.78	4.53	2.000	1.250	1.25	0.66	1/4 X 3.00	1/2 X 2.50

STYLE R





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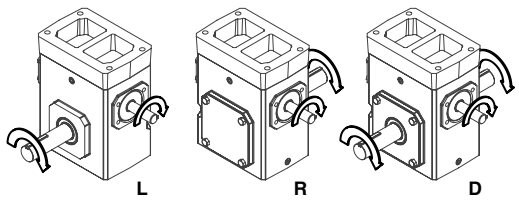


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE R DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H Tap Size	H Depth	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Y	Z	Input Key	Output Key
815	3.44	4.88	7.38	3.93	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.35	1.76	4.31	2.11	1.90	0.750	0.625	2.00	0.34	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	7.75	3.94	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.45	1.76	4.31	2.05	1.84	0.875	0.625	2.00	0.34	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	8.38	4.03	2.06	2.88	1.44	3/8-16 UNC	0.63	3.61	5.00	2.50	4.82	1.76	4.68	2.29	2.08	1.000	0.625	2.00	0.34	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	8.94	4.06	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.51	2.38	5.14	2.66	2.44	1.125	0.750	2.00	0.41	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	9.50	3.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	6.07	2.38	5.63	2.73	2.52	1.125	0.750	1.50	0.41	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	11.01	4.76	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.57	2.38	6.75	3.60	3.36	1.250	0.875	2.13	0.47	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	11.50	4.75	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	6.76	2.38	7.06	3.66	3.42	1.375	0.875	2.13	0.47	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	13.51	4.82	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	9.57	3.47	8.12	4.50	4.21	1.875	1.250	2.13	0.66	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	15.25	4.88	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	10.88	3.38	9.06	4.78	4.53	2.000	1.250	1.25	0.66	1/4 X 3.00	1/2 X 2.50

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/ 140TC	L1 180TC/ 210TC	L1 250TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54

Frame	AJ●	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

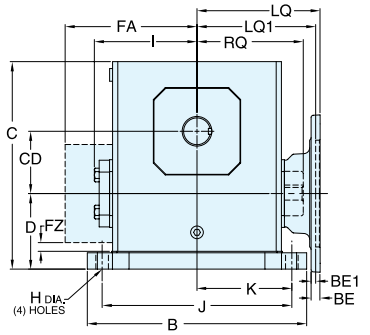
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

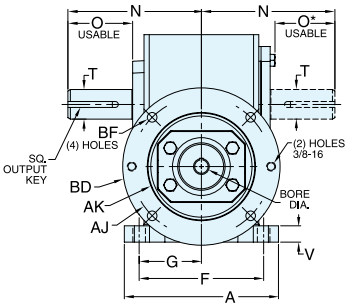
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

* Applies to double output shaft
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

STYLE UMQ





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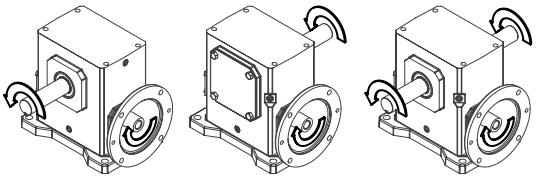
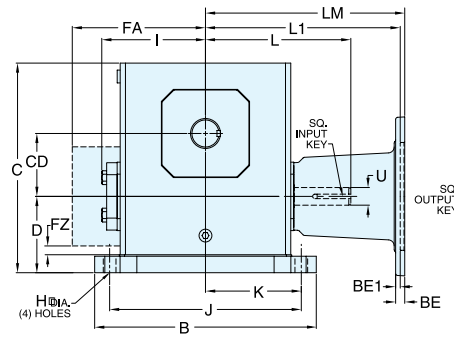


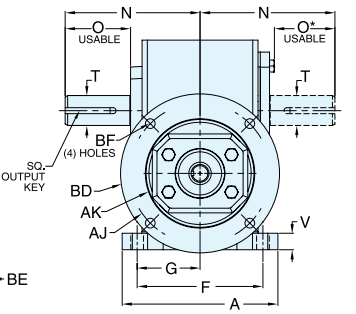
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE UMQ DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	I	J	K	N	O	O*	T +0.000 -0.0015	V	Output Key
813	4.24	5.37	5.19	2.14	1.33	3.31	1.66	0.34	2.61	4.37	2.19	4.00	2.16	1.94	0.625	0.53	3/16 X 1.38
815	5.56	6.50	5.97	2.52	1.54	4.31	2.16	0.41	3.14	5.25	2.63	4.31	2.11	1.90	0.750	0.59	3/16 X 1.38
818	5.75	6.99	6.44	2.63	1.75	4.50	2.25	0.41	3.24	5.75	2.88	4.31	2.05	1.84	0.875	0.69	3/16 X 1.38
821	6.00	7.69	7.09	2.75	2.06	4.69	2.34	0.47	3.61	6.38	3.19	4.68	2.29	2.08	1.000	0.72	1/4 X 1.44
824	6.19	8.37	7.69	2.81	2.38	4.88	2.44	0.49	3.77	7.06	3.53	5.14	2.66	2.44	1.125	0.75	1/4 X 1.44
826	6.50	9.25	8.75	3.19	2.63	5.25	2.63	0.53	4.34	8.00	4.00	5.63	2.73	2.52	1.125	0.75	1/4 X 1.44
830	7.50	10.00	9.63	3.38	3.00	5.88	2.94	0.53	4.84	8.44	4.22	6.75	3.60	3.36	1.250	0.75	1/4 X 1.56
832	7.75	11.12	10.25	3.50	3.25	6.13	3.06	0.53	5.02	9.50	4.75	7.06	3.66	3.42	1.375	0.88	3/8 X 2.50
842	9.75	13.24	12.38	3.69	4.25	7.63	3.81	0.66	6.10	11.12	5.56	8.12	4.50	4.21	1.875	1.00	1/2 X 2.50
852	10.50	16.24	15.13	4.76	5.25	8.38	4.19	0.78	7.50	14.12	7.06	9.06	4.78	4.53	2.000	1.13	1/2 X 2.50
860**	12.00	18.99	17.75	5.25	6.00	9.50	4.75	0.91	N/A	16.49	8.25	10.00	4.65	4.65	2.500	1.25	5/8 X 4.00

STYLE UM





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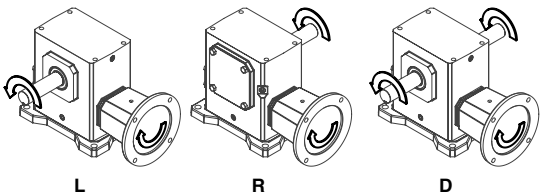
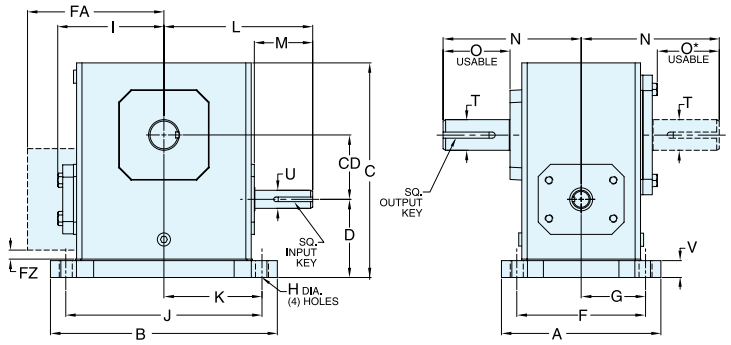


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE UM DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.19	2.14	1.33	3.31	1.66	0.34	2.61	4.37	2.19	3.82	4.00	2.16	1.94	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.97	2.52	1.54	4.31	2.16	0.41	3.14	5.25	2.63	4.35	4.31	2.11	1.90	0.750	0.625	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	6.44	2.63	1.75	4.50	2.25	0.41	3.24	5.75	2.88	4.45	4.31	2.05	1.84	0.875	0.625	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	7.09	2.75	2.06	4.69	2.34	0.47	3.61	6.38	3.19	4.82	4.68	2.29	2.08	1.000	0.625	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	7.69	2.81	2.38	4.88	2.44	0.49	3.77	7.06	3.53	5.51	5.14	2.66	2.44	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	8.75	3.19	2.63	5.25	2.63	0.53	4.34	8.00	4.00	6.07	5.63	2.73	2.52	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	9.63	3.38	3.00	5.88	2.94	0.53	4.84	8.44	4.22	6.57	6.75	3.60	3.36	1.250	0.875	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	10.25	3.50	3.25	6.13	3.06	0.53	5.02	9.50	4.75	6.76	7.06	3.66	3.42	1.375	0.875	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	12.38	3.69	4.25	7.63	3.81	0.66	6.10	11.12	5.56	9.57	8.12	4.50	4.21	1.875	1.250	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	15.13	4.76	5.25	8.38	4.19	0.78	7.50	14.12	7.06	10.88	9.06	4.78	4.53	2.000	1.250	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	17.75	5.25	6.00	9.50	4.75	0.91	N/A	16.49	8.25	11.78	10.00	4.65	4.65	2.500	1.500	1.25	3/8 X 3.00	5/8 X 4.00

STYLE U



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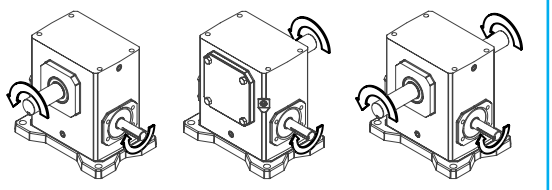


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE U DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.19	2.14	1.33	3.31	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.97	2.52	1.54	4.31	2.16	0.41	3.14	5.25	2.63	4.35	1.76	4.31	2.11	1.90	0.750	0.625	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	6.44	2.63	1.75	4.50	2.25	0.41	3.24	5.75	2.88	4.45	1.76	4.31	2.05	1.84	0.875	0.625	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	7.09	2.75	2.06	4.69	2.34	0.47	3.61	6.38	3.19	4.82	1.76	4.68	2.29	2.08	1.000	0.625	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	7.69	2.81	2.38	4.88	2.44	0.49	3.77	7.06	3.53	5.51	2.38	5.14	2.66	2.44	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	8.75	3.19	2.63	5.25	2.63	0.53	4.34	8.00	4.00	6.07	2.38	5.63	2.73	2.52	1.125	0.750	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	9.63	3.38	3.00	5.88	2.94	0.53	4.84	8.44	4.22	6.57	2.38	6.75	3.60	3.36	1.250	0.875	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	10.25	3.50	3.25	6.13	3.06	0.53	5.02	9.50	4.75	6.76	2.38	7.06	3.66	3.42	1.375	0.875	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	12.38	3.69	4.25	7.63	3.81	0.66	6.10	11.12	5.56	9.57	3.47	8.12	4.50	4.21	1.875	1.250	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	15.13	4.76	5.25	8.38	4.19	0.78	7.50	14.12	7.06	10.88	3.38	9.06	4.78	4.53	2.000	1.250	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	17.75	5.25	6.00	9.50	4.75	0.91	N/A	16.49	8.25	11.78	3.41	10.00	4.65	4.65	2.500	1.500	1.25	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM		L1		LQ	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD■	D132D	D63D	D71D	D80D	D90D	D100LD■	D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

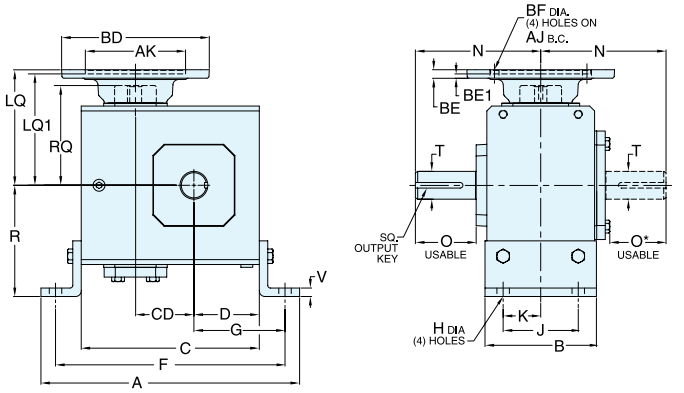
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⋆ Applies to double output shaft
⋆⋆ Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"
▲ Keyway width by depth
❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE JMQ



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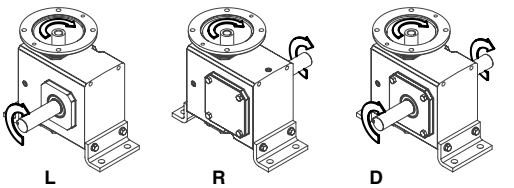
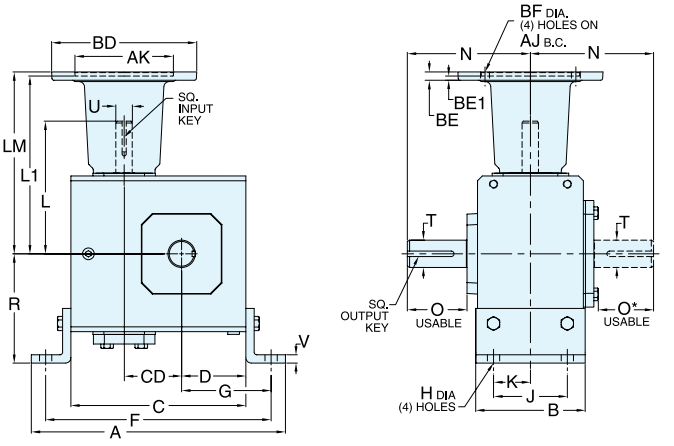


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE JMQ DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	J	K	N	O	O*	R	T +0.000 -0.0015	V	Output Key
813	7.42	2.75	4.66	1.72	1.33	6.42	2.60	0.38	2.00	1.00	4.00	2.16	1.94	2.94	0.625	0.25	3/16 X 1.38
815	8.14	3.50	5.38	1.91	1.54	7.08	2.76	0.44	2.75	1.38	4.31	2.11	1.90	3.50	0.750	0.25	3/16 X 1.38
818	8.51	3.50	5.75	2.06	1.75	7.63	3.00	0.44	2.50	1.25	4.31	2.05	1.84	3.50	0.875	0.25	3/16 X 1.38
821	9.76	3.62	6.38	2.28	2.06	8.63	3.40	0.56	2.63	1.31	4.68	2.29	2.08	3.94	1.000	0.38	1/4 X 1.44
824	10.31	4.00	6.94	2.50	2.38	9.19	3.63	0.69	2.88	1.44	5.14	2.66	2.44	4.06	1.125	0.38	1/4 X 1.44
826	11.62	5.00	8.00	2.94	2.63	10.38	4.13	0.56	3.38	1.69	5.63	2.73	2.52	5.00	1.125	0.38	1/4 X 1.44
830	12.64	6.00	8.88	3.25	3.00	11.38	4.50	0.56	3.88	1.94	6.75	3.60	3.36	5.62	1.250	0.38	1/4 X 1.56
832	13.14	6.00	9.38	3.50	3.25	11.88	4.75	0.56	3.88	1.94	7.06	3.66	3.42	5.63	1.375	0.38	3/8 X 2.50
842	16.38	7.00	11.38	4.44	4.25	14.88	6.19	0.69	5.00	2.50	8.12	4.50	4.21	6.50	1.875	0.50	1/2 X 2.50
852	19.00	7.00	14.00	5.12	5.25	17.50	6.87	0.69	5.81	2.91	9.06	4.78	4.53	7.75	2.000	0.50	1/2 X 2.50

STYLE JM



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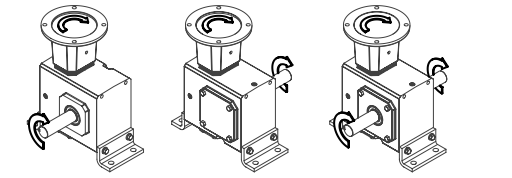
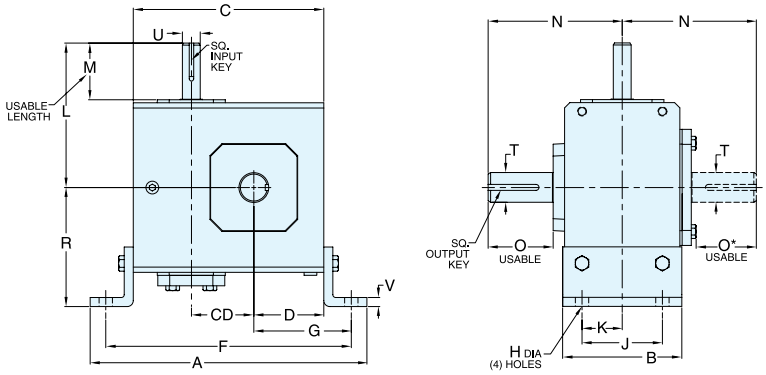


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE JM DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.42	2.75	4.66	1.72	1.33	6.42	2.60	0.38	2.00	1.00	3.82	4.00	2.16	1.94	2.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	8.14	3.50	5.38	1.91	1.54	7.08	2.76	0.44	2.75	1.38	4.35	4.31	2.11	1.90	3.50	0.750	0.625	0.25	3/16 X 1.38	3/16 X 1.38
818	8.51	3.50	5.75	2.06	1.75	7.63	3.00	0.44	2.50	1.25	4.45	4.31	2.05	1.84	3.50	0.875	0.625	0.25	3/16 X 1.38	3/16 X 1.38
821	9.76	3.62	6.38	2.28	2.06	8.63	3.40	0.56	2.63	1.31	4.82	4.68	2.29	2.08	3.94	1.000	0.625	0.38	3/16 X 1.38	1/4 X 1.44
824	10.31	4.00	6.94	2.50	2.38	9.19	3.63	0.69	2.88	1.44	5.51	5.14	2.66	2.44	4.06	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
826	11.62	5.00	8.00	2.94	2.63	10.38	4.13	0.56	3.38	1.69	6.07	5.63	2.73	2.52	5.00	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
830	12.64	6.00	8.88	3.25	3.00	11.38	4.50	0.56	3.88	1.94	6.57	6.75	3.60	3.36	5.62	1.250	0.875	0.38	3/16 X 1.63	1/4 X 1.56
832	13.14	6.00	9.38	3.50	3.25	11.88	4.75	0.56	3.88	1.94	6.76	7.06	3.66	3.42	5.63	1.375	0.875	0.38	3/16 X 1.63	3/8 X 2.50
842	16.38	7.00	11.38	4.44	4.25	14.88	6.19	0.69	5.00	2.50	9.57	8.12	4.50	4.21	6.50	1.875	1.250	0.50	1/4 X 2.50	1/2 X 2.50
852	19.00	7.00	14.00	5.12	5.25	17.50	6.87	0.69	5.81	2.91	10.88	9.06	4.78	4.53	7.75	2.000	1.250	0.50	1/4 X 3.00	1/2 X 2.50

STYLE J



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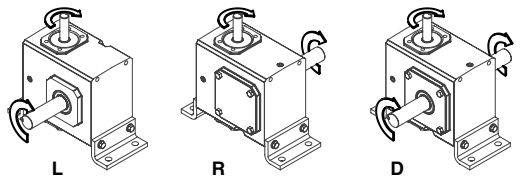


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE J DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	G	H	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.42	2.75	4.66	1.72	1.33	6.42	2.60	0.38	2.00	1.00	3.82	1.76	4.00	2.16	1.94	2.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	8.14	3.50	5.38	1.91	1.54	7.08	2.76	0.44	2.75	1.38	4.35	1.76	4.31	2.11	1.90	3.50	0.750	0.625	0.25	3/16 X 1.38	3/16 X 1.38
818	8.51	3.50	5.75	2.06	1.75	7.63	3.00	0.44	2.50	1.25	4.45	1.76	4.31	2.05	1.84	3.50	0.875	0.625	0.25	3/16 X 1.38	3/16 X 1.38
821	9.76	3.62	6.38	2.28	2.06	8.63	3.40	0.56	2.63	1.31	4.82	1.76	4.68	2.29	2.08	3.94	1.000	0.625	0.38	3/16 X 1.38	1/4 X 1.44
824	10.31	4.00	6.94	2.50	2.38	9.19	3.63	0.69	2.88	1.44	5.51	2.38	5.14	2.66	2.44	4.06	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
826	11.62	5.00	8.00	2.94	2.63	10.38	4.13	0.56	3.38	1.69	6.07	2.38	5.63	2.73	2.52	5.00	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
830	12.64	6.00	8.88	3.25	3.00	11.38	4.50	0.56	3.88	1.94	6.57	2.38	6.75	3.60	3.36	5.62	1.250	0.875	0.38	3/16 X 1.63	1/4 X 1.56
832	13.14	6.00	9.38	3.50	3.25	11.88	4.75	0.56	3.88	1.94	6.76	2.38	7.06	3.66	3.42	5.63	1.375	0.875	0.38	3/16 X 1.63	3/8 X 2.50
842	16.38	7.00	11.38	4.44	4.25	14.88	6.19	0.69	5.00	2.50	9.57	3.47	8.12	4.50	4.21	6.50	1.875	1.250	0.50	1/4 X 2.50	1/2 X 2.50
852	19.00	7.00	14.00	5.12	5.25	17.50	6.87	0.69	5.81	2.91	10.88	3.38	9.06	4.78	4.53	7.75	2.000	1.250	0.50	1/4 X 3.00	1/2 X 2.50

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM		L1		LQ	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD■	D132D	D63D	D71D	D80D	D90D	D100LD■	D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

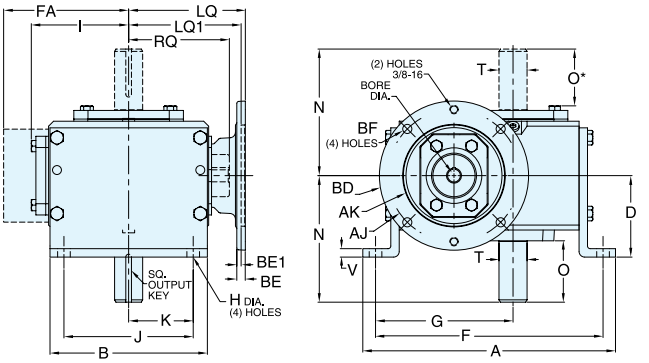
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

* Applies to double output shaft
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE VLMQ



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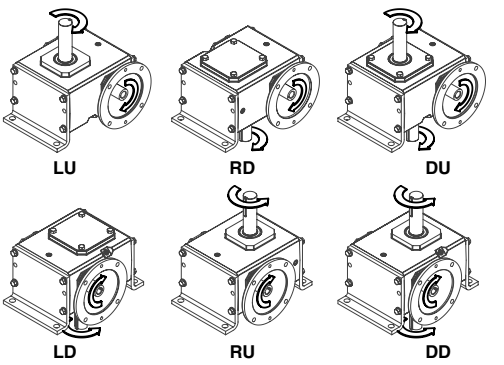
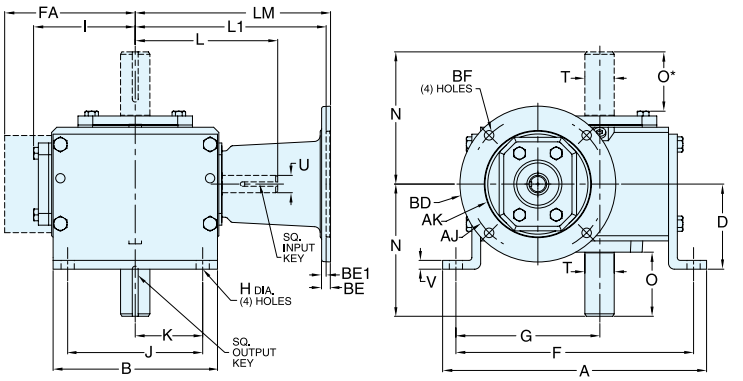


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE VLMQ DIMENSIONS (Inches)

Series	A	B	D	F	G	H	I	J	K	N	O	O*	T +0.000 -0.0015	V	Output Key
813	7.26	4.00	2.63	6.50	3.86	0.38	2.61	3.00	1.50	4.00	2.16	1.94	0.625	0.25	3/16 X 1.38
815	7.88	5.00	3.00	7.00	4.28	0.44	3.14	4.00	2.00	4.31	2.11	1.90	0.750	0.25	3/16 X 1.38
818	8.25	5.00	3.00	7.37	4.50	0.44	3.24	4.00	2.00	4.31	2.05	1.84	0.875	0.25	3/16 X 1.38
821	9.38	6.00	3.13	8.38	5.09	0.50	3.61	4.88	2.44	4.68	2.29	2.08	1.000	0.38	1/4 X 1.44
824	9.94	6.00	3.38	8.94	5.44	0.50	3.77	4.88	2.44	5.14	2.66	2.44	1.125	0.38	1/4 X 1.44
826	11.24	7.00	3.63	10.12	6.12	0.56	4.34	5.75	2.88	5.63	2.73	2.52	1.125	0.38	1/4 X 1.44
830	12.50	8.00	3.94	11.13	6.75	0.56	4.84	6.00	3.00	6.75	3.60	3.36	1.250	0.38	1/4 X 1.56
832	13.00	8.50	4.69	11.88	7.13	0.56	5.02	6.13	3.06	7.06	3.66	3.42	1.375	0.38	3/8 X 2.50
842	16.26	10.00	5.00	14.88	8.69	0.69	6.10	7.88	3.94	8.12	4.50	4.21	1.875	0.50	1/2 X 2.50
852	19.62	13.00	5.16	18.00	10.88	0.78	7.50	10.00	5.00	9.06	4.78	4.53	2.000	0.50	1/2 X 2.50
860**	23.26	14.75	7.31	20.88	12.19	0.91	N/A	11.76	5.88	10.00	4.66	4.66	2.500	0.50	5/8 X 4.00

STYLE VLM



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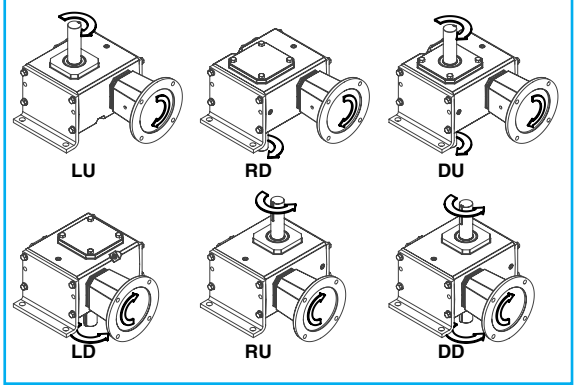
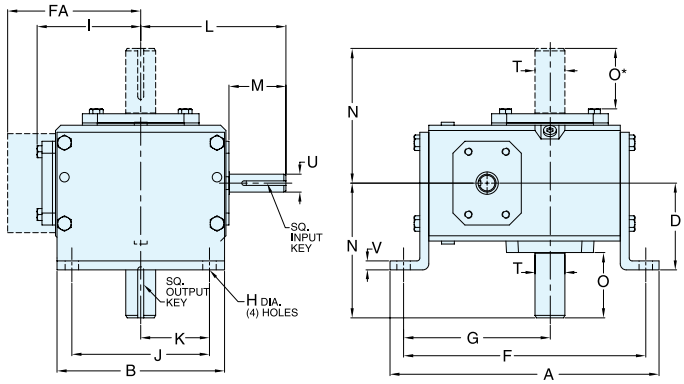


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

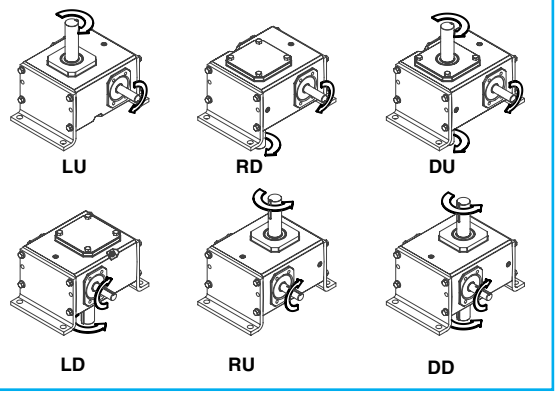
STYLE VLM DIMENSIONS (Inches)

Series	A	B	D	F	G	H	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	2.63	6.50	3.86	0.38	2.61	3.00	1.50	3.82	4.00	2.16	1.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	3.00	7.00	4.28	0.44	3.14	4.00	2.00	4.35	4.31	2.11	1.90	0.750	0.625	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	3.00	7.37	4.50	0.44	3.24	4.00	2.00	4.45	4.31	2.05	1.84	0.875	0.625	0.25	3/16 X 1.38	3/16 X 1.38
821	9.38	6.00	3.13	8.38	5.09	0.50	3.61	4.88	2.44	4.82	4.68	2.29	2.08	1.000	0.625	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	3.38	8.94	5.44	0.50	3.77	4.88	2.44	5.51	5.14	2.66	2.44	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	3.63	10.12	6.12	0.56	4.34	5.75	2.88	6.07	5.63	2.73	2.52	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	3.94	11.13	6.75	0.56	4.84	6.00	3.00	6.57	6.75	3.60	3.36	1.250	0.875	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	4.69	11.88	7.13	0.56	5.02	6.13	3.06	6.76	7.06	3.66	3.42	1.375	0.875	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	5.00	14.88	8.69	0.69	6.10	7.88	3.94	9.57	8.12	4.50	4.21	1.875	1.250	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	5.16	18.00	10.88	0.78	7.50	10.00	5.00	10.88	9.06	4.78	4.53	2.000	1.250	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	7.31	20.88	12.19	0.91	N/A	11.76	5.88	11.78	10.00	4.66	4.66	2.500	1.500	0.50	3/8 X 3.00	5/8 X 4.00

STYLE VL



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE VL DIMENSIONS (Inches)

Series	A	B	D	F	G	H	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	2.63	6.50	3.86	0.38	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	3.00	7.00	4.28	0.44	3.14	4.00	2.00	4.35	1.76	4.31	2.11	1.90	0.750	0.625	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	3.00	7.37	4.50	0.44	3.24	4.00	2.00	4.45	1.76	4.31	2.05	1.84	0.875	0.625	0.25	3/16 X 1.38	3/16 X 1.38
821	9.38	6.00	3.13	8.38	5.09	0.50	3.61	4.88	2.44	4.82	1.76	4.68	2.29	2.08	1.000	0.625	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	3.38	8.94	5.44	0.50	3.77	4.88	2.44	5.51	2.38	5.14	2.66	2.44	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	3.63	10.12	6.12	0.56	4.34	5.75	2.88	6.07	2.38	5.63	2.73	2.52	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	3.94	11.13	6.75	0.56	4.84	6.00	3.00	6.57	2.38	6.75	3.60	3.36	1.250	0.875	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	4.69	11.88	7.13	0.56	5.02	6.13	3.06	6.76	2.38	7.06	3.66	3.42	1.375	0.875	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	5.00	14.88	8.69	0.69	6.10	7.88	3.94	9.57	3.47	8.12	4.50	4.21	1.875	1.250	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	5.16	18.00	10.88	0.78	7.50	10.00	5.00	10.88	3.38	9.06	4.78	4.53	2.000	1.250	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	7.31	20.88	12.19	0.91	N/A	11.76	5.88	11.78	3.41	10.00	4.66	4.66	2.500	1.500	0.50	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM		L1		LQ	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD■	D132D	D63D	D71D	D80D	D90D	D100LD■	D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

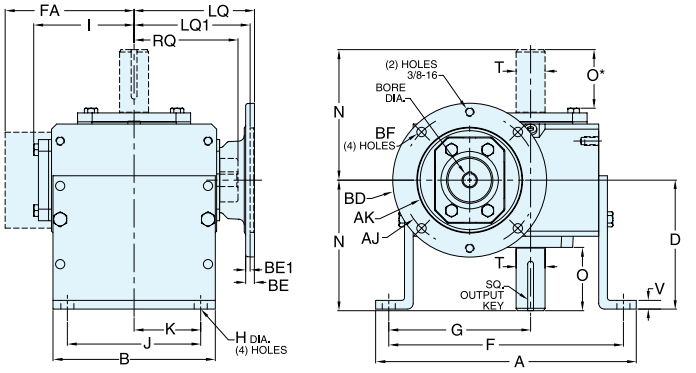
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"
▲ Keyway width by depth
❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

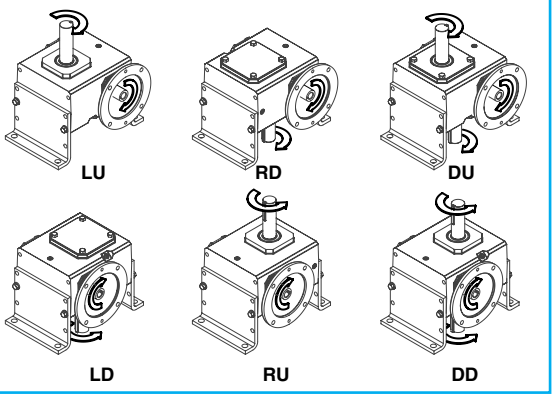
SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE VHMQ



ASSEMBLIES

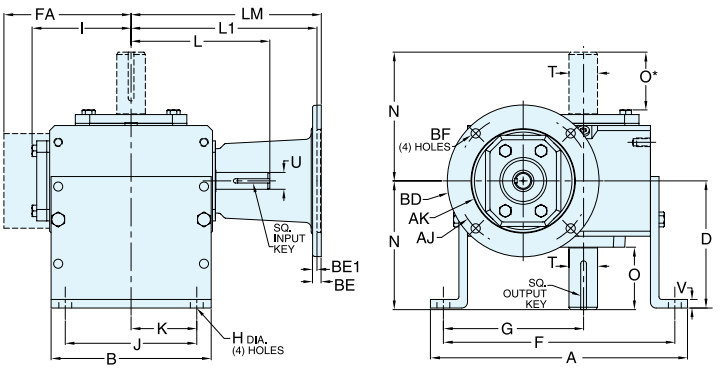


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE VHMQ DIMENSIONS (Inches)

Series	A	B	D	F	G	H	I	J	K	N	O	O*	T +0.000 -0.0015	V	Output Key
813	7.26	4.00	3.56	6.50	3.86	0.38	2.61	3.00	1.50	4.00	2.16	1.94	0.625	0.25	3/16 X 1.38
815	7.88	5.00	4.38	7.00	4.28	0.44	3.14	4.00	2.00	4.31	2.11	1.90	0.750	0.25	3/16 X 1.38
818	8.25	5.00	4.38	7.37	4.50	0.44	3.24	4.00	2.00	4.31	2.05	1.84	0.875	0.25	3/16 X 1.38
820	9.38	6.00	4.88	8.38	5.09	0.50	3.61	4.88	2.44	4.68	2.29	2.08	1.000	0.38	1/4 X 1.44
824	9.94	6.00	5.25	8.94	5.44	0.50	3.77	4.88	2.44	5.14	2.66	2.44	1.125	0.38	1/4 X 1.44
826	11.24	7.00	5.56	10.12	6.12	0.56	4.34	5.75	2.88	5.63	2.73	2.52	1.125	0.38	1/4 X 1.44
830	12.50	8.00	5.88	11.13	6.75	0.56	4.84	6.00	3.00	6.75	3.60	3.36	1.250	0.38	1/4 X 1.56
832	13.00	8.50	6.25	11.88	7.13	0.56	5.02	6.13	3.06	7.06	3.66	3.42	1.375	0.38	3/8 X 2.50
842	16.26	10.00	7.50	14.88	8.69	0.69	6.10	7.88	3.94	8.12	4.50	4.21	1.875	0.50	1/2 X 2.50
852	19.62	13.00	9.16	18.00	10.88	0.78	7.50	10.00	5.00	9.06	4.78	4.53	2.000	0.50	1/2 X 2.50
860**	23.26	14.75	9.63	20.88	12.19	0.91	N/A	11.76	5.88	10.00	4.66	4.66	2.500	0.50	5/8 X 4.00

STYLE VHM



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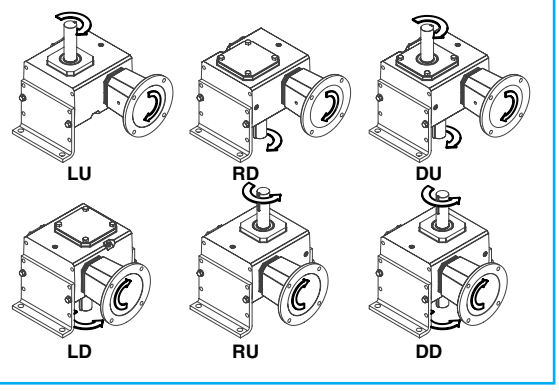
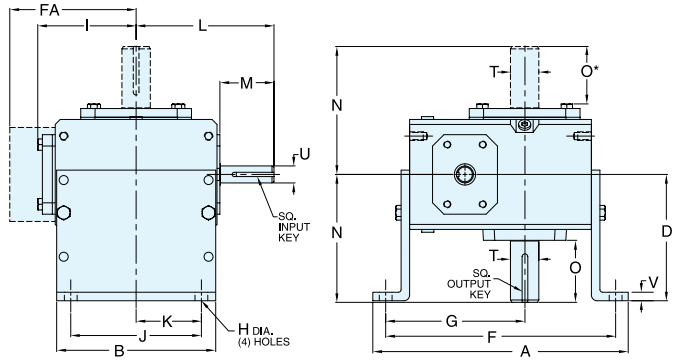


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE VHM DIMENSIONS (Inches)

Series	A	B	D	F	G	H	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	3.56	6.50	3.86	0.38	2.61	3.00	1.50	3.82	4.00	2.16	1.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	4.38	7.00	4.28	0.44	3.14	4.00	2.00	4.35	4.31	2.11	1.90	0.750	0.625	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	4.38	7.37	4.50	0.44	3.24	4.00	2.00	4.45	4.31	2.05	1.84	0.875	0.625	0.25	3/16 X 1.38	3/16 X 1.38
820	9.38	6.00	4.88	8.38	5.09	0.50	3.61	4.88	2.44	4.82	4.68	2.29	2.08	1.000	0.625	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	5.25	8.94	5.44	0.50	3.77	4.88	2.44	5.51	5.14	2.66	2.44	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	5.56	10.12	6.12	0.56	4.34	5.75	2.88	6.07	5.63	2.73	2.52	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	5.88	11.13	6.75	0.56	4.84	6.00	3.00	6.57	6.75	3.60	3.36	1.250	0.875	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	6.25	11.88	7.13	0.56	5.02	6.13	3.06	6.76	7.06	3.66	3.42	1.375	0.875	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	7.50	14.88	8.69	0.69	6.10	7.88	3.94	9.57	8.12	4.50	4.21	1.875	1.250	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	9.16	18.00	10.88	0.78	7.50	10.00	5.00	10.88	9.06	4.78	4.53	2.000	1.250	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	9.63	20.88	12.19	0.91	N/A	11.76	5.88	11.78	10.00	4.66	4.66	2.500	1.500	0.50	3/8 X 3.00	5/8 X 4.00

STYLE VH



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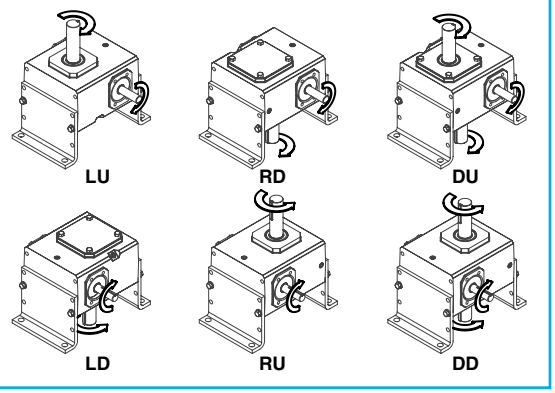


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE VH DIMENSIONS (Inches)

Series	A	B	D	F	G	H	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	3.56	6.50	3.86	0.38	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	4.38	7.00	4.28	0.44	3.14	4.00	2.00	4.35	1.76	4.31	2.11	1.90	0.750	0.625	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	4.38	7.37	4.50	0.44	3.24	4.00	2.00	4.45	1.76	4.31	2.05	1.84	0.875	0.625	0.25	3/16 X 1.38	3/16 X 1.38
820	9.38	6.00	4.88	8.38	5.09	0.50	3.61	4.88	2.44	4.82	1.76	4.68	2.29	2.08	1.000	0.625	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	5.25	8.94	5.44	0.50	3.77	4.88	2.44	5.51	2.38	5.14	2.66	2.44	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	5.56	10.12	6.12	0.56	4.34	5.75	2.88	6.07	2.38	5.63	2.73	2.52	1.125	0.750	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	5.88	11.13	6.75	0.56	4.84	6.00	3.00	6.57	2.38	6.75	3.60	3.36	1.250	0.875	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	6.25	11.88	7.13	0.56	5.02	6.13	3.06	6.76	2.38	7.06	3.66	3.42	1.375	0.875	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	7.50	14.88	8.69	0.69	6.10	7.88	3.94	9.57	3.47	8.12	4.50	4.21	1.875	1.250	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	9.16	18.00	10.88	0.78	7.50	10.00	5.00	10.88	3.38	9.06	4.78	4.53	2.000	1.250	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	9.63	20.88	12.19	0.91	N/A	11.76	5.88	11.78	3.41	10.00	4.66	4.66	2.500	1.500	0.50	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM		L1		LQ	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD■	D132D	D63D	D71D	D80D	D90D	D100LD■	D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

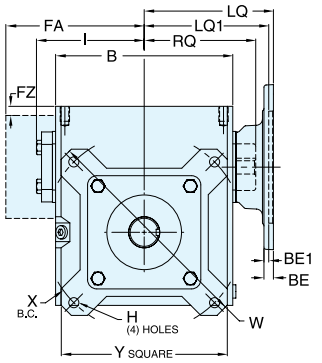
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

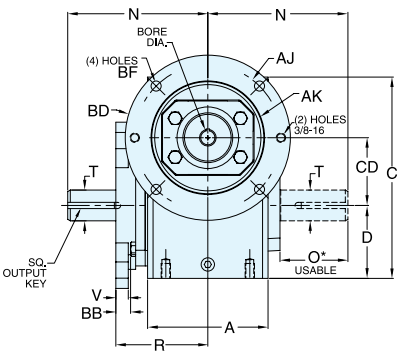
⋆ Applies to double output shaft
⋆⋆ Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"
▲ Keyway width by depth
❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE FMQ





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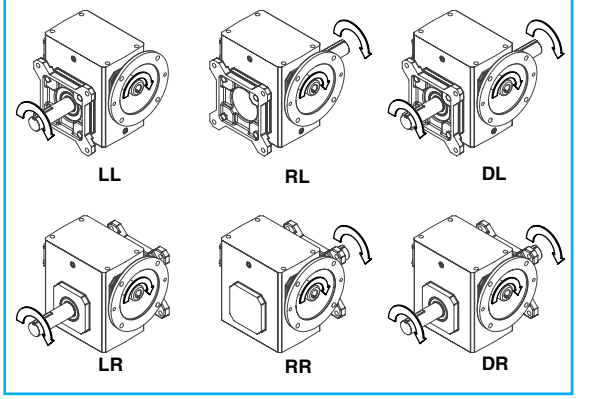
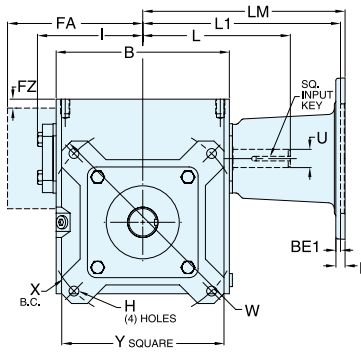


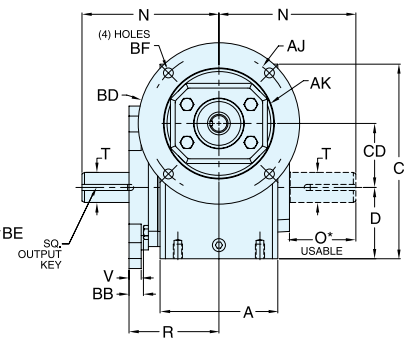
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FMQ DIMENSIONS (Inches)

Series	A	B	BB	C	D	CD	H	I	N	O*	R	T +0.000 -0.0015	V	W	X	Y	Output Key
813	2.82	3.80	0.08	4.66	1.72	1.33	0.34	2.61	4.00	2.16	2.52	0.625	0.38	5.92	5.00	4.50	3/16 X 1.38
815	3.44	4.88	1.22	5.38	1.91	1.54	0.34	3.14	4.31	2.11	2.87	0.750	0.38	5.88	5.00	4.50	3/16 X 1.38
818	3.56	5.06	0.11	5.75	2.06	1.75	0.34	3.24	4.31	2.05	3.18	0.875	0.38	6.64	5.88	5.00	3/16 X 1.38
821	3.81	5.80	0.55	6.38	2.28	2.06	0.41	3.61	4.68	2.29	3.69	1.000	0.44	7.88	7.00	5.99	1/4 X 1.44
824	4.06	6.12	0.51	6.94	2.50	2.38	0.41	3.77	5.14	2.66	3.69	1.125	0.44	8.39	7.50	6.27	1/4 X 1.44
826	4.84	7.12	0.04	8.00	2.94	2.63	0.41	4.34	5.63	2.73	3.69	1.125	0.50	8.88	8.00	6.67	1/4 X 1.44
830	5.25	8.12	0.07	8.88	3.25	3.00	0.41	4.84	6.75	3.60	3.72	1.250	0.50	9.89	9.00	7.37	1/4 X 1.56
832	5.75	8.50	0.07	9.38	3.50	3.25	0.41	5.02	7.06	3.66	3.98	1.375	0.50	9.89	9.00	7.37	3/8 X 2.50
842	6.13	10.25	0.06	11.38	4.44	4.25	0.56	6.10	8.12	4.50	4.50	1.875	0.62	12.95	11.50	9.65	1/2 X 2.50
852	7.19	13.00	0.34	14.00	5.12	5.25	0.69	7.50	9.06	4.78	5.56	2.000	0.75	15.50	14.00	11.75	1/2 X 2.50
860**	8.13	14.25	1.38	16.50	6.50	6.00	0.69	N/A	10.00	4.65	7.22	2.500	0.75	18.00	15.63	14.00	5/8 X 4.00

STYLE FM





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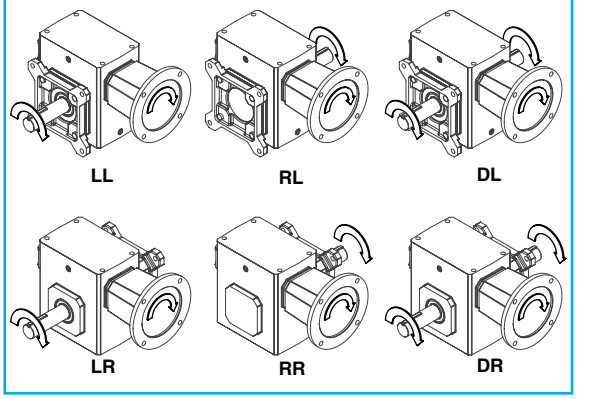
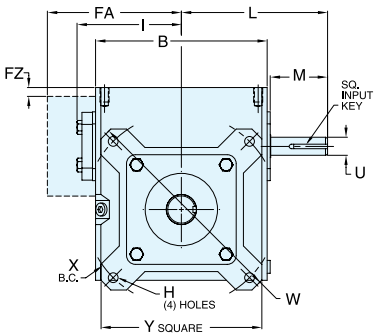


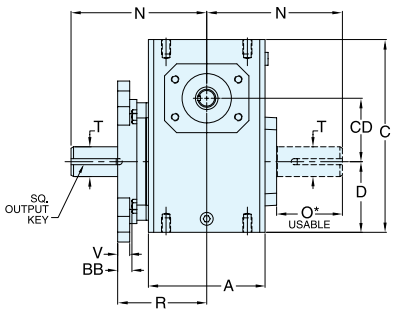
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FM DIMENSIONS (Inches)

Series	A	B	BB	C	D	CD	H	I	L	N	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	3.80	0.08	4.66	1.72	1.33	0.34	2.61	3.82	4.00	2.16	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.38
815	3.44	4.88	1.22	5.38	1.91	1.54	0.34	3.14	4.35	4.31	2.11	2.87	0.750	0.625	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	0.11	5.75	2.06	1.75	0.34	3.24	4.45	4.31	2.05	3.18	0.875	0.625	0.38	6.64	5.88	5.00	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	0.55	6.38	2.28	2.06	0.41	3.61	4.82	4.68	2.29	3.69	1.000	0.625	0.44	7.88	7.00	5.99	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	0.51	6.94	2.50	2.38	0.41	3.77	5.51	5.14	2.66	3.69	1.125	0.750	0.44	8.39	7.50	6.27	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	0.04	8.00	2.94	2.63	0.41	4.34	6.07	5.63	2.73	3.69	1.125	0.750	0.50	8.88	8.00	6.67	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	0.07	8.88	3.25	3.00	0.41	4.84	6.57	6.75	3.60	3.72	1.250	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	0.07	9.38	3.50	3.25	0.41	3.75	6.76	7.06	3.66	3.98	1.375	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	0.06	11.38	4.44	4.25	0.56	6.10	9.57	8.12	4.50	4.50	1.875	1.250	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	0.34	14.00	5.12	5.25	0.69	7.50	10.88	9.06	4.78	5.56	2.000	1.250	0.75	15.50	14.00	11.75	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	1.38	16.50	6.50	6.00	0.69	N/A	11.78	10.00	4.65	7.22	2.500	1.500	0.75	18.00	15.63	14.00	3/8 X 3.00	5/8 X 4.00

STYLE F





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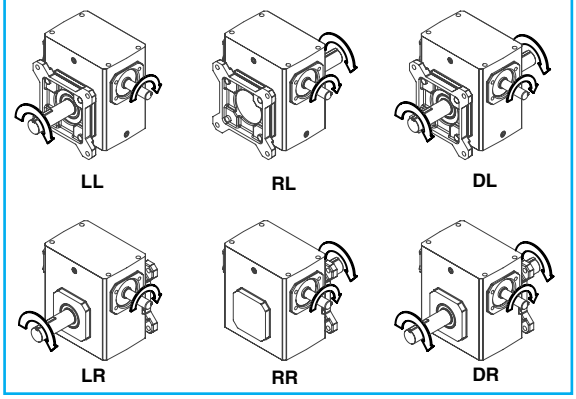


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE F DIMENSIONS (Inches)

Series	A	B	BB	C	D	CD	H	I	L	M	N	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	3.80	0.08	4.66	1.72	1.33	0.34	2.61	3.82	1.76	4.00	2.16	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.38
815	3.44	4.88	1.22	5.38	1.91	1.54	0.34	3.14	4.35	1.76	4.31	2.11	2.87	0.750	0.625	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	0.11	5.75	2.06	1.75	0.34	3.24	4.45	1.76	4.31	2.05	3.18	0.875	0.625	0.38	6.64	5.88	5.00	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	0.55	6.38	2.28	2.06	0.41	3.61	4.82	1.76	4.68	2.29	3.69	1.000	0.625	0.44	7.88	7.00	5.99	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	0.51	6.94	2.50	2.38	0.41	3.77	5.51	2.38	5.14	2.66	3.69	1.125	0.750	0.44	8.39	7.50	6.27	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	0.04	8.00	2.94	2.63	0.41	4.34	6.07	2.38	5.63	2.73	3.69	1.125	0.750	0.50	8.88	8.00	6.67	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	0.07	8.88	3.25	3.00	0.41	4.84	6.57	2.38	6.75	3.60	3.72	1.250	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	0.07	9.38	3.50	3.25	0.41	5.02	6.76	2.38	7.06	3.66	3.98	1.375	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	0.06	11.38	4.44	4.25	0.56	6.10	9.57	3.47	8.12	4.50	4.50	1.875	1.250	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	0.34	14.00	5.12	5.25	0.69	7.50	10.88	3.38	9.06	4.78	5.56	2.000	1.250	0.75	15.50	14.00	11.75	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	1.38	16.50	6.50	6.00	0.69	N/A	11.78	3.41	10.00	4.65	7.22	2.500	1.500	0.75	18.00	15.63	14.00	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/ 140TC	L1 180TC/ 210TC	L1 250TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

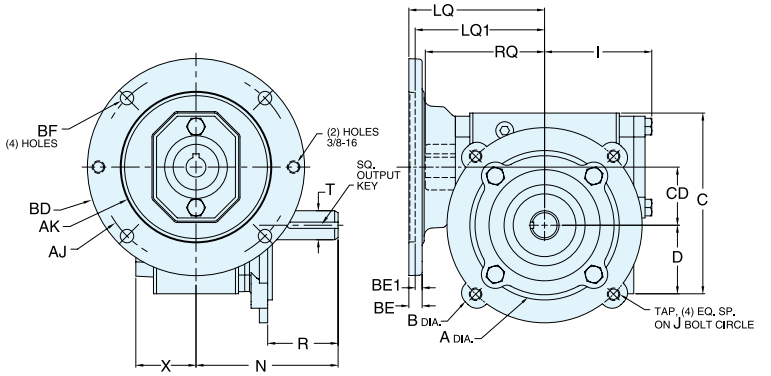
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

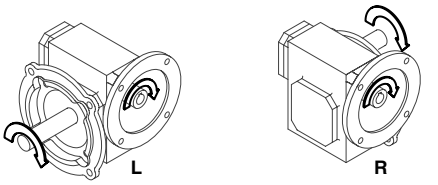
* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"
▲ Keyway width by depth
❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

STYLE CMQ



ASSEMBLIES

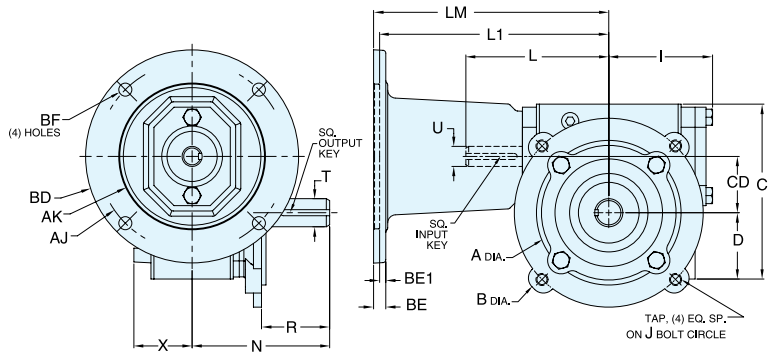


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

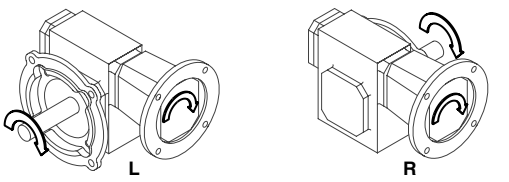
STYLE CMQ DIMENSIONS (Inches)

Series	Output C-Face Frame	A	B	C	D	CD	I	J	N	R	T +0.000 -0.0015	X	Tap Size	Output Key
813	56C	4.50	6.64	4.66	1.72	1.33	2.61	5.88	5.00	2.06	0.625	1.84	3/8-16 UNC	3/16 X 1.38
818	140TC	4.50	6.64	5.44	2.06	1.75	3.24	5.88	4.28	2.13	0.875	1.81	3/8-16 UNC	3/16 X 1.38
824	180TC	8.50	9.00	6.88	2.69	2.38	3.77	7.25	6.59	2.37	1.125	1.97	1/2-13 UNC	1/4 X 1.44

STYLE CM



ASSEMBLIES

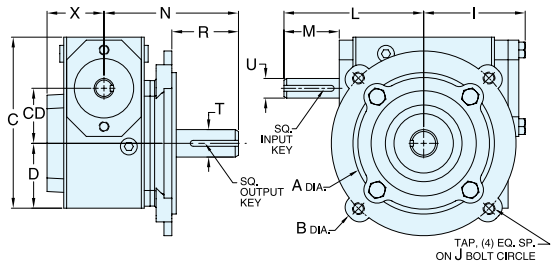


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE CM DIMENSIONS (Inches)

Series	Output C-Face Frame	A	B	C	D	CD	I	J	L	N	R	T +0.000 -0.0015	U +0.000 -0.0015	X	Tap Size	Input Key	Output Key
813	56C	4.50	6.64	4.66	1.72	1.33	2.61	5.88	3.82	5.00	2.06	0.625	0.500	1.84	3/8-16 UNC	1/8 X 1.00	3/16 X 1.38
818	140TC	4.50	6.64	5.44	2.06	1.75	3.24	5.88	4.45	4.28	2.13	0.875	0.625	1.81	3/8-16 UNC	3/16 X 1.38	3/16 X 1.38
824	180TC	8.50	9.00	6.88	2.69	2.38	3.77	7.25	5.51	6.59	2.37	1.125	0.750	1.97	1/2-13 UNC	3/16 X 1.63	1/4 X 1.44

STYLE C



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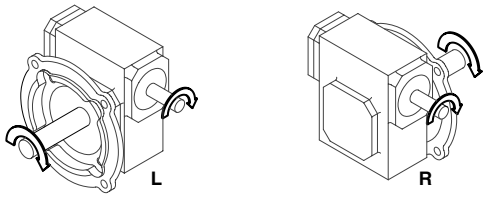


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE C DIMENSIONS (Inches)

Series	Output C-Face Frame	A	B	C	D	CD	I	J	L	M	N	R	T +0.000 -0.0015	U +0.000 -0.0015	X	Tap Size	Input Key	Output Key
813	56C	4.50	6.64	4.66	1.72	1.33	2.61	5.88	3.82	1.76	5.00	2.06	0.625	0.500	1.84	3/8-16 UNC	1/8 X 1.00	3/16 X 1.38
818	140TC	4.50	6.64	5.44	2.06	1.75	3.24	5.88	4.45	1.76	4.28	2.13	0.875	0.625	1.81	3/8-16 UNC	3/16 X 1.38	3/16 X 1.38
824	180TC	8.50	9.00	6.88	2.69	2.38	3.77	7.25	5.51	2.38	6.59	2.37	1.125	0.750	1.97	1/2-13 UNC	3/16 X 1.63	1/4 X 1.44

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	LQ1 180TC	RQ 48CZ/56C/140TC	RQ 180TC
813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
818	6.26	6.70	N/A	4.09	N/A	3.59	N/A
824	N/A	7.76	8.76	4.63◆	5.06	4.09◆	4.56

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	RQ D63D	RQ D71D	RQ D80D
813	2.62	2.65	2.89	2.45	2.47	2.71
818	3.25	3.28	3.52	2.95	2.97	3.21
824	N/A	3.72	4.34	N/A	3.46	3.71

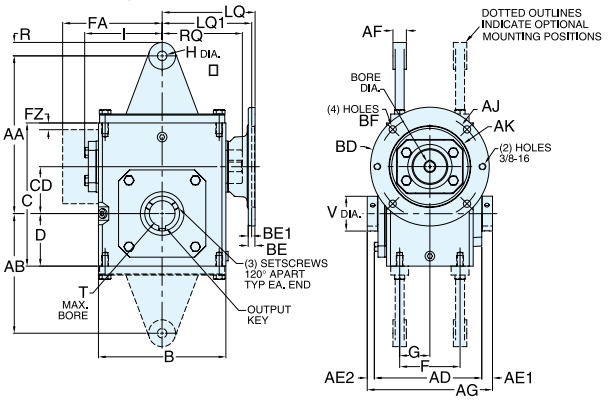
Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184

▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
● Dimensions in millimeters (mm).

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE HMQ



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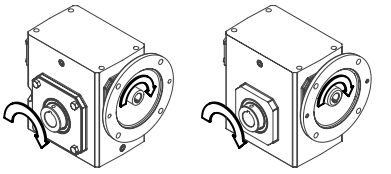
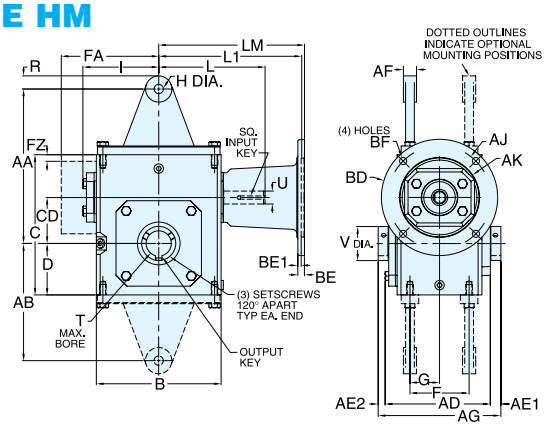


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

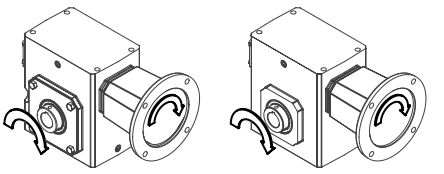
STYLE HMQ DIMENSIONS (Inches)

Series	AA	AB	AD	AE1	AE2	AF	AG	B	C	D	CD	F	G	H	I	R	T MAX▼ -0.000 +0.0025	V	Output Key
813	4.19	2.97	3.90	0.53	0.32	0.25	4.75	3.80	4.66	1.72	1.33	2.00	1.00	0.53	2.61	0.50	0.625	1.00	3/16 X 1.50
815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.38	1.91	1.54	2.75	1.38	0.53	3.14	0.75	0.625	1.00	3/16 X 1.50
818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.75	2.06	1.75	2.75	1.38	0.53	3.24	0.75	1.000	1.44	1/4 X 3.00
821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.38	2.28	2.06	2.88	1.44	0.53	3.61	0.75	1.438	1.94	3/8 X 3.00
824	7.69	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.94	2.50	2.38	2.88	1.44	0.69	3.77	0.75	1.438	1.94	3/8 X 3.00
826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	8.00	2.94	2.63	3.38	1.69	0.53	4.34	0.75	1.438	1.94	3/8 X 3.00
830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	8.88	3.25	3.00	4.00	2.00	0.53	4.84	0.88	1.938	2.51	1/2 X 3.00
832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	9.38	3.50	3.25	4.00	2.00	0.53	5.02	0.88	1.938	2.51	1/2 X 3.00
842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	11.38	4.44	4.25	5.00	2.50	0.53	6.10	0.75	2.188	2.75	1/2 X 3.00
852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	14.00	5.12	5.25	5.81	2.91	0.66	7.50	1.00	3.438	4.26	7/8 X 3.44
860**	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	16.50	6.50	6.00	6.38	3.19	0.66	N/A	0.69	3.438	4.18	7/8 X 3.44

STYLE HM



ASSEMBLIES

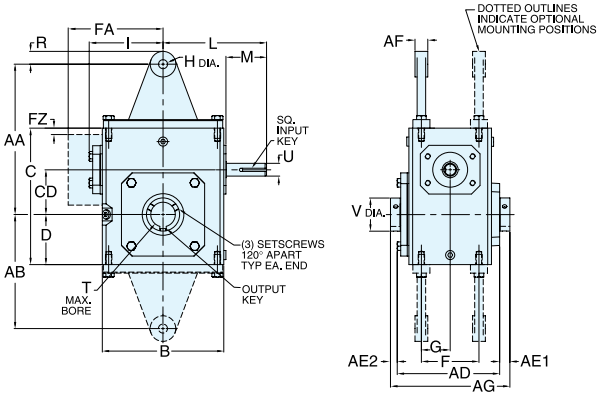


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

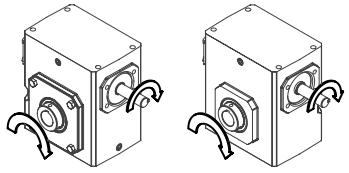
STYLE HM DIMENSIONS (Inches)

Series	AA	AB	AD	AE1	AE2	AF	AG	B	C	D	CD	F	G	H	I	L	R	T MAX▼ -0.000 +0.0025	U +0.000 -0.0015	V	Input Key	Output Ket
813	4.19	2.97	3.90	0.53	0.32	0.25	4.75	3.80	4.66	1.72	1.33	2.00	1.00	0.53	2.61	3.82	0.50	0.625	0.500	1.00	1/8 X 1.00	3/16 X 1.50
815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.38	1.91	1.54	2.75	1.38	0.53	3.14	4.35	0.75	0.625	0.625	1.00	3/16 X 1.38	3/16 X 1.50
818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.75	2.06	1.75	2.75	1.38	0.53	3.24	4.45	0.75	1.000	0.625	1.44	3/16 X 1.38	1/4 X 3.00
821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.38	2.28	2.06	2.88	1.44	0.53	3.61	4.82	0.75	1.438	0.625	1.94	3/16 X 1.38	3/8 X 3.00
824	7.69	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.94	2.50	2.38	2.88	1.44	0.69	3.77	5.51	0.75	1.438	0.750	1.94	3/16 X 1.63	3/8 X 3.00
826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	8.00	2.94	2.63	3.38	1.69	0.53	4.34	6.07	0.75	1.438	0.750	1.94	3/16 X 1.63	3/8 X 3.00
830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	8.88	3.25	3.00	4.00	2.00	0.53	4.84	6.57	0.88	1.938	0.875	2.51	3/16 X 1.63	1/2 X 3.00
832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	9.38	3.50	3.25	4.00	2.00	0.53	5.02	6.76	0.88	1.938	0.875	2.51	3/16 X 1.63	1/2 X 3.00
842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	11.38	4.44	4.25	5.00	2.50	0.53	6.10	9.57	0.75	2.188	1.250	2.75	1/4 X 2.50	1/2 X 3.00
852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	14.00	5.12	5.25	5.81	2.91	0.66	7.50	10.88	1.00	3.438	1.250	4.26	1/4 X 3.00	7/8 X 3.44
860**	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	16.50	6.50	6.00	6.38	3.19	0.66	N/A	11.78	0.69	3.438	1.500	4.18	3/8 X 3.00	7/8 X 3.44

STYLE H



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE H DIMENSIONS (Inches)

Series	AA	AB	AD	AE1	AE2	AF	AG	B	C	D	CD	F	G	H	I	L	M	R	T MAX▼ -0.000 +0.0025	U +0.000 -0.0015	V	Input Key	Output Ket
813	4.19	2.97	3.90	0.53	0.32	0.25	4.75	3.80	4.66	1.72	1.33	2.00	1.00	0.53	2.61	3.82	1.76	0.50	0.625	0.500	1.00	1/8 X 1.00	3/16 X 1.50
815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.38	1.91	1.54	2.75	1.38	0.53	3.14	4.35	1.76	0.75	0.625	0.625	1.00	3/16 X 1.38	3/16 X 1.50
818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.75	2.06	1.75	2.75	1.38	0.53	3.24	4.45	1.76	0.75	1.000	0.625	1.44	3/16 X 1.38	1/4 X 3.00
821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.38	2.28	2.06	2.88	1.44	0.53	3.61	4.82	1.76	0.75	1.438	0.625	1.94	3/16 X 1.38	3/8 X 3.00
824	7.69	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.94	2.50	2.38	2.88	1.44	0.69	3.77	5.51	2.38	0.75	1.438	0.750	1.94	3/16 X 1.63	3/8 X 3.00
826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	8.00	2.94	2.63	3.38	1.69	0.53	4.34	6.07	2.38	0.75	1.438	0.750	1.94	3/16 X 1.63	3/8 X 3.00
830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	8.88	3.25	3.00	4.00	2.00	0.53	4.84	6.57	2.38	0.88	1.938	0.875	2.51	3/16 X 1.63	1/2 X 3.00
832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	9.38	3.50	3.25	4.00	2.00	0.53	5.02	6.76	2.38	0.88	1.938	0.875	2.51	3/16 X 1.63	1/2 X 3.00
842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	11.38	4.44	4.25	5.00	2.50	0.53	6.10	9.57	3.47	0.75	2.188	1.250	2.75	1/4 X 2.50	1/2 X 3.00
852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	14.00	5.12	5.25	5.81	2.91	0.66	7.50	10.88	3.38	1.00	3.438	1.250	4.26	1/4 X 3.00	7/8 X 3.44
860**	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	16.50	6.50	6.00	6.38	3.19	0.66	N/A	11.78	3.41	0.69	3.438	1.500	4.18	3/8 X 3.00	7/8 X 3.44

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/ 140TC	L1 180TC/ 210TC	L1 250TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

** Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"

▲ Keyway width by depth

❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.

❖ Metric input flange options are available on quill input styles only.

◆ 48CZ not available

■ Also applies to frame size D112MD

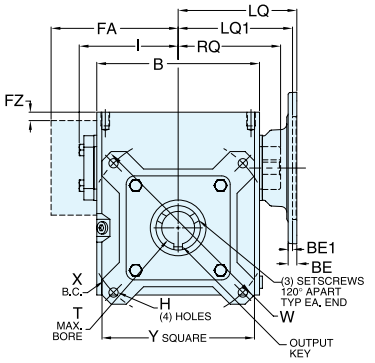
● Dimensions in millimeters (mm).

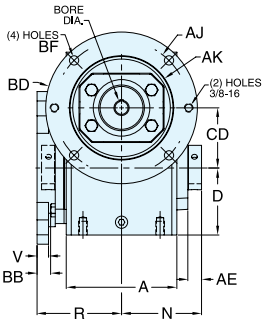
▼ For additional bore sizes available, refer to page 35.

SINGLE REDUCTION DIMENSIONS

LEESON OHIO GEAR™

STYLE FHMQ





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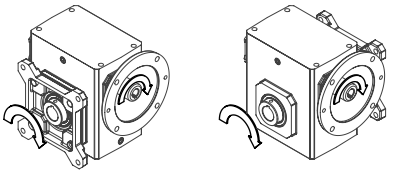
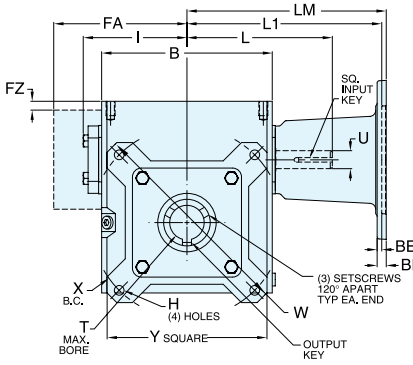


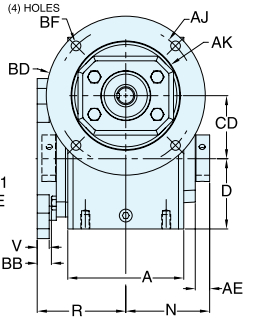
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FHMQ DIMENSIONS (Inches)

Series	A	AE	B	BB	D	CD	H	I	N	R	T MAX▼ -0.000 +0.0025	V	W	X	Y	Output Key
813	2.82	0.53	3.80	0.08	1.72	1.33	0.34	2.61	2.38	2.52	0.625	0.38	5.92	5.00	4.50	3/16 X 1.50
815	3.44	0.51	4.88	1.22	1.91	1.54	0.34	3.14	2.71	2.87	0.625	0.38	5.88	5.00	4.50	3/16 X 1.50
818	3.56	0.49	5.06	0.11	2.06	1.75	0.34	3.24	2.75	3.18	1.000	0.38	6.64	5.88	5.00	1/4 X 3.00
821	3.81	0.61	5.80	0.55	2.28	2.06	0.41	3.61	3.00	3.69	1.438	0.44	7.88	7.00	5.99	3/8 X 3.00
824	4.06	0.51	6.12	0.51	2.50	1.44	0.41	3.77	3.00	3.73	1.438	0.44	8.39	7.50	6.27	3/8 X 3.00
826	4.84	0.60	7.12	0.04	2.94	1.69	0.41	4.34	3.50	3.70	1.438	0.50	8.88	8.00	6.67	3/8 X 3.00
830	5.25	0.60	8.12	0.07	3.25	2.00	0.41	4.84	3.75	3.78	1.938	0.50	9.89	9.00	7.37	1/2 X 3.00
832	5.75	0.54	8.50	0.07	3.50	2.00	0.41	5.02	3.94	4.03	1.938	0.50	9.89	9.00	7.37	1/2 X 3.00
842	6.13	0.63	10.25	0.06	4.44	2.50	0.56	6.10	4.25	4.56	2.188	0.62	12.95	11.50	9.65	1/2 X 3.00
852	7.19	0.97	13.00	0.34	5.12	2.91	0.69	7.50	5.25	5.62	3.438	0.75	15.50	14.00	11.75	7/8 X 3.44
860**	8.13	0.52	14.25	1.38	6.50	3.19	0.69	N/A	5.75	7.26	3.438	0.75	18.00	15.63	14.00	7/8 X 3.44

STYLE FHM





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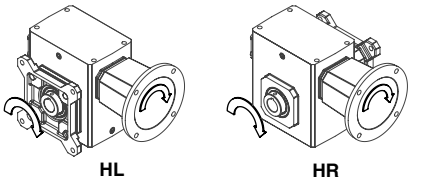
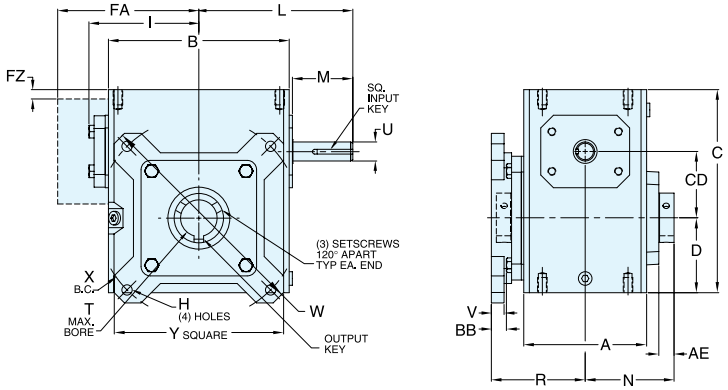


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

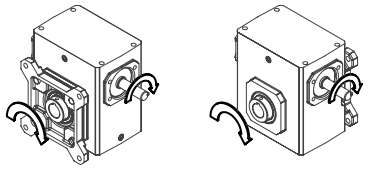
STYLE FHM DIMENSIONS (Inches)

Series	A	AE	B	BB	D	CD	H	I	L	N	R	T MAX▼ -0.000 +0.0025	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	0.53	3.80	0.08	1.72	1.33	0.34	2.61	3.82	2.38	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.50
815	3.44	0.51	4.88	1.22	1.91	1.54	0.34	3.14	4.35	2.71	2.87	0.625	0.625	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.50
818	3.56	0.49	5.06	0.11	2.06	1.75	0.34	3.24	4.45	2.75	3.18	1.000	0.625	0.38	6.64	5.88	5.00	3/16 X 1.38	1/4 X 3.00
821	3.81	0.61	5.80	0.55	2.28	2.06	0.41	3.61	4.82	3.00	3.69	1.438	0.625	0.44	7.88	7.00	5.99	3/16 X 1.38	3/8 X 3.00
824	4.06	0.51	6.12	0.51	2.50	2.38	0.41	3.77	5.51	3.00	3.73	1.438	0.750	0.44	8.39	7.50	6.27	3/16 X 1.63	3/8 X 3.00
826	4.84	0.60	7.12	0.04	2.94	2.63	0.41	4.34	6.07	3.50	3.70	1.438	0.750	0.50	8.88	8.00	6.67	3/16 X 1.63	3/8 X 3.00
830	5.25	0.60	8.12	0.07	3.25	3.00	0.41	4.84	6.57	3.75	3.78	1.938	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
832	5.75	0.54	8.50	0.07	3.50	3.25	0.41	5.02	6.76	3.94	4.03	1.938	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
842	6.13	0.63	10.25	0.06	4.44	4.25	0.56	6.10	9.57	4.25	4.56	2.188	1.250	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 3.00
852	7.19	0.97	13.00	0.34	5.12	5.25	0.69	7.50	10.88	5.25	5.62	3.438	1.250	0.75	15.50	14.00	11.75	1/4 X 3.00	7/8 X 3.44
860**	8.13	0.52	14.25	1.38	6.50	6.00	0.69	N/A	11.78	5.75	7.26	3.438	1.500	0.75	18.00	15.63	14.00	3/8 X 3.00	7/8 X 3.44

STYLE FH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FH DIMENSIONS (Inches)

Series	A	AE	B	BB	C	D	CD	H	I	L	M	N	R	T MAX▼ -0.000 +0.0025	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	0.53	3.80	0.08	4.66	1.72	1.33	0.34	2.61	3.82	1.76	2.38	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.50
815	3.44	0.51	4.88	1.22	5.38	1.91	1.54	0.34	3.14	4.35	1.76	2.71	2.87	0.625	0.625	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.50
818	3.56	0.49	5.06	0.11	5.75	2.06	1.75	0.34	3.24	4.45	1.76	2.75	3.18	1.000	0.625	0.38	6.64	5.88	5.00	3/16 X 1.38	1/4 X 3.00
821	3.81	0.61	5.80	0.55	6.38	2.28	2.06	0.41	3.61	4.82	1.76	3.00	3.69	1.438	0.625	0.44	7.88	7.00	5.99	3/16 X 1.38	3/8 X 3.00
824	4.06	0.51	6.12	0.51	6.94	2.50	2.38	0.41	3.77	5.51	2.38	3.00	3.73	1.438	0.750	0.44	8.39	7.50	6.27	3/16 X 1.63	3/8 X 3.00
826	4.84	0.60	7.12	0.04	8.00	2.94	2.63	0.41	4.34	6.07	2.38	3.50	3.70	1.438	0.750	0.50	8.88	8.00	6.67	3/16 X 1.63	3/8 X 3.00
830	5.25	0.60	8.12	0.07	8.88	3.25	3.00	0.41	4.84	6.57	2.38	3.75	3.78	1.938	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
832	5.75	0.54	8.50	0.07	9.38	3.50	3.25	0.41	5.02	6.76	2.38	3.94	4.03	1.938	0.875	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
842	6.13	0.63	10.25	0.06	11.38	4.44	4.25	0.56	6.10	9.57	3.47	4.25	4.56	2.188	1.250	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 3.00
852	7.19	0.97	13.00	0.34	14.00	5.12	5.25	0.69	7.50	10.88	3.38	5.25	5.62	3.438	1.250	0.75	15.50	14.00	11.75	1/4 X 3.00	7/8 X 3.44
860**	8.13	0.52	14.25	1.38	16.50	6.50	6.00	0.69	N/A	11.78	3.41	5.75	7.26	3.438	1.500	0.75	18.00	15.63	14.00	3/8 X 3.00	7/8 X 3.44

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	L1 250TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
824	N/A	7.76	8.76	N/A	4.63◆	5.06	N/A	N/A	4.09◆	4.56	N/A	N/A
826	N/A	8.32	9.32	N/A	5.19◆	5.62	N/A	N/A	4.82◆	5.13	N/A	N/A
830	N/A	8.82	9.82	N/A	5.69◆	6.12	6.56	N/A	5.32◆	5.63	6.06	N/A
832	N/A	9.01	10.01	N/A	5.88◆	6.31	6.75	N/A	5.51◆	5.81	6.25	N/A
842	N/A	11.81	12.90	13.46	6.45◆	7.21	7.21	7.77	6.04◆	6.68	6.68	7.24
852	N/A	13.21	14.30	14.86	7.85◆	8.61	8.61	9.17	7.35◆	7.98	7.98	8.54
860	N/A	N/A	15.88	16.50	10.45◆	9.33	9.33	9.94	10.01◆	8.69	8.69	8.69

Frame	AJ❂	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF❂
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

** Series 860 reducers are supplied with a fan. Dimension FA=11.13" and dimenison FZ=.33"

▲ Keyway width by depth

❂ Mounting holes rotated 45° from positions shown on series BM860 with frame sizes 180TC - 250TC.

❖ Metric input flange options are available on quill input styles only.

◆ 48CZ not available

■ Also applies to frame size D112MD

● Dimensions in millimeters (mm).

▼ For additional bore sizes available, refer to page 35.

DOUBLE REDUCTION • WORM / WORM SOLID SHAFT OUTPUT STYLES

LEESON
OHIO GEAR™

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DMQ, DM and D can be field or factory modified into a wide range of styles. See page 150 for details.

MOTORIZED C FLANGE QUILL INPUT

Style DMQ

Ratings: Pages 84-86
Dimensions: Page 88

Horizontal Base Worm Over

Style DTMQ

Ratings: Pages 84-86
Dimensions: Page 90

Horizontal Base Worm Under

Style DUMQ *

Ratings: Pages 84-86
Dimensions: Page 92

MOTORIZED C FLANGE FLEXIBLE COUPLING INPUT

Style DM

Ratings: Pages 84-86
Dimensions: Page 88

Style DTM

Ratings: Pages 84-86
Dimensions: Page 90

Style DUM *

Ratings: Pages 84-86
Dimensions: Page 92

NON-FLANGED

Style D

Ratings: Pages 84-86
Dimensions: Page 89

Style DT

Ratings: Pages 84-86
Dimensions: Page 91

Style DU *

Ratings: Pages 84-86
Dimensions: Page 93

* Not a recommended mounting style.
Consult LEESON for selection assistance.

Additional accessories, options and assembly services are available, contact LEESON for details.

DOUBLE REDUCTION • WORM / WORM
SOLID SHAFT OUTPUT STYLES

Vertical Input Shaft

Style DJMQ

Ratings: Pages 84-86
Dimensions: Page 94

Style DJM

Ratings: Pages 84-86
Dimensions: Page 94

Style DJ

Ratings: Pages 84-86
Dimensions: Page 95

Vertical Output Shaft Low Base

Style DVLMQ**

Ratings: Pages 84-86
Dimensions: Page 96

Style DVLM **

Ratings: Pages 84-86
Dimensions: Page 96

Style DVL**

Ratings: Pages 84-86
Dimensions: Page 97

Vertical Output Shaft High Base

Style DVHMQ**

Ratings: Pages 84-86
Dimensions: Page 98

Style DVHM **

Ratings: Pages 84-86
Dimensions: Page 98

Style DVH **

Ratings: Pages 84-86
Dimensions: Page 99

Flange Mounted Output Shaft

Style DFMQ

Ratings: Pages 84-86
Dimensions: Page 100

Style DFM

Ratings: Pages 84-86
Dimensions: Page 100

Style DF

Ratings: Pages 84-86
Dimensions: Page 101

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

DOUBLE REDUCTION • WORM / WORM HOLLOW SHAFT OUTPUT STYLES

LEESON
OHIO GEAR™

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DHMQ, DHM and DH can be field or factory modified into a wide range of styles. See page 150 for details.

Vertical Input Shaft

MOTORIZED C FLANGE QUILL INPUT

Style DHMQ

Ratings: Pages 84-86
Dimensions: Page 102

Style DJHMQ

Ratings: Pages 84-86
Dimensions: Contact LEESON

MOTORIZED C FLANGE FLEXIBLE COUPLING INPUT

Style DHM

Ratings: Pages 84-86
Dimensions: Page 102

Style DJHM

Ratings: Pages 84-86
Dimensions: Contact LEESON

NON-FLANGED

Style DH

Ratings: Pages 84-86
Dimensions: Page 103

Style DJH

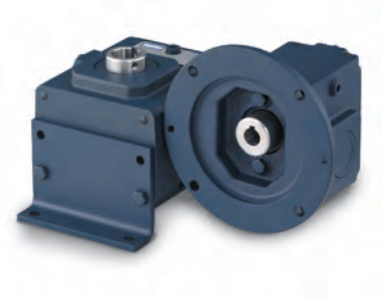
Ratings: Pages 84-86
Dimensions: Contact LEESON

Additional accessories, options and assembly services are available, contact LEESON for details.

DOUBLE REDUCTION • WORM / WORM HOLLOW SHAFT OUTPUT STYLES

Vertical Output Shaft Low Base

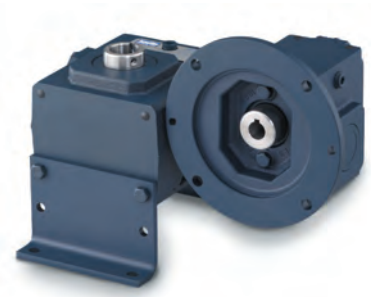
Style DVLHMQ



Ratings: Pages 84-86
Dimensions: Contact LEESON

Vertical Output Shaft High Base

Style DVHHMQ



Ratings: Pages 84-86
Dimensions: Contact LEESON

Flange Mounted Output Shaft

Style DFHMQ

Ratings: Pages 84-86
Dimensions: Page 104

Style DVLHM

Ratings: Pages 84-86
Dimensions: Contact LEESON

Style DVHHM

Ratings: Pages 84-86
Dimensions: Contact LEESON

Style DFHM

Ratings: Pages 84-86
Dimensions: Page 104

Style DVLH

Ratings: Pages 84-86
Dimensions: Contact LEESON

Style DVHH

Ratings: Pages 84-86
Dimensions: Contact LEESON

Style DFH

Ratings: Pages 84-86
Dimensions: Page 105

DOUBLE REDUCTION • WORM / WORM MODEL NUMBER SYSTEM

LEESON
OHIO GEAR™

LEESON 800 Series Gear Reducer Model Number Nomenclature

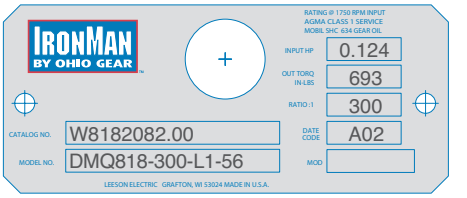
All stock and custom 800 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been factory modified by the addition of an optional base for example, the modification number T818, for example, is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, W8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, W8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from LEESON by catalog number.

TYPICAL NAMEPLATE



Style

SOLID OUTPUT SHAFT
DMQ – Motorized, Quill Input
DM – Motorized, Flexible Coupling Input
D – Non-Flanged
See pages 78 & 79 for other styles.

W prefix; i.e. WDMQ denotes WASHDOWN Reducer

HOLLOW OUTPUT SHAFT
DHMQ – Motorized, Quill Input
DHM – Motorized, Flexible Coupling Input
DH – Non-Flanged
See pages 80 & 81 for other styles.

Series

CAST IRON 800 SERIES CENTER DISTANCES

Series	Center Distance (Inches)
813	1.33
815	1.50
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
860	6.00

Ratio

See Selection Tables on pages 84-86, for all available ratios.

Output Shaft Orientation

L – Left-hand Output Shaft*
R – Right-hand Output Shaft*
D – Double Output Shaft
H – Hollow Output Shaft
* Viewed from drive end of reducer.

Mounting Assembly

Assembly numbers 1-6 are available. Refer to dimension layouts.

Motor Flange

NEMA Input Flange Code	For NEMA Frame
48	48CZ
56	56C
140	143-5TC
180	182-4TC
210	213-5TC

Output Bore Code

Hollow Shaft Only
See page 107.

Sample Model Number

Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.75" Center Distance, 300:1 Ratio, Left Hand Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DMQ	818	300	L	1	56
Style	Series	Ratio	Output Shaft	Mounting Assembly	Motor Input Flange

Hollow Shaft

Motorized Quill Input, Double Reduction Reducer, 1.75" Center Distance, 300:1 Ratio, 1.00" Hollow Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DHMQ	818	300	H	1	56	16
Style	Series	Ratio	Output Shaft	Mounting Assembly	Motor Input Flange	Output Bore Code

DOUBLE REDUCTION • WORM / WORM "HOW TO USE" MAXIMUM RATING TABLES

How To Use Maximum Rating Tables

Maximum Rating Tables for Double Reduction Gear Reducers are shown on pages 84-86. Selection of the appropriate gear reducer can be made using these tables or the Quick Selection Tables (page 87).

BEFORE YOU START:

Identify the Service Factor of the application (see page 174).

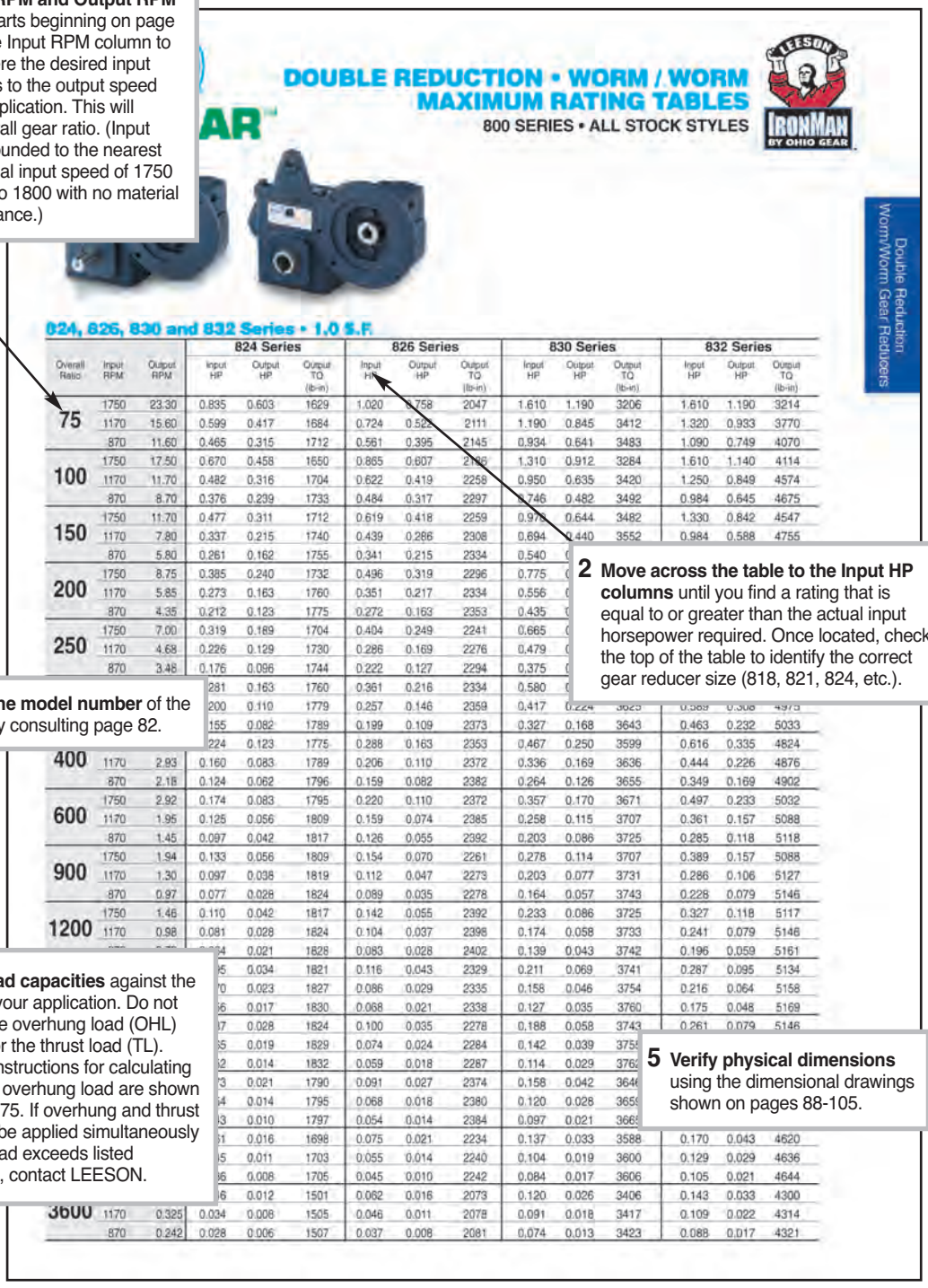
Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style charts shown on pages 78-81.

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

1 Locate the Input RPM and Output RPM columns in the charts beginning on page 84. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. This will establish your overall gear ratio. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)



DOUBLE REDUCTION • WORM / WORM
MAXIMUM RATING TABLES
800 SERIES • ALL STOCK STYLES

824, 825, 830 and 832 Series • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	824 Series Input HP	824 Series Output HP	824 Series Output TQ (lb-in)	826 Series Input HP	826 Series Output HP	826 Series Output TQ (lb-in)	830 Series Input HP	830 Series Output HP	830 Series Output TQ (lb-in)	832 Series Input HP	832 Series Output HP	832 Series Output TQ (lb-in)
75	1750	23.30	0.835	0.603	1629	1.020	0.758	2047	1.610	1.190	3206	1.610	1.190	3214
	1170	15.60	0.599	0.417	1684	0.724	0.525	2111	1.190	0.845	3412	1.320	0.933	3770
	870	11.60	0.465	0.315	1712	0.561	0.395	2145	0.934	0.641	3483	1.090	0.749	4070
100	1750	17.50	0.670	0.458	1650	0.865	0.607	2186	1.310	0.912	3284	1.610	1.140	4114
	1170	11.70	0.482	0.316	1704	0.622	0.419	2258	0.950	0.635	3420	1.250	0.849	4574
	870	8.70	0.376	0.239	1733	0.484	0.317	2297	0.746	0.482	3492	0.984	0.645	4675
150	1750	11.70	0.477	0.311	1712	0.619	0.418	2259	0.979	0.644	3482	1.330	0.842	4547
	1170	7.80	0.337	0.215	1740	0.439	0.286	2308	0.694	0.440	3552	0.984	0.588	4755
	870	5.80	0.261	0.162	1755	0.341	0.215	2334	0.540					
200	1750	8.75	0.385	0.240	1732	0.496	0.319	2296	0.775					
	1170	5.85	0.273	0.163	1760	0.351	0.217	2334	0.556					
	870	4.35	0.212	0.123	1775	0.272	0.163	2353	0.435					
250	1750	7.00	0.319	0.189	1704	0.404	0.249	2241	0.665					
	1170	4.68	0.226	0.129	1730	0.286	0.169	2276	0.479					
	870	3.48	0.176	0.096	1744	0.222	0.127	2294	0.375					
			281	0.163	1760	0.361	0.216	2334	0.580					
			200	0.110	1779	0.257	0.146	2359	0.417					
			155	0.082	1789	0.199	0.109	2373	0.327	0.168	3643	0.463	0.232	5033
400	1170	2.93	0.160	0.083	1789	0.206	0.110	2372	0.336	0.169	3636	0.444	0.226	4876
	870	2.18	0.124	0.062	1796	0.159	0.082	2382	0.264	0.126	3655	0.349	0.169	4902
600	1750	2.92	0.174	0.083	1795	0.220	0.110	2372	0.357	0.170	3671	0.497	0.233	5032
	1170	1.95	0.125	0.056	1809	0.159	0.074	2385	0.258	0.115	3707	0.361	0.157	5088
	870	1.45	0.097	0.042	1817	0.126	0.055	2392	0.203	0.086	3725	0.285	0.118	5118
900	1750	1.94	0.133	0.056	1809	0.154	0.070	2261	0.278	0.114	3707	0.389	0.157	5088
	1170	1.30	0.097	0.038	1819	0.112	0.047	2273	0.203	0.077	3731	0.286	0.106	5127
	870	0.97	0.077	0.028	1824	0.089	0.035	2278	0.164	0.057	3743	0.228	0.079	5146
1200	1750	1.46	0.110	0.042	1817	0.142	0.055	2392	0.233	0.086	3725	0.327	0.118	5117
	1170	0.98	0.081	0.028	1824	0.104	0.037	2398	0.174	0.058	3733	0.241	0.079	5146
			4	0.021	1828	0.083	0.028	2402	0.139	0.043	3742	0.196	0.059	5161
			5	0.034	1821	0.116	0.043	2329	0.211	0.069	3741	0.287	0.095	5134
			0	0.023	1827	0.086	0.029	2335	0.158	0.046	3754	0.216	0.064	5158
			6	0.017	1830	0.068	0.021	2338	0.127	0.035	3760	0.175	0.048	5169
			7	0.028	1824	0.100	0.035	2278	0.188	0.058	3743	0.261	0.079	5146
			5	0.019	1829	0.074	0.024	2284	0.142	0.039	3759			
			2	0.014	1832	0.059	0.018	2287	0.114	0.029	3762			
			3	0.021	1790	0.091	0.027	2374	0.158	0.042	3646			
			4	0.014	1795	0.068	0.018	2380	0.120	0.028	3659			
			3	0.010	1797	0.054	0.014	2384	0.097	0.021	3669			
			1	0.016	1698	0.075	0.021	2234	0.137	0.033	3588	0.170	0.043	4620
			5	0.011	1703	0.055	0.014	2240	0.104	0.019	3600	0.129	0.029	4636
			6	0.008	1705	0.045	0.010	2242	0.084	0.017	3606	0.105	0.021	4644
			6	0.012	1501	0.062	0.016	2073	0.120	0.026	3406	0.143	0.033	4300
3600	1170	0.325	0.034	0.008	1505	0.046	0.011	2078	0.091	0.018	3417	0.109	0.022	4314
	870	0.242	0.028	0.006	1507	0.037	0.008	2081	0.074	0.013	3423	0.088	0.017	4321

2 Move across the table to the Input HP columns until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (818, 821, 824, etc.).

3 Identify the model number of the reducer by consulting page 82.

4 Check load capacities against the needs of your application. Do not exceed the overhung load (OHL) capacity or the thrust load (TL). Detailed instructions for calculating the actual overhung load are shown on page 175. If overhung and thrust loads will be applied simultaneously or if the load exceeds listed capacities, contact LEESON.

5 Verify physical dimensions using the dimensional drawings shown on pages 88-105.

DOUBLE REDUCTION • WORM / WORM MAXIMUM RATING TABLES

800 SERIES • ALL STOCK STYLES

813, 815, 818 and 821 Series • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	813 Series			815 Series			818 Series			821 Series		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	0.181	0.119	321	0.302	0.187	504	0.348	0.241	651	0.528	0.381	1028
	1170	15.60	0.129	0.081	329	0.220	0.129	522	0.248	0.166	669	0.376	0.261	1056
	870	11.60	0.100	0.061	333	0.173	0.098	531	0.192	0.125	678	0.291	0.197	1072
100	1750	17.50	0.143	0.089	320	0.252	0.144	518	0.268	0.179	646	0.428	0.291	1047
	1170	11.70	0.102	0.061	327	0.184	0.099	535	0.191	0.123	661	0.306	0.200	1076
	870	8.70	0.079	0.045	330	0.145	0.075	544	0.148	0.092	669	0.238	0.151	1091
150	1750	11.70	0.103	0.062	333	0.184	0.099	535	0.197	0.126	678	0.309	0.201	1086
	1170	7.80	0.072	0.042	336	0.132	0.068	547	0.139	0.085	687	0.210	0.134	1086
	870	5.80	0.056	0.031	338	0.104	0.051	553	0.108	0.064	692	0.163	0.101	1094
200	1750	8.75	0.081	0.046	330	0.149	0.076	544	0.152	0.093	669	0.243	0.152	1091
	1170	5.85	0.058	0.031	334	0.107	0.051	553	0.107	0.063	676	0.172	0.103	1106
	870	4.35	0.045	0.023	336	0.084	0.039	558	0.083	0.047	681	0.133	0.077	1113
250	1750	7.00	0.074	0.038	340	0.129	0.060	545	0.124	0.072	650	0.193	0.116	1042
	1170	4.68	0.053	0.026	344	0.093	0.041	553	0.087	0.049	657	0.136	0.078	1055
	870	3.48	0.041	0.019	346	0.073	0.031	558	0.068	0.036	660	0.105	0.059	1062
300	1750	5.83	0.067	0.031	340	0.110	0.051	553	0.124	0.064	693	0.177	0.102	1106
	1170	3.90	0.048	0.021	344	0.079	0.035	559	0.089	0.044	703	0.125	0.069	1116
	870	2.90	0.037	0.016	346	0.062	0.026	562	0.069	0.033	707	0.097	0.052	1121
400	1750	4.38	0.047	0.023	336	0.088	0.039	558	0.088	0.047	680	0.141	0.077	1113
	1170	2.93	0.034	0.016	337	0.064	0.026	562	0.062	0.031	684	0.101	0.052	1121
	870	2.18	0.026	0.012	338	0.050	0.019	565	0.049	0.024	686	0.078	0.039	1125
600	1750	2.92	0.039	0.016	346	0.068	0.026	562	0.073	0.033	707	0.107	0.052	1121
	1170	1.95	0.028	0.011	348	0.050	0.017	565	0.053	0.022	712	0.078	0.035	1126
	870	1.45	0.022	0.008	349	0.040	0.013	567	0.042	0.016	714	0.062	0.026	1129
900	1750	1.94	0.030	0.011	348	0.057	0.017	561	0.056	0.022	712	0.082	0.035	1126
	1170	1.30	0.022	0.007	349	0.042	0.012	565	0.041	0.015	715	0.060	0.023	1131
	870	0.97	0.018	0.005	350	0.034	0.009	566	0.033	0.011	716	0.048	0.017	1134
1200	1750	1.46	0.026	0.008	349	0.045	0.013	567	0.047	0.017	714	0.068	0.026	1130
	1170	0.98	0.019	0.005	350	0.033	0.009	569	0.034	0.011	716	0.050	0.018	1134
	870	0.73	0.015	0.004	350	0.027	0.007	569	0.027	0.008	718	0.040	0.013	1136
1500	1750	1.17	0.022	0.006	350	0.040	0.010	567	0.041	0.013	716	0.059	0.021	1132
	1170	0.78	0.016	0.004	350	0.030	0.007	569	0.030	0.009	717	0.043	0.014	1135
	870	0.58	0.013	0.003	351	0.024	0.005	569	0.024	0.007	718	0.034	0.011	1137
1800	1750	0.972	0.020	0.005	350	0.038	0.008	566	0.037	0.011	716	0.054	0.018	1134
	1170	0.650	0.015	0.004	350	0.029	0.006	568	0.027	0.007	718	0.040	0.012	1136
	870	0.483	0.012	0.003	351	0.023	0.004	569	0.022	0.006	719	0.032	0.009	1137
2400	1750	0.729	0.017	0.004	337	0.033	0.006	563	0.029	0.008	683	0.046	0.013	1120
	1170	0.488	0.012	0.003	337	0.025	0.004	564	0.021	0.005	685	0.034	0.009	1123
	870	0.363	0.010	0.002	338	0.020	0.003	565	0.017	0.004	685	0.027	0.007	1124
3000	1750	0.583	0.015	0.003	317	0.029	0.005	544	0.023	0.006	640	0.036	0.009	1031
	1170	0.390	0.010	0.002	317	0.022	0.003	545	0.017	0.004	641	0.027	0.006	1033
	870	0.290	0.008	0.001	317	0.018	0.003	546	0.014	0.003	642	0.021	0.005	1034
3600	1750	0.486	0.012	0.002	303	0.026	0.004	514	0.020	0.005	608	0.035	0.008	1031
	1170	0.325	0.009	0.002	304	0.019	0.003	516	0.014	0.003	609	0.026	0.005	1034
	870	0.242	0.007	0.001	304	0.016	0.002	517	0.012	0.002	609	0.021	0.004	1035

DOUBLE REDUCTION • WORM / WORM MAXIMUM RATING TABLES

800 SERIES • ALL STOCK STYLES

824, 826, 830 and 832 Series • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	824 Series			826 Series			830 Series			832 Series		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	0.835	0.603	1629	1.020	0.758	2047	1.610	1.190	3206	1.610	1.190	3214
	1170	15.60	0.599	0.417	1684	0.724	0.522	2111	1.190	0.845	3412	1.320	0.933	3770
	870	11.60	0.465	0.315	1712	0.561	0.395	2145	0.934	0.641	3483	1.090	0.749	4070
100	1750	17.50	0.670	0.458	1650	0.865	0.607	2186	1.310	0.912	3284	1.610	1.140	4114
	1170	11.70	0.482	0.316	1704	0.622	0.419	2258	0.950	0.635	3420	1.250	0.849	4574
	870	8.70	0.376	0.239	1733	0.484	0.317	2297	0.746	0.482	3492	0.984	0.645	4675
150	1750	11.70	0.477	0.311	1712	0.619	0.418	2259	0.970	0.644	3482	1.330	0.842	4547
	1170	7.80	0.337	0.215	1740	0.439	0.286	2308	0.694	0.440	3552	0.984	0.588	4755
	870	5.80	0.261	0.162	1755	0.341	0.215	2334	0.540	0.330	3589	0.781	0.448	4867
200	1750	8.75	0.385	0.240	1732	0.496	0.319	2296	0.775	0.485	3491	1.020	0.649	4673
	1170	5.85	0.273	0.163	1760	0.351	0.217	2334	0.556	0.331	3563	0.734	0.443	4773
	870	4.35	0.212	0.123	1775	0.272	0.163	2353	0.435	0.248	3600	0.574	0.333	4825
250	1750	7.00	0.319	0.189	1704	0.404	0.249	2241	0.665	0.396	3563	0.838	0.509	4581
	1170	4.68	0.226	0.129	1730	0.286	0.169	2276	0.479	0.270	3633	0.603	0.347	4673
	870	3.48	0.176	0.096	1744	0.222	0.127	2294	0.375	0.203	3669	0.472	0.261	4722
300	1750	5.83	0.281	0.163	1760	0.361	0.216	2334	0.580	0.332	3589	0.811	0.450	4865
	1170	3.90	0.200	0.110	1779	0.257	0.146	2359	0.417	0.224	3625	0.589	0.308	4975
	870	2.90	0.155	0.082	1789	0.199	0.109	2373	0.327	0.168	3643	0.463	0.232	5033
400	1750	4.38	0.224	0.123	1775	0.288	0.163	2353	0.467	0.250	3599	0.616	0.335	4824
	1170	2.93	0.160	0.083	1789	0.206	0.110	2372	0.336	0.169	3636	0.444	0.226	4876
	870	2.18	0.124	0.062	1796	0.159	0.082	2382	0.264	0.126	3655	0.349	0.169	4902
600	1750	2.92	0.174	0.083	1795	0.220	0.110	2372	0.357	0.170	3671	0.497	0.233	5032
	1170	1.95	0.125	0.056	1809	0.159	0.074	2385	0.258	0.115	3707	0.361	0.157	5088
	870	1.45	0.097	0.042	1817	0.126	0.055	2392	0.203	0.086	3725	0.285	0.118	5118
900	1750	1.94	0.133	0.056	1809	0.154	0.070	2261	0.278	0.114	3707	0.389	0.157	5088
	1170	1.30	0.097	0.038	1819	0.112	0.047	2273	0.203	0.077	3731	0.286	0.106	5127
	870	0.97	0.077	0.028	1824	0.089	0.035	2278	0.164	0.057	3743	0.228	0.079	5146
1200	1750	1.46	0.110	0.042	1817	0.142	0.055	2392	0.233	0.086	3725	0.327	0.118	5117
	1170	0.98	0.081	0.028	1824	0.104	0.037	2398	0.174	0.058	3733	0.241	0.079	5146
	870	0.73	0.064	0.021	1828	0.083	0.028	2402	0.139	0.043	3742	0.196	0.059	5161
1500	1750	1.17	0.095	0.034	1821	0.116	0.043	2329	0.211	0.069	3741	0.287	0.095	5134
	1170	0.78	0.070	0.023	1827	0.086	0.029	2335	0.158	0.046	3754	0.216	0.064	5158
	870	0.58	0.056	0.017	1830	0.068	0.021	2338	0.127	0.035	3760	0.175	0.048	5169
1800	1750	0.972	0.087	0.028	1824	0.100	0.035	2278	0.188	0.058	3743	0.261	0.079	5146
	1170	0.650	0.065	0.019	1829	0.074	0.024	2284	0.142	0.039	3755	0.199	0.053	5165
	870	0.483	0.052	0.014	1832	0.059	0.018	2287	0.114	0.029	3762	0.161	0.040	5175
2400	1750	0.729	0.073	0.021	1790	0.091	0.027	2374	0.158	0.042	3646	0.206	0.057	4892
	1170	0.488	0.054	0.014	1795	0.068	0.018	2380	0.120	0.028	3659	0.156	0.038	4909
	870	0.363	0.043	0.010	1797	0.054	0.014	2384	0.097	0.021	3665	0.126	0.028	4918
3000	1750	0.583	0.061	0.016	1698	0.075	0.021	2234	0.137	0.033	3588	0.170	0.043	4620
	1170	0.390	0.045	0.011	1703	0.055	0.014	2240	0.104	0.019	3600	0.129	0.029	4636
	870	0.290	0.036	0.008	1705	0.045	0.010	2242	0.084	0.017	3606	0.105	0.021	4644
3600	1750	0.486	0.046	0.012	1501	0.062	0.016	2073	0.120	0.026	3406	0.143	0.033	4300
	1170	0.325	0.034	0.008	1505	0.046	0.011	2078	0.091	0.018	3417	0.109	0.022	4314
	870	0.242	0.028	0.006	1507	0.037	0.008	2081	0.074	0.013	3423	0.088	0.017	4321

DOUBLE REDUCTION • WORM / WORM MAXIMUM RATING TABLES

800 SERIES • ALL STOCK STYLES

842, 852 and 860 Series • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	842 Series Input HP	842 Series Output HP	842 Series Output TQ (lb-in)	852 Series Input HP	852 Series Output HP	852 Series Output TQ (lb-in)	860 Series Input HP	860 Series Output HP	860 Series Output TQ (lb-in)
75	1750	23.30	2.510	1.920	5199	4.800	3.700	10325	8.890	6.970	19461
	1170	15.60	2.100	1.550	6273	4.050	3.000	12505	6.820	5.140	21444
	870	11.60	1.770	1.270	6891	3.470	2.490	13984	5.490	4.020	22548
100	1750	17.50	2.510	1.850	6653	4.800	3.510	13053	7.810	5.360	19935
	1170	11.70	2.100	1.480	7995	4.050	2.830	15747	5.540	3.940	21936
	870	8.70	1.770	1.210	8759	3.470	2.330	17474	4.480	3.080	23048
150	1750	11.70	2.390	1.690	9153	4.270	2.980	16089	5.690	4.170	22529
	1170	7.80	1.800	1.220	9866	3.320	2.210	17819	3.110	2.930	23649
	870	5.80	1.410	0.926	10058	2.630	1.690	18346	3.280	2.230	24250
200	1750	8.75	1.980	1.360	9776	3.630	2.440	17573	4.640	3.200	23029
	1170	5.85	1.420	0.933	10053	2.660	1.700	18332	2.550	2.240	24157
	870	4.35	1.100	0.704	10199	2.090	1.290	18738	2.700	1.710	24762
250	1750	7.00	1.610	1.060	9566	3.100	1.960	17654	3.960	2.570	23137
	1170	4.68	1.160	0.729	9822	2.280	1.370	18413	2.180	1.800	24264
	870	3.48	0.903	0.550	9957	1.810	1.040	18818	2.120	1.370	24869
300	1750	5.83	1.440	0.930	10053	2.660	1.700	18332	3.400	2.240	24239
	1170	3.90	1.030	0.634	10244	1.930	1.170	18861	2.450	1.540	24835
	870	2.90	0.797	0.476	10343	1.510	0.880	19138	1.910	1.160	25148
400	1750	4.38	1.150	0.708	10197	2.160	1.300	18731	2.800	1.720	24752
	1170	2.93	0.824	0.480	10340	1.560	0.888	19131	2.020	1.180	25351
	870	2.18	0.640	0.360	10416	1.220	0.668	19342	1.590	0.886	25666
600	1750	2.92	0.854	0.478	10340	1.600	0.885	19131	2.100	1.170	25351
	1170	1.95	0.612	0.320	10438	1.150	0.600	19405	1.520	0.797	25761
	870	1.45	0.477	0.241	10489	0.897	0.450	19547	1.200	0.598	25975
900	1750	1.94	0.657	0.318	10305	1.240	0.593	19222	1.540	0.785	25450
	1170	1.30	0.475	0.215	10406	0.895	0.402	19495	1.120	0.529	25658
	870	0.97	0.371	0.160	10458	0.703	0.301	19637	0.884	0.395	25766
1200	1750	1.46	0.541	0.240	10381	1.030	0.450	19428	1.280	0.601	25969
	1170	0.98	0.392	0.162	10457	0.748	0.304	19633	0.935	0.405	26179
	870	0.73	0.310	0.121	10496	0.589	0.227	19738	0.739	0.302	26287
1500	1750	1.17	0.460	0.193	10427	0.866	0.363	19624	1.120	0.483	26076
	1170	0.78	0.333	0.130	10488	0.632	0.245	19763	0.816	0.325	26285
	870	0.58	0.267	0.097	10519	0.505	0.183	19835	0.646	0.243	26393
1800	1750	0.972	0.420	0.161	10457	0.779	0.303	19633	1.000	0.401	26022
	1170	0.650	0.311	0.108	10508	0.570	0.204	19772	0.734	0.271	26232
	870	0.483	0.249	0.801	10535	0.456	0.152	19844	0.583	0.202	26340
2400	1750	0.729	0.346	0.120	10411	0.662	0.225	19401	0.821	0.303	25986
	1170	0.488	0.258	0.081	10459	0.486	0.151	19538	0.625	0.201	26092
	870	0.363	0.206	0.060	10484	0.391	0.113	19608	0.497	0.150	26181
3000	1750	0.583	0.282	0.091	9805	0.579	0.174	18822	0.691	0.235	25350
	1170	0.390	0.211	0.061	9848	0.427	0.117	18955	0.548	0.156	25211
	870	0.290	0.169	0.045	9870	0.345	0.088	19024	0.437	0.117	25314
3600	1750	0.486	0.235	0.070	9103	0.510	0.138	17865	0.653	0.183	23679
	1170	0.325	0.177	0.047	9141	0.377	0.093	17991	0.484	0.123	23869
	870	0.242	0.142	0.035	9161	0.305	0.069	18056	0.386	0.092	23967

LEESON

OHIO GEAR™

DOUBLE REDUCTION • WORM / WORM QUICK SELECTION GUIDE

IRONMAN BY OHIO GEAR

1.00 SERVICE FACTOR • DOUBLE REDUCTION • WORM / WORM

Overall Ratio	Nominal Output RPM	INPUT HORSEPOWER @ 1750 RPM											
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2
75	23.3		813	815	818	821	824	826	830	842	852	860	860
100	17.5		815	815	821	824	826	830	832	842	852	860	860
150	11.7		815	821	824	826	830	832	842	842	852	860	
200	8.75		821	821	824	826	830	832	842	842	852		
250	7.00		821	824	826	830	832	842	842	852	852		
300	5.83		821	824	826	830	832	842	852	852	860		
400	4.38		824	826	830	832	842	842	852	852			
600	2.92		824	830	830	832	842	852	852	860			
900	1.94		830	830	832	842	852	852	860				
1200	1.46		830	832	832	842	852	852					
1500	1.17		830	832	842	852	852	860					
1800	0.972		830	832	842	852	852	860					
2400	0.729		832	842	842	852	860						
3000	0.583		832	842	852	852							
3600	0.486		842	852	852	852							

How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate 800 Series model. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 173 or your LEESON representative with specific application information.

Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

1.25 SERVICE FACTOR • DOUBLE REDUCTION • WORM / WORM

Overall Ratio	Nominal Output RPM	INPUT HORSEPOWER @ 1750 RPM										
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5
75	23.3	813	815	818	821	824	826	830	842	842	852	860
100	17.5	815	815	821	821	824	830	830	842	842	852	860
150	11.7	815	821	821	824	826	830	832	842	852	852	
200	8.75	818	821	824	826	830	832	842	842	852	860	
250	7.00	821	824	824	830	830	842	842	852	852	860	
300	5.83	821	824	826	830	832	842	842	852	852		
400	4.38	824	824	830	830	832	842	852	852	860		
600	2.92	824	826	830	832	842	852	852	860			
900	1.94	826	830	832	842	842	852	852				
1200	1.46	830	830	832	842	852	852	860				
1500	1.17	830	830	842	842	852	860					
1800	0.972	830	832	842	842	852	860					
2400	0.729	830	832	842	852	852						
3000	0.583	832	842	852	852	860						
3600	0.486	842	842	852	852	860						

800 SERIES REDUCER CENTER DISTANCES

Series	Center Distance (Inch)
813	1.33
815	1.50
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
860	6.00

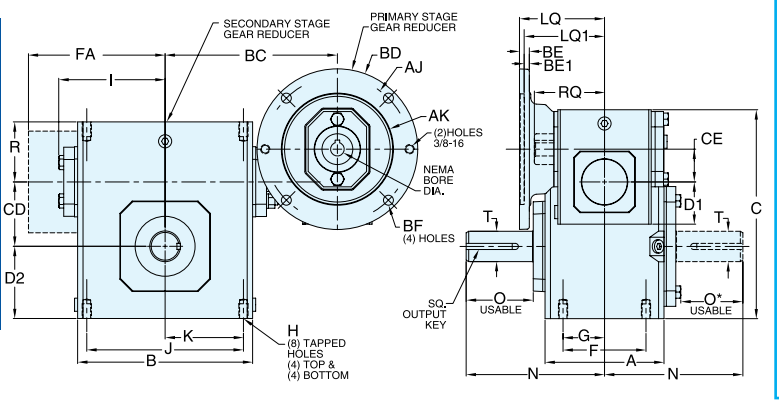
DOUBLE REDUCTION • WORM / WORM EXACT RATIO COMBINATIONS

Total Ratio	GEAR REDUCER SIZE																					
	813		**815**		**818**		**821**		**824**		**826**		**830**		**832**		**842**		**852**		**860**	
	P 813	S 813	P 813	S 815	P 813	S 818	P 813	S 821	P 813	S 824	P 813	S 826	P 815	S 830	P 815	S 832	P 821	S 842	P 826	S 852	P 832	S 860
75	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5.17	15	5.17	15
100	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5	20	5.17	20	5.17	20
150	10	15	7.5	20	10	15	10	15	10	15	7.5	20	10	15	5	30	7.5	20	7.5	20	10	15
200	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20
250	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25
300	10	30	15	20	10	30	15	20	15	20	15	20	20	15	10	30	15	20	15	20	20	15
400	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
600	20	30	30	20	20	30	30	20	20	30	30	20	20	30	20	30	30	20	30	20	30	20
900	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	60	15
1200	40	30	60	20	40	30	40	30	40	30	60	20	40	30	40	30	40	30	40	30	60	20
1500	60	25	60	25	50	30	50	30	50	30	60	25	60	25	50	30	50	30	60	25	60	25
1800	60	30	60	30	60	30	60	30	60	30	60	30	60	30	60	30	60	30	60	30	60	30
2400	60	40	60	40	60	40	60	40	60	40	60	40	60	40	60	40	60	40	60	40	60	40
3000	60	50	60	50	60	50	60	50	60	50	60	50	60	50	60	50	60	50	60	50	60	50
3600	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

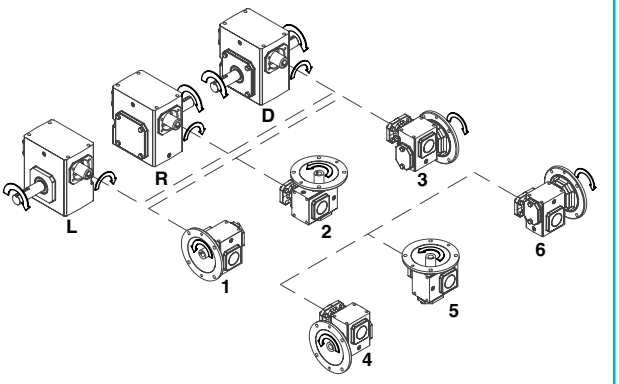
Note: Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DMQ



ASSEMBLIES

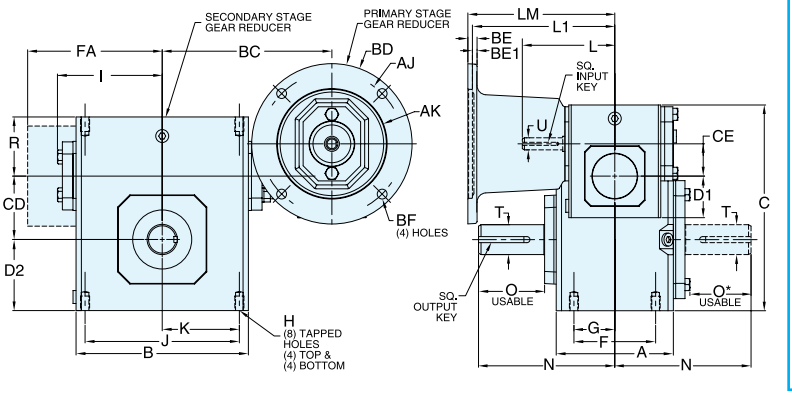


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

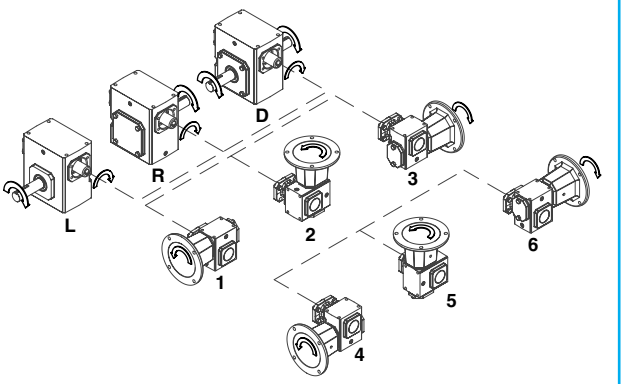
STYLE DMQ DIMENSIONS (Inches)

Series	A	B	BC	C	CD	CE	D1	D2	F	G	H Tap Size	H Depth	I	J	K	N	O	O*	R	T +0.000 -0.0015	Output Key
813	2.82	3.80	5.32	5.99	1.33	1.33	1.72	1.72	2.00	1.00	5/16-18	0.50	2.61	3.25	1.63	4.00	2.16	1.94	1.61	0.625	3/16 X 1.38
815	3.44	4.88	5.85	6.38	1.54	1.33	1.72	1.91	2.75	1.38	5/16-18	0.63	3.14	4.19	2.09	4.31	2.11	1.90	1.93	0.750	3/16 X 1.38
818	3.56	5.06	5.94	6.75	1.75	1.33	1.72	2.06	2.75	1.38	5/16-18	0.63	3.24	4.19	2.09	4.31	2.05	1.84	1.94	0.875	3/16 X 1.38
821	3.81	5.80	6.32	7.28	2.06	1.33	1.72	2.28	2.88	1.44	3/8-16	0.60	3.61	5.00	2.50	4.68	2.29	2.08	2.03	1.000	1/4 X 1.44
824	4.06	6.12	6.44	7.81	2.38	1.33	1.72	2.50	2.88	1.44	3/8-16	0.69	3.77	5.00	2.50	5.14	2.66	2.44	2.06	1.125	1/4 X 1.44
826	4.84	7.12	7.01	8.50	2.63	1.33	1.72	2.94	3.38	1.69	3/8-16	0.69	4.34	6.38	3.19	5.63	2.73	2.52	2.44	1.125	1/4 X 1.44
830	5.25	8.12	7.86	9.72	3.00	1.54	1.91	3.25	4.00	2.00	7/16-14	0.88	4.84	7.00	3.50	6.75	3.60	3.36	2.63	1.250	1/4 X 1.56
832	5.75	8.50	8.05	10.22	3.25	1.54	1.91	3.50	4.00	2.00	7/16-14	0.88	5.02	7.50	3.75	7.06	3.66	3.42	2.63	1.375	3/8 X 2.50
842	6.13	10.25	9.18	12.78	4.25	2.06	2.28	4.44	5.00	2.50	5/8-11	1.00	6.10	8.50	4.25	8.12	4.50	4.21	2.69	1.875	1/2 X 2.50
852	7.19	13.00	11.57	15.43	5.25	2.63	2.94	5.12	5.81	2.91	5/8-11	1.25	7.50	11.00	5.50	9.06	4.78	4.53	3.63	2.000	1/2 X 2.50
860**	8.13	14.25	13.30	18.38	6.00	3.25	3.50	6.50	6.38	3.19	5/8-11	1.00	N/A	12.75	6.38	10.00	4.66	4.66	4.00	2.500	5/8 X 4.00

STYLE DM



ASSEMBLIES

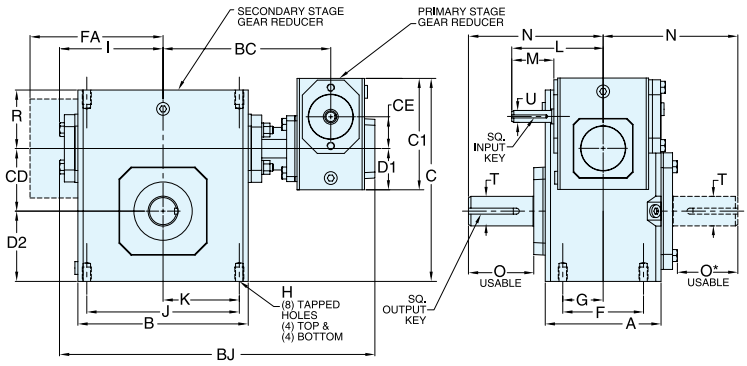


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

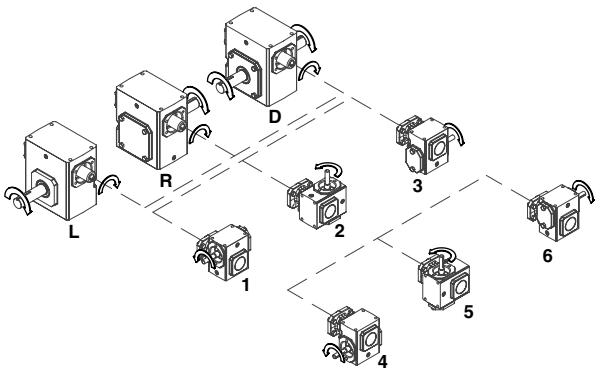
STYLE DM DIMENSIONS (Inches)

Series	A	B	BC	C	CD	CE	D1	D2	F	G	H Tap Size	H Depth	I	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	Input Key	Output Key
813	2.82	3.80	5.32	5.99	1.33	1.33	1.72	1.72	2.00	1.00	5/16-18	0.50	2.61	3.25	1.63	3.82	4.00	2.16	1.94	1.61	0.625	0.500	1/8 X 1.00	3/16 X 1.38
815	3.44	4.88	5.85	6.38	1.54	1.33	1.72	1.91	2.75	1.38	5/16-18	0.63	3.14	4.19	2.09	3.82	4.31	2.11	1.90	1.93	0.750	0.500	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	5.94	6.75	1.75	1.33	1.72	2.06	2.75	1.38	5/16-18	0.63	3.24	4.19	2.09	3.82	4.31	2.05	1.84	1.94	0.875	0.500	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	6.32	7.28	2.06	1.33	1.72	2.28	2.88	1.44	3/8-16	0.60	3.61	5.00	2.50	3.82	4.68	2.29	2.08	2.03	1.000	0.500	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	6.44	7.81	2.38	1.33	1.72	2.50	2.88	1.44	3/8-16	0.69	3.77	5.00	2.50	3.82	5.14	2.66	2.44	2.06	1.125	0.500	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	7.01	8.50	2.63	1.33	1.72	2.94	3.38	1.69	3/8-16	0.69	4.34	6.38	3.19	3.82	5.63	2.73	2.52	2.44	1.125	0.500	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	7.86	9.72	3.00	1.54	1.91	3.25	4.00	2.00	7/16-14	0.88	4.84	7.00	3.50	4.35	6.75	3.60	3.36	2.63	1.250	0.625	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	8.05	10.22	3.25	1.54	1.91	3.50	4.00	2.00	7/16-14	0.88	5.02	7.50	3.75	4.35	7.06	3.66	3.42	2.63	1.375	0.625	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	9.18	12.78	4.25	2.06	2.28	4.44	5.00	2.50	5/8-11	1.00	6.10	8.50	4.25	4.82	8.12	4.50	4.21	2.69	1.875	0.625	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	11.57	15.43	5.25	2.63	2.94	5.12	5.81	2.91	5/8-11	1.25	7.50	11.00	5.50	6.07	9.06	4.78	4.53	3.63	2.000	0.750	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	13.30	18.38	6.00	3.25	3.50	6.50	6.38	3.19	5/8-11	1.00	N/A	12.75	6.38	6.76	10.00	4.66	4.66	4.00	2.500	0.875	3/8 X 3.00	5/8 X 4.00

STYLE D



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE D DIMENSIONS (Inches)

Series	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H Tap Size	H Depth	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	Input Key	Output Key
813	2.82	3.80	5.32	9.77	5.99	1.33	1.33	4.66	1.72	1.72	2.00	1.00	5/16-18	0.50	2.61	3.25	1.63	3.82	1.76	4.00	2.16	1.94	1.61	0.625	0.500	1/8 X 1.00	3/16 X 1.38
815	3.44	4.88	5.85	10.83	6.38	1.54	1.33	4.66	1.72	1.91	2.75	1.38	5/16-18	0.63	3.14	4.19	2.09	3.82	1.76	4.31	2.11	1.90	1.93	0.750	0.500	3/16 X 1.38	3/16 X 1.38
818	3.56	5.06	5.94	11.03	6.75	1.75	1.33	4.66	1.72	2.06	2.75	1.38	5/16-18	0.63	3.24	4.19	2.09	3.82	1.76	4.31	2.05	1.84	1.94	0.875	0.500	3/16 X 1.38	3/16 X 1.38
821	3.81	5.80	6.32	11.77	7.28	2.06	1.33	4.66	1.72	2.28	2.88	1.44	3/8-16	0.60	3.61	5.00	2.50	3.82	1.76	4.68	2.29	2.08	2.03	1.000	0.500	3/16 X 1.38	1/4 X 1.44
824	4.06	6.12	6.44	12.06	7.81	2.38	1.33	4.66	1.72	2.50	2.88	1.44	3/8-16	0.69	3.77	5.00	2.50	3.82	1.76	5.14	2.66	2.44	2.06	1.125	0.500	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	7.01	13.19	8.50	2.63	1.33	4.66	1.72	2.94	3.38	1.69	3/8-16	0.69	4.34	6.38	3.19	3.82	1.76	5.63	2.73	2.52	2.44	1.125	0.500	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	7.86	14.90	9.72	3.00	1.54	5.38	1.91	3.25	4.00	2.00	7/16-14	0.88	4.84	7.00	3.50	4.35	1.76	6.75	3.60	3.36	2.63	1.250	0.625	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	8.05	15.27	10.22	3.25	1.54	5.38	1.91	3.50	4.00	2.00	7/16-14	0.88	5.02	7.50	3.75	4.35	1.76	7.06	3.66	3.42	2.63	1.375	0.625	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	9.18	17.67	12.78	4.25	2.06	6.38	2.28	4.44	5.00	2.50	5/8-11	1.00	6.10	8.50	4.25	4.82	1.76	8.12	4.50	4.21	2.69	1.875	0.625	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	11.57	21.97	15.43	5.25	2.63	8.00	2.94	5.12	5.81	2.91	5/8-11	1.25	7.50	11.00	5.50	6.07	2.38	9.06	4.78	4.53	3.63	2.000	0.750	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	13.30	26.94✇	18.38	6.00	3.25	9.38	3.50	6.50	6.38	3.19	5/8-11	1.00	N/A	12.75	6.38	6.76	2.38	10.00	4.66	4.66	4.00	2.500	0.875	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/ 140TC	L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

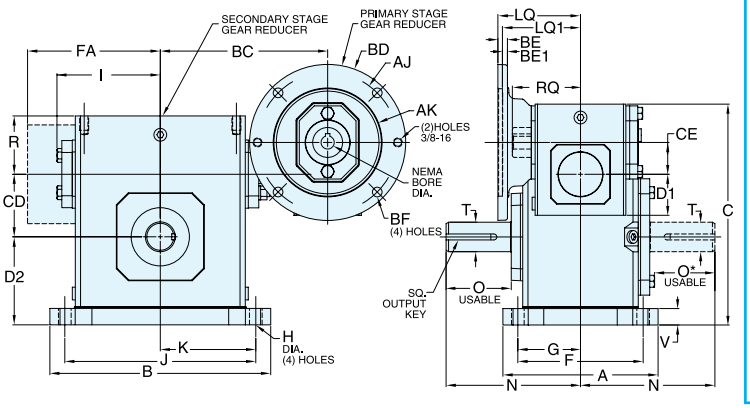
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13"
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DTMQ



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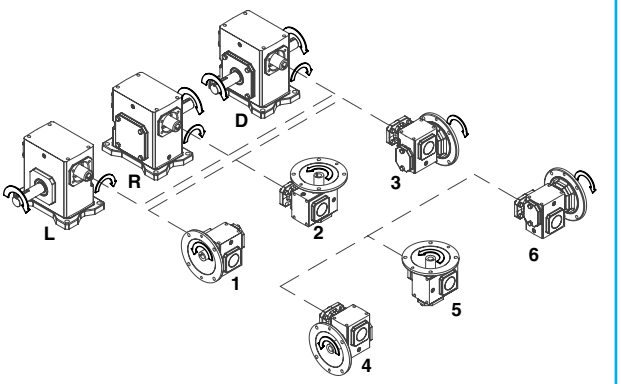
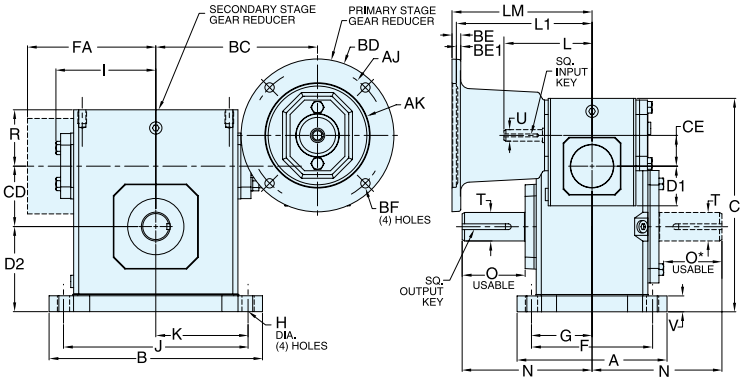


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DTMQ DIMENSIONS (Inches)

Series	A	B	BC	C	CD	CE	D1	D2	F	G	H	I	J	K	N	O	O*	R	T +0.000 -0.0015	V	Output Key
813	4.24	5.37	5.32	6.52	1.33	1.33	1.72	2.25	3.31	1.66	0.34	2.61	4.37	2.19	4.00	2.16	1.94	1.61	0.625	0.53	3/16 X 1.38
815	5.56	6.50	5.85	6.98	1.54	1.33	1.72	2.50	4.31	2.16	0.41	3.14	5.25	2.63	4.31	2.11	1.90	1.93	0.750	0.59	3/16 X 1.38
818	5.75	6.99	5.94	7.44	1.75	1.33	1.72	2.75	4.50	2.25	0.41	3.24	5.75	2.88	4.31	2.05	1.84	1.94	0.875	0.69	3/16 X 1.38
821	6.00	7.69	6.32	8.00	2.06	1.33	1.72	3.00	4.69	2.34	0.47	3.61	6.38	3.19	4.68	2.29	2.08	2.03	1.000	0.72	1/4 X 1.44
824	6.19	8.37	6.44	8.56	2.38	1.33	1.72	3.25	4.88	2.44	0.49	3.77	7.06	3.53	5.14	2.66	2.44	2.06	1.125	0.75	1/4 X 1.44
826	6.50	9.25	7.01	9.25	2.63	1.33	1.72	3.69	5.25	2.63	0.53	4.34	8.00	4.00	5.63	2.73	2.52	2.44	1.125	0.75	1/4 X 1.44
830	7.50	10.00	7.86	10.47	3.00	1.54	1.91	4.00	5.88	2.94	0.53	4.84	8.44	4.22	6.75	3.60	3.36	2.63	1.250	0.75	1/4 X 1.56
832	7.75	11.12	8.05	11.09	3.25	1.54	1.91	4.38	6.13	3.06	0.53	5.02	9.50	4.75	7.06	3.66	3.42	2.63	1.375	0.88	3/8 X 2.50
842	9.75	13.24	9.18	13.78	4.25	2.06	2.28	5.44	7.63	3.81	0.66	6.10	11.12	5.56	8.12	4.50	4.21	2.69	1.875	1.00	1/2 X 2.50
852	10.50	16.24	11.57	16.56	5.25	2.63	2.94	6.25	8.38	4.19	0.78	7.50	14.12	7.06	9.06	4.78	4.53	3.63	2.000	1.13	1/2 X 2.50
860**	12.00	18.99	13.30	19.63	6.00	3.25	3.50	7.75	9.50	4.75	0.91	N/A	16.49	8.25	10.00	4.66	4.66	4.00	2.500	1.25	5/8 X 4.00

STYLE DTM



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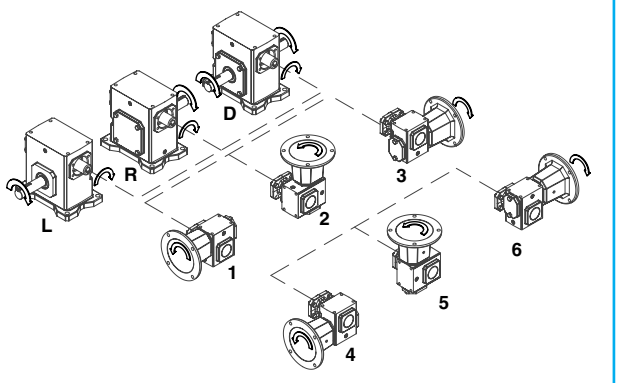


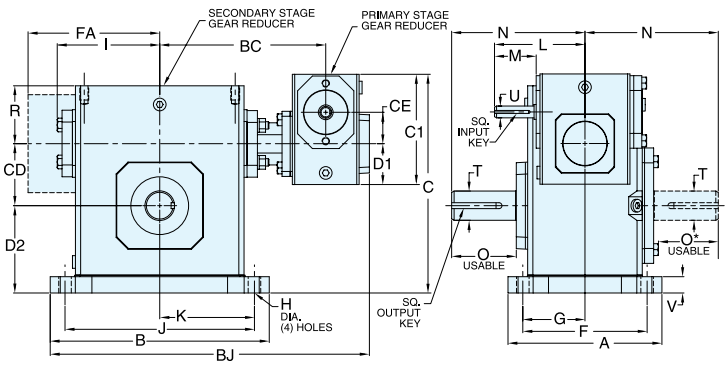
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DTM DIMENSIONS (Inches)

Series	A	B	BC	C	CD	CE	D1	D2	F	G	H	I	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.32	6.52	1.33	1.33	1.72	2.25	3.31	1.66	0.34	2.61	4.37	2.19	3.82	4.00	2.16	1.94	1.61	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.85	6.98	1.54	1.33	1.72	2.50	4.31	2.16	0.41	3.14	5.25	2.63	3.82	4.31	2.11	1.90	1.93	0.750	0.500	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	5.94	7.44	1.75	1.33	1.72	2.75	4.50	2.25	0.41	3.24	5.75	2.88	3.82	4.31	2.05	1.84	1.94	0.875	0.500	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	6.32	8.00	2.06	1.33	1.72	3.00	4.69	2.34	0.47	3.61	6.38	3.19	3.82	4.68	2.29	2.08	2.03	1.000	0.500	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	6.44	8.56	2.38	1.33	1.72	3.25	4.88	2.44	0.49	3.77	7.06	3.53	3.82	5.14	2.66	2.44	2.06	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	7.01	9.25	2.63	1.33	1.72	3.69	5.25	2.63	0.53	4.34	8.00	4.00	3.82	5.63	2.73	2.52	2.44	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	7.86	10.47	3.00	1.54	1.91	4.00	5.88	2.94	0.53	4.84	8.44	4.22	4.35	6.75	3.60	3.36	2.63	1.250	0.625	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	8.05	11.09	3.25	1.54	1.91	4.38	6.13	3.06	0.53	5.02	9.50	4.75	4.35	7.06	3.66	3.42	2.63	1.375	0.625	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	9.18	13.78	4.25	2.06	2.28	5.44	7.63	3.81	0.66	6.10	11.12	5.56	4.82	8.12	4.50	4.21	2.69	1.875	0.625	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	11.57	16.56	5.25	2.63	2.94	6.25	8.38	4.19	0.78	7.50	14.12	7.06	6.07	9.06	4.78	4.53	3.63	2.000	0.750	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	13.30	19.63	6.00	3.25	3.50	7.75	9.50	4.75	0.91	N/A	16.49	8.25	6.76	10.00	4.66	4.66	4.00	2.500	0.875	1.25	3/8 X 3.00	5/8 X 4.00

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DT



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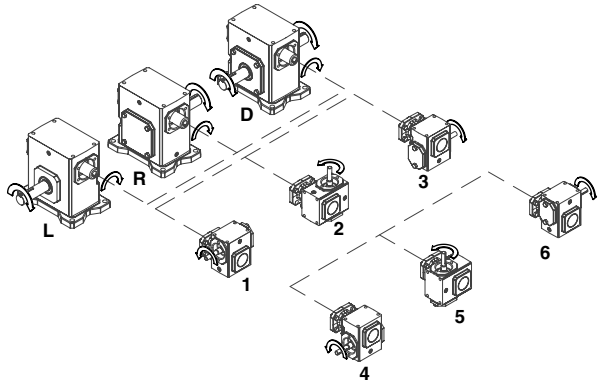


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DT DIMENSIONS (Inches)

Series	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.32	9.85	6.52	1.33	1.33	4.66	1.72	2.25	3.31	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	1.61	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.85	10.94	6.98	1.54	1.33	4.66	1.72	2.50	4.31	2.16	0.41	3.14	5.25	2.63	3.82	1.76	4.31	2.11	1.90	1.93	0.750	0.500	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	5.94	11.28	7.44	1.75	1.33	4.66	1.72	2.75	4.50	2.25	0.41	3.24	5.75	2.88	3.82	1.76	4.31	2.05	1.84	1.94	0.875	0.500	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	6.32	12.01	8.00	2.06	1.33	4.66	1.72	3.00	4.69	2.34	0.47	3.61	6.38	3.19	3.82	1.76	4.68	2.29	2.08	2.03	1.000	0.500	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	6.44	12.48	8.56	2.38	1.33	4.66	1.72	3.25	4.88	2.44	0.49	3.77	7.06	3.53	3.82	1.76	5.14	2.66	2.44	2.06	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	7.01	13.48	9.25	2.63	1.33	4.66	1.72	3.69	5.25	2.63	0.53	4.34	8.00	4.00	3.82	1.76	5.63	2.73	2.52	2.44	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	7.86	15.06	10.47	3.00	1.54	5.38	1.91	4.00	5.88	2.94	0.53	4.84	8.44	4.22	4.35	1.76	6.75	3.60	3.36	2.63	1.250	0.625	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	8.05	15.81	11.09	3.25	1.54	5.38	1.91	4.38	6.13	3.06	0.53	5.02	9.50	4.75	4.35	1.76	7.06	3.66	3.42	2.63	1.375	0.625	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	9.18	18.19	13.78	4.25	2.06	6.38	2.28	5.44	7.63	3.81	0.66	6.10	11.12	5.56	4.82	1.76	8.12	4.50	4.21	2.69	1.875	0.625	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	11.57	22.59	16.56	5.25	2.63	8.00	2.94	6.25	8.38	4.19	0.78	7.50	14.12	7.06	6.07	2.38	9.06	4.78	4.53	3.63	2.000	0.750	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	13.30	26.19✇	19.63	6.00	3.25	9.38	3.50	7.75	9.50	4.75	0.91	N/A	16.49	8.25	6.76	2.38	10.00	4.66	4.66	4.00	2.500	0.875	1.25	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/ 140TC	L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

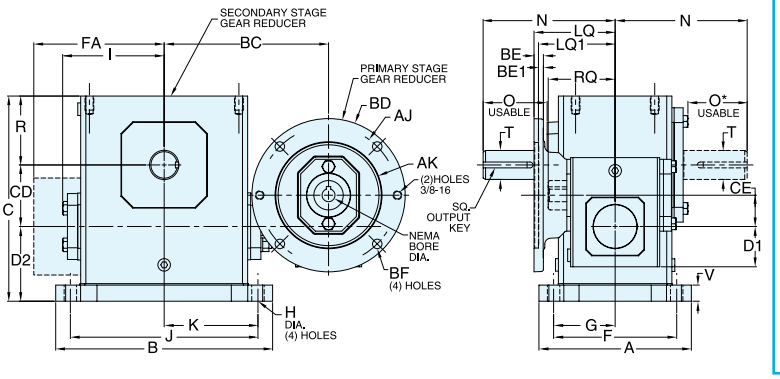
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13”
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DUMQ



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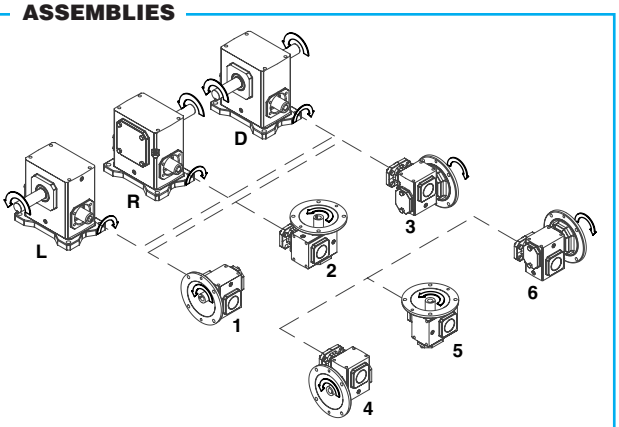
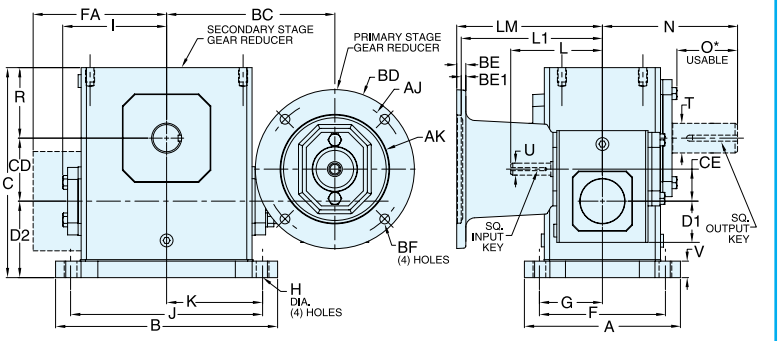


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DUMQ DIMENSIONS (Inches)

Series	A	B	BC	C	CD	CE	D1	D2	F	G	H	I	J	K	N	O	O*	R	T +0.000 -0.0015	V	Output Key
813	4.24	5.37	5.32	5.19	1.33	1.333	1.72	2.14	3.31	1.66	0.34	2.61	4.37	2.19	4.00	2.16	1.94	1.72	0.625	0.53	3/16 X 1.38
815	5.56	6.50	5.85	5.97	1.54	1.333	1.72	2.52	4.31	2.16	0.41	3.14	5.25	2.63	4.31	2.11	1.90	1.91	0.750	0.59	3/16 X 1.38
818	5.75	6.99	5.94	6.44	1.75	1.333	1.72	2.63	4.50	2.25	0.41	3.24	5.75	2.88	4.31	2.05	1.84	2.06	0.875	0.69	3/16 X 1.38
821	6.00	7.69	6.32	7.09	2.06	1.333	1.72	2.75	4.69	2.34	0.47	3.61	6.38	3.19	4.68	2.29	2.08	2.28	1.000	0.72	1/4 X 1.44
824	6.19	8.37	6.44	7.69	2.38	1.333	1.72	2.81	4.88	2.44	0.49	3.77	7.06	3.53	5.14	2.66	2.44	2.50	1.125	0.75	1/4 X 1.44
826	6.50	9.25	7.01	8.75	2.63	1.333	1.72	3.19	5.25	2.63	0.53	4.34	8.00	4.00	5.63	2.73	2.52	2.94	1.125	0.75	1/4 X 1.44
830	7.50	10.00	7.86	9.63	3.00	1.540	1.91	3.38	5.88	2.94	0.53	4.84	8.44	4.22	6.75	3.60	3.36	3.25	1.250	0.75	1/4 X 1.56
832	7.75	11.12	8.05	10.25	3.25	1.540	1.91	3.50	6.13	3.06	0.53	5.02	9.50	4.75	7.06	3.66	3.42	3.50	1.375	0.88	3/8 X 2.50
842	9.75	13.24	9.18	12.38	4.25	2.063	2.28	3.69	7.63	3.81	0.66	6.10	11.12	5.56	8.12	4.50	4.21	4.44	1.875	1.00	1/2 X 2.50
852	10.50	16.24	11.57	15.13	5.25	2.625	2.94	4.76	8.38	4.19	0.78	7.50	14.12	7.06	9.06	4.78	4.53	5.12	2.000	1.13	1/2 X 2.50
860**	12.00	18.99	13.30	17.75	6.00	3.250	3.50	5.25	9.50	4.75	0.91	N/A	16.49	8.25	10.00	4.66	4.66	6.50	2.500	1.25	5/8 X 4.00

STYLE DUM



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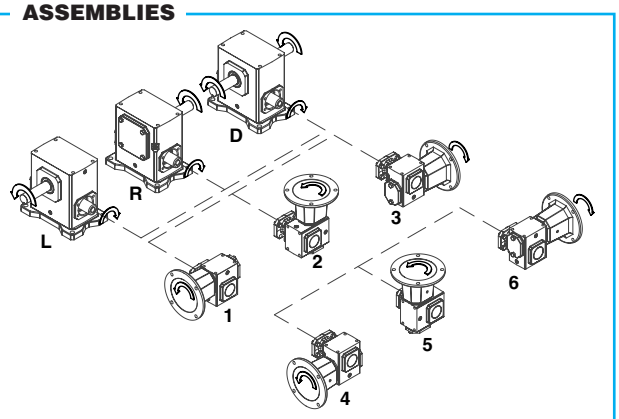
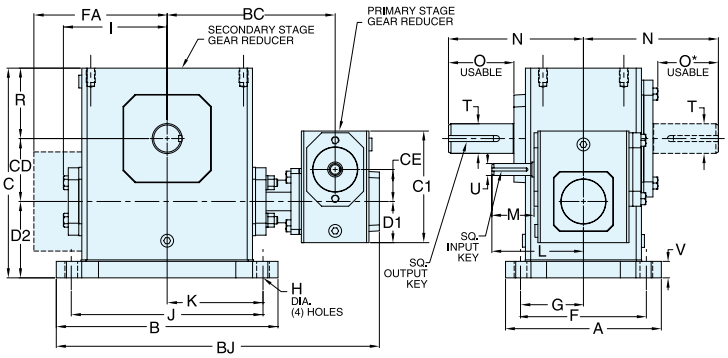


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DUM DIMENSIONS (Inches)

Series	A	B	BC	C	CD	CE	D1	D2	F	G	H	I	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.32	5.19	1.33	1.33	1.72	2.14	3.31	1.66	0.34	2.61	4.37	2.19	3.82	4.00	2.16	1.94	1.72	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.85	5.97	1.54	1.33	1.72	2.52	4.31	2.16	0.41	3.14	5.25	2.63	3.82	4.31	2.11	1.90	1.91	0.750	0.500	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	5.94	6.44	1.75	1.33	1.72	2.63	4.50	2.25	0.41	3.24	5.75	2.88	3.82	4.31	2.05	1.84	2.06	0.875	0.500	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	6.32	7.09	2.06	1.33	1.72	2.75	4.69	2.34	0.47	3.61	6.38	3.19	3.82	4.68	2.29	2.08	2.28	1.000	0.500	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	6.44	7.69	2.38	1.33	1.72	2.81	4.88	2.44	0.49	3.77	7.06	3.53	3.82	5.14	2.66	2.44	2.50	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	7.01	8.75	2.63	1.33	1.72	3.19	5.25	2.63	0.53	4.34	8.00	4.00	3.82	5.63	2.73	2.52	2.94	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	7.86	9.63	3.00	1.54	1.91	3.38	5.88	2.94	0.53	4.84	8.44	4.22	4.35	6.75	3.60	3.36	3.25	1.250	0.625	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	8.05	10.25	3.25	1.54	1.91	3.50	6.13	3.06	0.53	5.02	9.50	4.75	4.35	7.06	3.66	3.42	3.50	1.375	0.625	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	9.18	12.38	4.25	2.06	2.28	3.69	7.63	3.81	0.66	6.10	11.12	5.56	4.82	8.12	4.50	4.21	4.44	1.875	0.625	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	11.57	15.13	5.25	2.63	2.94	4.76	8.38	4.19	0.78	7.50	14.12	7.06	6.07	9.06	4.78	4.53	5.12	2.000	0.750	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	13.30	17.75	6.00	3.25	3.50	5.25	9.50	4.75	0.91	N/A	16.49	8.25	6.76	10.00	4.66	4.66	6.50	2.500	0.875	1.25	3/8 X 3.00	5/8 X 4.00

STYLE DU



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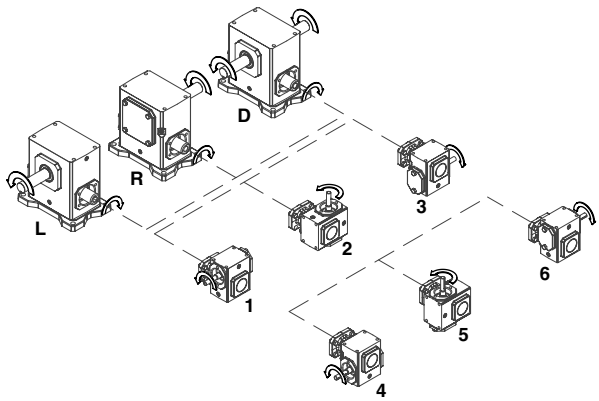


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DU DIMENSIONS (Inches)

Series	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	4.24	5.37	5.32	9.85	5.19	1.33	1.33	4.66	1.72	2.14	3.31	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	1.72	0.625	0.500	0.53	1/8 X 1.00	3/16 X 1.38
815	5.56	6.50	5.85	10.94	5.97	1.54	1.33	4.66	1.72	2.52	4.31	2.16	0.41	3.14	5.25	2.63	3.82	1.76	4.31	2.11	1.90	1.91	0.750	0.500	0.59	3/16 X 1.38	3/16 X 1.38
818	5.75	6.99	5.94	11.28	6.44	1.75	1.33	4.66	1.72	2.63	4.50	2.25	0.41	3.24	5.75	2.88	3.82	1.76	4.31	2.05	1.84	2.06	0.875	0.500	0.69	3/16 X 1.38	3/16 X 1.38
821	6.00	7.69	6.32	12.01	7.09	2.06	1.33	4.66	1.72	2.75	4.69	2.34	0.47	3.61	6.38	3.19	3.82	1.76	4.68	2.29	2.08	2.28	1.000	0.500	0.72	3/16 X 1.38	1/4 X 1.44
824	6.19	8.37	6.44	12.48	7.69	2.38	1.33	4.66	1.72	2.81	4.88	2.44	0.49	3.77	7.06	3.53	3.82	1.76	5.14	2.66	2.44	2.50	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	7.01	13.48	8.75	2.63	1.33	4.66	1.72	3.19	5.25	2.63	0.53	4.34	8.00	4.00	3.82	1.76	5.63	2.73	2.52	2.94	1.125	0.500	0.75	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	7.86	15.06	9.63	3.00	1.54	5.38	1.91	3.38	5.88	2.94	0.53	4.84	8.44	4.22	4.35	1.76	6.75	3.60	3.36	3.25	1.250	0.625	0.75	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	8.05	15.81	10.25	3.25	1.54	5.38	1.91	3.50	6.13	3.06	0.53	5.02	9.50	4.75	4.35	1.76	7.06	3.66	3.42	3.50	1.375	0.625	0.88	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	9.18	18.19	12.38	4.25	2.06	6.38	2.28	3.69	7.63	3.81	0.66	6.10	11.12	5.56	4.82	1.76	8.12	4.50	4.21	4.44	1.875	0.625	1.00	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	11.57	22.59	15.13	5.25	2.63	8.00	2.94	4.76	8.38	4.19	0.78	7.50	14.12	7.06	6.07	2.38	9.06	4.78	4.53	5.12	2.000	0.750	1.13	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	13.30	26.19✇	17.75	6.00	3.25	9.38	3.50	5.25	9.50	4.75	0.91	N/A	16.49	8.25	6.76	2.38	10.00	4.66	4.66	6.50	2.500	0.875	1.25	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

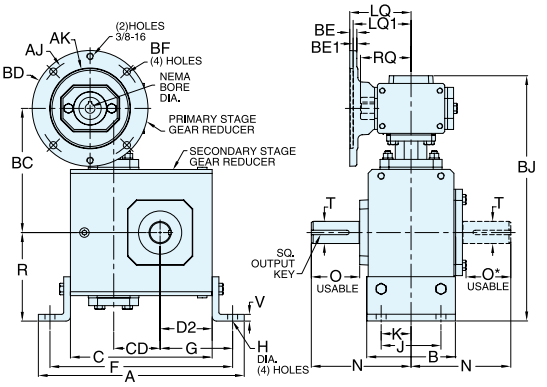
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13”
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DJMQ



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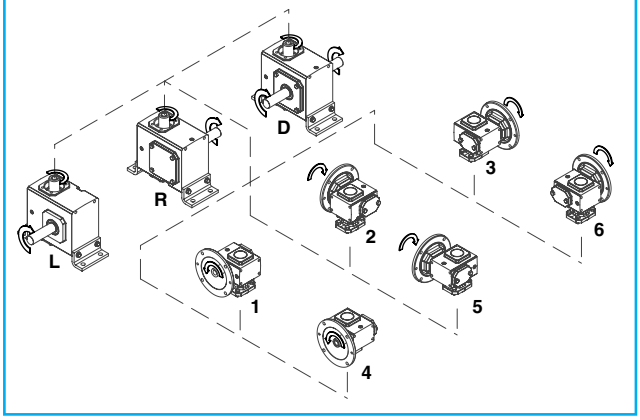
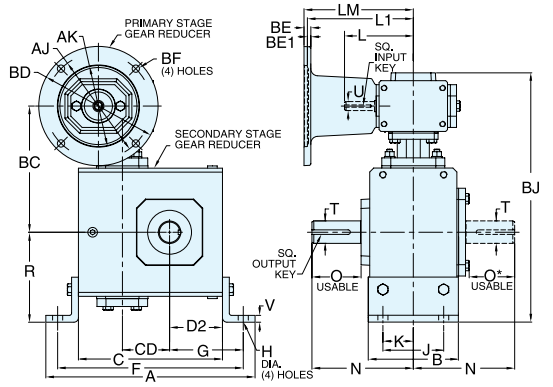


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJMQ DIMENSIONS (Inches)

Series	A	B	BC	BJ	C	CD	CE	D1	D2	F	G	H	J	K	N	O	O*	R	T +0.000 -0.0015	V	Output Key
813	7.42	2.75	5.32	10.10	4.66	1.33	1.33	1.72	1.72	6.42	2.60	0.38	2.00	1.00	4.00	2.16	1.94	2.94	0.625	0.25	3/16 X 1.38
815	8.14	3.50	5.85	11.20	5.38	1.54	1.33	1.72	1.91	7.08	2.76	0.44	2.75	1.38	4.31	2.11	1.90	3.50	0.750	0.25	3/16 X 1.38
818	8.51	3.50	5.94	11.29	5.75	1.75	1.33	1.72	2.06	7.63	3.00	0.44	2.50	1.25	4.31	2.05	1.84	3.50	0.875	0.25	3/16 X 1.38
821	9.76	3.62	6.32	12.17	6.38	2.06	1.33	1.72	2.28	8.63	3.40	0.56	2.63	1.31	4.68	2.29	2.08	3.94	1.000	0.38	1/4 X 1.44
824	10.31	4.00	6.44	12.35	6.94	2.38	1.33	1.72	2.50	9.19	3.63	0.50	2.88	1.44	5.14	2.66	2.44	4.06	1.125	0.38	1/4 X 1.44
826	11.62	5.00	7.01	13.85	8.00	2.63	1.33	1.72	2.94	10.38	4.13	0.56	3.38	1.69	5.63	2.73	2.52	5.00	1.125	0.38	1/4 X 1.44
830	12.64	6.00	7.86	15.68	8.88	3.00	1.54	1.91	3.25	11.38	4.50	0.56	3.88	1.94	6.75	3.60	3.36	5.62	1.250	0.38	1/4 X 1.56
832	13.14	6.00	8.05	15.88	9.38	3.25	1.54	1.91	3.50	11.88	4.75	0.56	3.88	1.94	7.06	3.66	3.42	5.63	1.375	0.38	3/8 X 2.50
842	16.38	7.00	9.18	18.07	11.38	4.25	2.06	2.28	4.44	14.88	6.19	0.69	5.00	2.50	8.12	4.50	4.21	6.50	1.875	0.50	1/2 X 2.50
852	19.00	7.00	11.57	22.22	14.00	5.25	2.63	2.94	5.12	17.50	6.87	0.69	5.81	2.91	9.06	4.78	4.53	7.75	2.000	0.50	1/2 X 2.50

STYLE DJM



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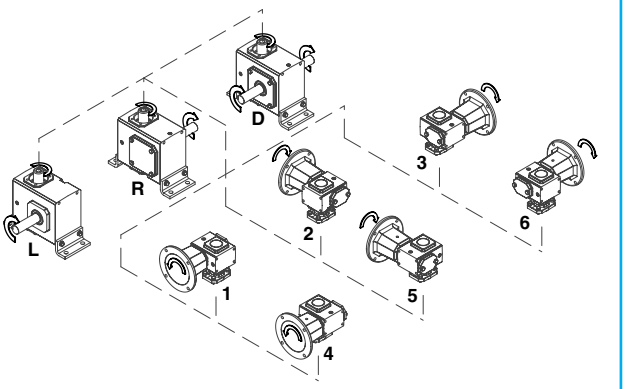


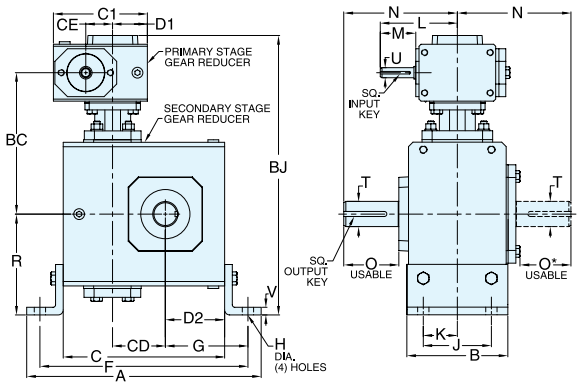
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJM DIMENSIONS (Inches)

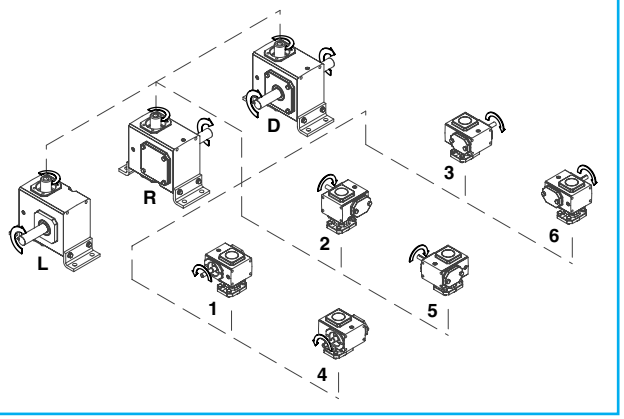
Series	A	B	BC	BJ	C	CD	CE	D1	D2	F	G	H	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.42	2.75	5.32	10.10	4.66	1.33	1.33	1.72	1.72	6.42	2.60	0.38	2.00	1.00	3.82	4.00	2.16	1.94	2.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	8.14	3.50	5.85	11.20	5.38	1.54	1.33	1.72	1.91	7.08	2.76	0.44	2.75	1.38	3.82	4.31	2.11	1.90	3.50	0.750	0.500	0.25	3/16 X 1.38	3/16 X 1.38
818	8.51	3.50	5.94	11.29	5.75	1.75	1.33	1.72	2.06	7.63	3.00	0.44	2.50	1.25	3.82	4.31	2.05	1.84	3.50	0.875	0.500	0.25	3/16 X 1.38	3/16 X 1.38
821	9.76	3.62	6.32	12.17	6.38	2.06	1.33	1.72	2.28	8.63	3.40	0.56	2.63	1.31	3.82	4.68	2.29	2.08	3.94	1.000	0.500	0.38	3/16 X 1.38	1/4 X 1.44
824	10.31	4.00	6.44	12.35	6.94	2.38	1.33	1.72	2.50	9.19	3.63	0.50	2.88	1.44	3.82	5.14	2.66	2.44	4.06	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
826	11.62	5.00	7.01	13.85	8.00	2.63	1.33	1.72	2.94	10.38	4.13	0.56	3.38	1.69	3.82	5.63	2.73	2.52	5.00	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
830	12.64	6.00	7.86	15.68	8.88	3.00	1.54	1.91	3.25	11.38	4.50	0.56	3.88	1.94	4.35	6.75	3.60	3.36	5.62	1.250	0.625	0.38	3/16 X 1.63	1/4 X 1.56
832	13.14	6.00	8.05	15.88	9.38	3.25	1.54	1.91	3.50	11.88	4.75	0.56	3.88	1.94	4.35	7.06	3.66	3.42	5.63	1.375	0.625	0.38	3/16 X 1.63	3/8 X 2.50
842	16.38	7.00	9.18	18.07	11.38	4.25	2.06	2.28	4.44	14.88	6.19	0.69	5.00	2.50	4.82	8.12	4.50	4.21	6.50	1.875	0.625	0.50	1/4 X 2.50	1/2 X 2.50
852	19.00	7.00	11.57	22.22	14.00	5.25	2.63	2.94	5.12	17.50	6.87	0.69	5.81	2.91	6.07	9.06	4.78	4.53	7.75	2.000	0.750	0.50	1/4 X 3.00	1/2 X 2.50

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DJ



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJ DIMENSIONS (Inches)

Series	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.42	2.75	5.32	10.10	4.66	1.33	1.33	4.66	1.72	1.72	6.42	2.60	0.38	2.00	1.00	3.82	1.76	4.00	2.16	1.94	2.94	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	8.14	3.50	5.85	11.20	5.38	1.54	1.33	4.66	1.72	1.91	7.08	2.76	0.44	2.75	1.38	3.82	1.76	4.31	2.11	1.90	3.50	0.750	0.500	0.25	3/16 X 1.38	3/16 X 1.38
818	8.51	3.50	5.94	11.29	5.75	1.75	1.33	4.66	1.72	2.06	7.63	3.00	0.44	2.50	1.25	3.82	1.76	4.31	2.05	1.84	3.50	0.875	0.500	0.25	3/16 X 1.38	3/16 X 1.38
821	9.76	3.62	6.32	12.17	6.38	2.06	1.33	4.66	1.72	2.28	8.63	3.40	0.56	2.63	1.31	3.82	1.76	4.68	2.29	2.08	3.94	1.000	0.500	0.38	3/16 X 1.38	1/4 X 1.44
824	10.31	4.00	6.44	12.35	6.94	2.38	1.33	4.66	1.72	2.50	9.19	3.63	0.50	2.88	1.44	3.82	1.76	5.14	2.66	2.44	4.06	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
826	11.62	5.00	7.01	13.85	8.00	2.63	1.33	4.66	1.72	2.94	10.38	4.13	0.56	3.38	1.69	3.82	1.76	5.63	2.73	2.52	5.00	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
830	12.64	6.00	7.86	15.68	8.88	3.00	1.54	5.38	1.91	3.25	11.38	4.50	0.56	3.88	1.94	4.35	1.76	6.75	3.60	3.36	5.62	1.250	0.625	0.38	3/16 X 1.63	1/4 X 1.56
832	13.14	6.00	8.05	15.88	9.38	3.25	1.54	5.38	1.91	3.50	11.88	4.75	0.56	3.88	1.94	4.35	1.76	7.06	3.66	3.42	5.63	1.375	0.625	0.38	3/16 X 1.63	3/8 X 2.50
842	16.38	7.00	9.18	18.07	11.38	4.25	2.06	6.38	2.28	4.44	14.88	6.19	0.69	5.00	2.50	4.82	1.76	8.12	4.50	4.21	6.50	1.875	0.625	0.50	1/4 X 2.50	1/2 X 2.50
852	19.00	7.00	11.57	22.22	14.00	5.25	2.63	8.00	2.94	5.12	17.50	6.87	0.69	5.81	2.91	6.07	2.38	9.06	4.78	4.53	7.75	2.000	0.750	0.50	1/4 X 3.00	1/2 X 2.50

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM		L1	LQ	LQ1		RQ		
	48CZ	56C/ 140TC	180TC/ 210TC	48CZ/ 56C/140TC	180TC	210TC	48CZ/ 56C/140TC	180TC	210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

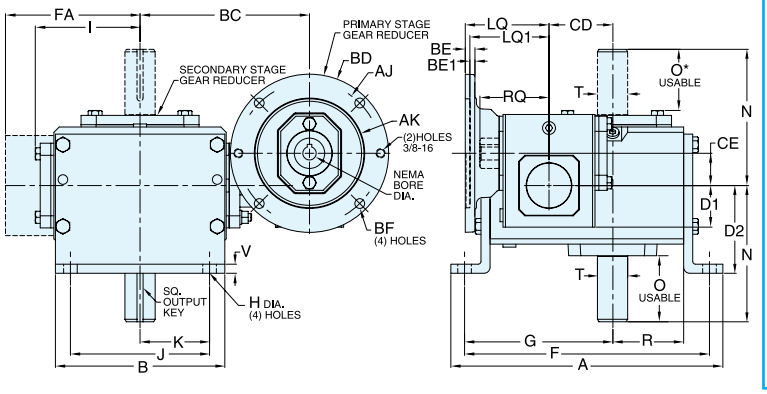
Series	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD■	D63D	D71D	D80D	D90D	D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

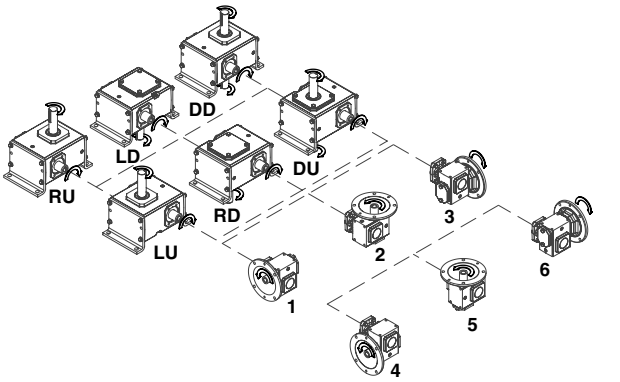
⋆ Applies to double output shaft
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DVLMQ



ASSEMBLIES

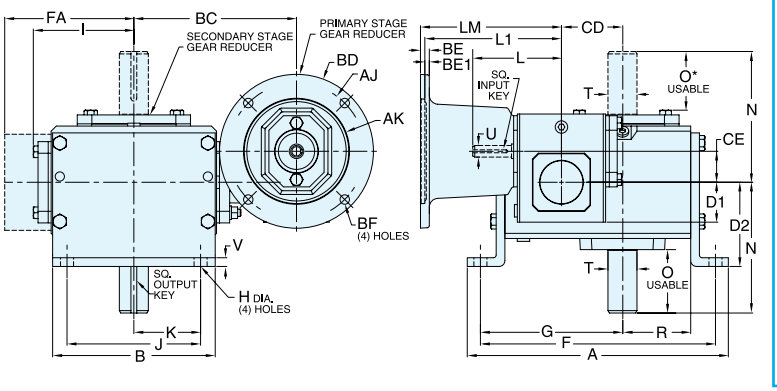


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DVLMQ DIMENSIONS (Inches)

Series	A	B	BC	CD	CE	D1	D2	F	G	H	I	J	K	N	O	O*	R	T +0.000 -0.0015	V	Output Key
813	7.26	4.00	5.32	1.33	1.33	1.72	2.63	6.50	3.86	0.38	2.61	3.00	1.50	4.00	2.16	1.94	1.72	0.625	0.25	3/16 X 1.38
815	7.88	5.00	5.85	1.54	1.33	1.72	3.00	7.00	4.28	0.44	3.14	4.00	2.00	4.31	2.11	1.90	1.91	0.750	0.25	3/16 X 1.38
818	8.25	5.00	5.94	1.75	1.33	1.72	3.00	7.37	4.50	0.44	3.24	4.00	2.00	4.31	2.05	1.84	2.06	0.875	0.25	3/16 X 1.38
821	9.38	6.00	6.32	2.06	1.33	1.72	3.13	8.38	5.09	0.50	3.61	4.88	2.44	4.68	2.29	2.08	2.28	1.000	0.38	1/4 X 1.44
824	9.94	6.00	6.44	2.38	1.33	1.72	3.38	8.94	5.44	0.50	3.77	4.88	2.44	5.14	2.66	2.44	2.50	1.125	0.38	1/4 X 1.44
826	11.24	7.00	7.01	2.63	1.33	1.72	3.63	10.12	6.12	0.56	4.34	5.75	2.88	5.63	2.73	2.52	2.94	1.125	0.38	1/4 X 1.44
830	12.50	8.00	7.86	3.00	1.54	1.91	3.94	11.13	6.75	0.56	4.84	6.00	3.00	6.75	3.60	3.36	3.25	1.250	0.38	1/4 X 1.56
832	13.00	8.50	8.05	3.25	1.54	1.91	4.69	11.88	7.13	0.56	5.02	6.13	3.06	7.06	3.66	3.42	3.50	1.375	0.38	3/8 X 2.50
842	16.26	10.00	9.18	4.25	2.06	2.28	5.00	14.88	8.69	0.69	6.10	7.88	3.94	8.12	4.50	4.21	4.44	1.875	0.50	1/2 X 2.50
852	19.62	13.00	11.57	5.25	2.63	2.94	5.16	18.00	10.88	0.78	7.50	10.00	5.00	9.06	4.78	4.53	5.12	2.000	0.50	1/2 X 2.50
860**	23.26	14.75	13.30	6.00	3.25	3.50	7.31	20.88	12.19	0.91	N/A	11.76	5.88	10.00	4.66	4.66	6.50	2.500	0.50	5/8 X 4.00

STYLE DVLM



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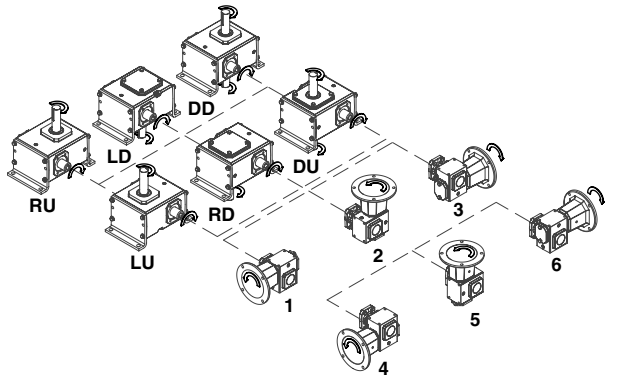


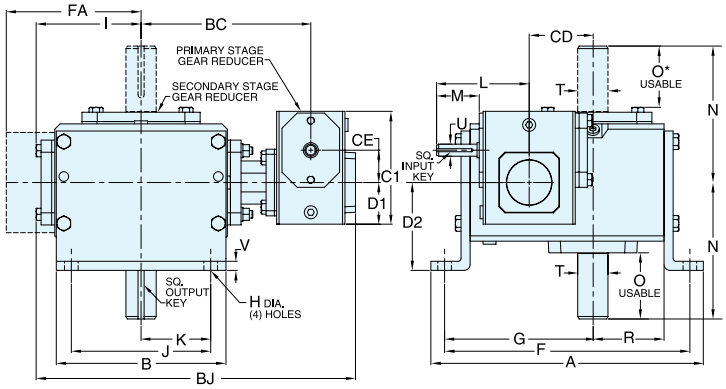
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DVLM DIMENSIONS (Inches)

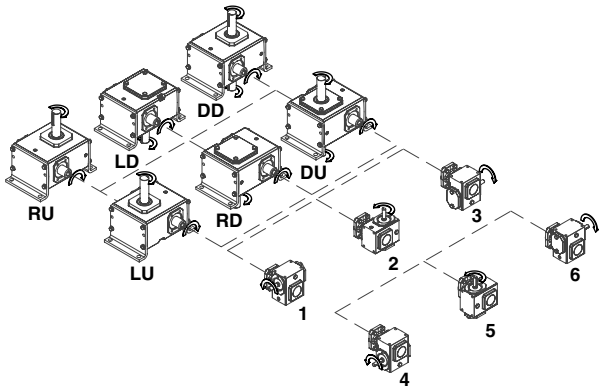
Series	A	B	BC	CD	CE	D1	D2	F	G	H	I	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	5.32	1.33	1.33	1.72	2.63	6.50	3.86	0.38	2.61	3.00	1.50	3.82	4.00	2.16	1.94	1.72	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	5.85	1.54	1.33	1.72	3.00	7.00	4.28	0.44	3.14	4.00	2.00	3.82	4.31	2.11	1.90	1.91	0.750	0.500	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	5.94	1.75	1.33	1.72	3.00	7.37	4.50	0.44	3.24	4.00	2.00	3.82	4.31	2.05	1.84	2.06	0.875	0.500	0.25	3/16 X 1.38	3/16 X 1.38
821	9.38	6.00	6.32	2.06	1.33	1.72	3.13	8.38	5.09	0.50	3.61	4.88	2.44	3.82	4.68	2.29	2.08	2.28	1.000	0.500	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	6.44	2.38	1.33	1.72	3.38	8.94	5.44	0.50	3.77	4.88	2.44	3.82	5.14	2.66	2.44	2.50	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	7.01	2.63	1.33	1.72	3.63	10.12	6.12	0.56	4.34	5.75	2.88	3.82	5.63	2.73	2.52	2.94	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	7.86	3.00	1.54	1.91	3.94	11.13	6.75	0.56	4.84	6.00	3.00	4.35	6.75	3.60	3.36	3.25	1.250	0.625	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	8.05	3.25	1.54	1.91	4.69	11.88	7.13	0.56	5.02	6.13	3.06	4.35	7.06	3.66	3.42	3.50	1.375	0.625	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	9.18	4.25	2.06	2.28	5.00	14.88	8.69	0.69	6.10	7.88	3.94	4.82	8.12	4.50	4.21	4.44	1.875	0.625	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	11.57	5.25	2.63	2.94	5.16	18.00	10.88	0.78	7.50	10.00	5.00	6.07	9.06	4.78	4.53	5.12	2.000	0.750	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	13.30	6.00	3.25	3.50	7.31	20.88	12.19	0.91	N/A	11.76	5.88	6.76	10.00	4.66	4.66	6.50	2.500	0.875	0.50	3/8 X 3.00	5/8 X 4.00

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DVL



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DVL DIMENSIONS (Inches)

Series	A	B	BC	BJ	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	5.32	9.77	1.33	1.33	4.66	1.72	2.63	6.50	3.86	0.38	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	1.72	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	5.85	10.83	1.54	1.33	4.66	1.72	3.00	7.00	4.28	0.44	3.14	4.00	2.00	3.82	1.76	4.31	2.11	1.90	1.91	0.750	0.500	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	5.94	11.03	1.75	1.33	4.66	1.72	3.00	7.37	4.50	0.44	3.24	4.00	2.00	3.82	1.76	4.31	2.05	1.84	2.06	0.875	0.500	0.25	3/16 X 1.38	3/16 X 1.38
821	9.38	6.00	6.32	11.77	2.06	1.33	4.66	1.72	3.13	8.38	5.09	0.50	3.61	4.88	2.44	3.82	1.76	4.68	2.29	2.08	2.28	1.000	0.500	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	6.44	12.06	2.38	1.33	4.66	1.72	3.38	8.94	5.44	0.50	3.77	4.88	2.44	3.82	1.76	5.14	2.66	2.44	2.50	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	7.01	13.19	2.63	1.33	4.66	1.72	3.63	10.12	6.12	0.56	4.34	5.75	2.88	3.82	1.76	5.63	2.73	2.52	2.94	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	7.86	14.90	3.00	1.54	5.38	1.91	3.94	11.13	6.75	0.56	4.84	6.00	3.00	4.35	1.76	6.75	3.60	3.36	3.25	1.250	0.625	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	8.05	15.27	3.25	1.54	5.38	1.91	4.69	11.88	7.13	0.56	5.02	6.13	3.06	4.35	1.76	7.06	3.66	3.42	3.50	1.375	0.625	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	9.18	17.67	4.25	2.06	6.38	2.28	5.00	14.88	8.69	0.69	6.10	7.88	3.94	4.82	1.76	8.12	4.50	4.21	4.44	1.875	0.625	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	11.57	21.97	5.25	2.63	8.00	2.94	5.16	18.00	10.88	0.78	7.50	10.00	5.00	6.07	2.38	9.06	4.78	4.53	5.12	2.000	0.750	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	13.30	26.94✇	6.00	3.25	9.38	3.50	7.31	20.88	12.19	0.91	N/A	11.76	5.88	6.76	2.38	10.00	4.66	4.66	6.50	2.500	0.875	0.50	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

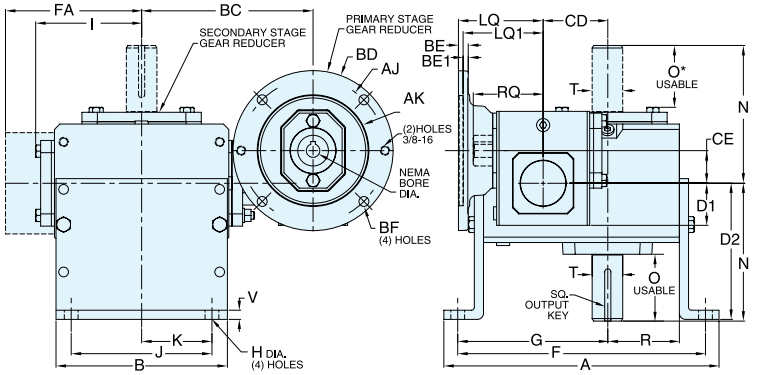
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

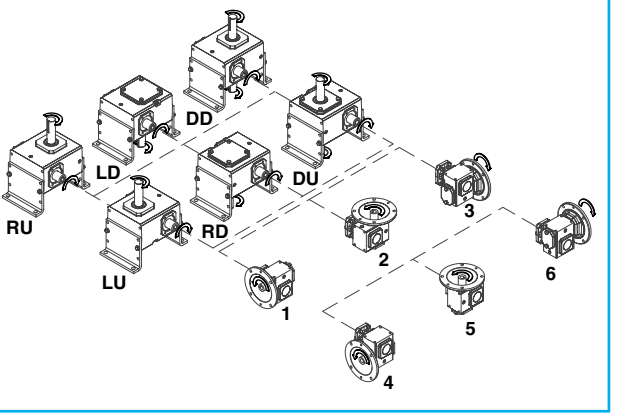
* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13”
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DVHMQ



ASSEMBLIES

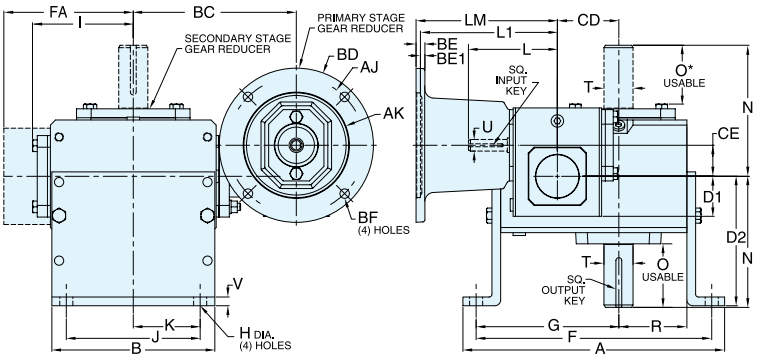


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DVHMQ DIMENSIONS (Inches)

Series	A	B	BC	CD	CE	D1	D2	F	G	H	I	J	K	N	O	O*	R	T +0.000 -0.0015	V	Output Key
813	7.26	4.00	5.32	1.33	1.33	1.72	3.56	6.50	3.86	0.38	2.61	3.00	1.50	4.00	2.16	1.94	1.72	0.625	0.25	3/16 X 1.38
815	7.88	5.00	5.85	1.54	1.33	1.72	4.38	7.00	4.28	0.44	3.14	4.00	2.00	4.31	2.11	1.90	1.91	0.750	0.25	3/16 X 1.38
818	8.25	5.00	5.94	1.75	1.33	1.72	4.38	7.37	4.50	0.44	3.24	4.00	2.00	4.31	2.05	1.84	2.06	0.875	0.25	3/16 X 1.38
821	9.38	6.00	6.32	2.06	1.33	1.72	4.88	8.38	5.09	0.50	3.61	4.88	2.44	4.68	2.29	2.08	2.28	1.000	0.38	1/4 X 1.44
824	9.94	6.00	6.44	2.38	1.33	1.72	5.25	8.94	5.44	0.50	3.77	4.88	2.44	5.14	2.66	2.44	2.50	1.125	0.38	1/4 X 1.44
826	11.24	7.00	7.01	2.63	1.33	1.72	5.56	10.12	6.12	0.56	4.34	5.75	2.88	5.63	2.73	2.52	2.94	1.125	0.38	1/4 X 1.44
830	12.50	8.00	7.86	3.00	1.54	1.91	5.88	11.13	6.75	0.56	4.84	6.00	3.00	6.75	3.60	3.36	3.25	1.250	0.38	1/4 X 1.56
832	13.00	8.50	8.05	3.25	1.54	1.91	6.25	11.88	7.13	0.56	5.02	6.13	3.06	7.06	3.66	3.42	3.50	1.375	0.38	3/8 X 2.50
842	16.26	10.00	9.18	4.25	2.06	2.28	7.50	14.88	8.69	0.69	6.10	7.88	3.94	8.12	4.50	4.21	4.44	1.875	0.50	1/2 X 2.50
852	19.62	13.00	11.57	5.25	2.63	2.94	9.16	18.00	10.88	0.78	7.50	10.00	5.00	9.06	4.78	4.53	5.12	2.000	0.50	1/2 X 2.50
860**	23.26	14.75	13.30	6.00	3.25	3.50	9.63	20.88	12.19	0.91	N/A	11.76	5.88	10.00	4.66	4.66	6.50	2.500	0.50	5/8 X 4.00

STYLE DVHM



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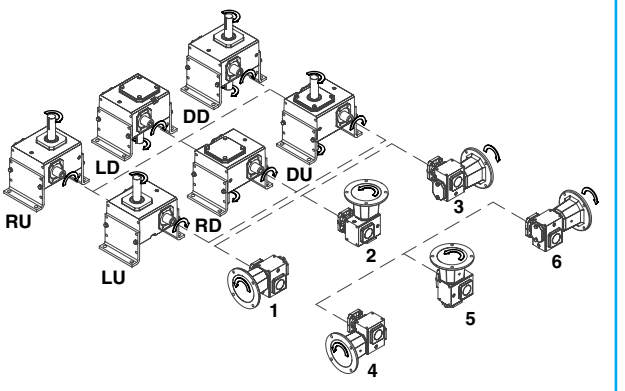
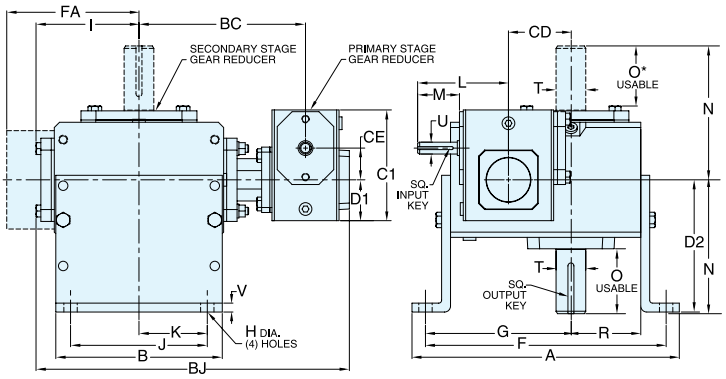


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DVHM DIMENSIONS (Inches)

Series	A	B	BC	CD	CE	D1	D2	F	G	H	I	J	K	L	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	5.32	1.33	1.33	1.72	3.56	6.50	3.86	0.38	2.61	3.00	1.50	3.82	4.00	2.16	1.94	1.72	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	5.85	1.54	1.33	1.72	4.38	7.00	4.28	0.44	3.14	4.00	2.00	3.82	4.31	2.11	1.90	1.91	0.750	0.500	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	5.94	1.75	1.33	1.72	4.38	7.37	4.50	0.44	3.24	4.00	2.00	3.82	4.31	2.05	1.84	2.06	0.875	0.500	0.25	3/16 X 1.38	3/16 X 1.38
821	9.38	6.00	6.32	2.06	1.33	1.72	4.88	8.38	5.09	0.50	3.61	4.88	2.44	3.82	4.68	2.29	2.08	2.28	1.000	0.500	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	6.44	2.38	1.33	1.72	5.25	8.94	5.44	0.50	3.77	4.88	2.44	3.82	5.14	2.66	2.44	2.50	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	7.01	2.63	1.33	1.72	5.56	10.12	6.12	0.56	4.34	5.75	2.88	3.82	5.63	2.73	2.52	2.94	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	7.86	3.00	1.54	1.91	5.88	11.13	6.75	0.56	4.84	6.00	3.00	4.35	6.75	3.60	3.36	3.25	1.250	0.625	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	8.05	3.25	1.54	1.91	6.25	11.88	7.13	0.56	5.02	6.13	3.06	4.35	7.06	3.66	3.42	3.50	1.375	0.625	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	9.18	4.25	2.06	2.28	7.50	14.88	8.69	0.69	6.10	7.88	3.94	4.82	8.12	4.50	4.21	4.44	1.875	0.625	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	11.57	5.25	2.63	2.94	9.16	18.00	10.88	0.78	7.50	10.00	5.00	6.07	9.06	4.78	4.53	5.12	2.000	0.750	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	13.30	6.00	3.25	3.50	9.63	20.88	12.19	0.91	N/A	11.76	5.88	6.76	10.00	4.66	4.66	6.50	2.500	0.875	0.50	3/8 X 3.00	5/8 X 4.00

STYLE DVH



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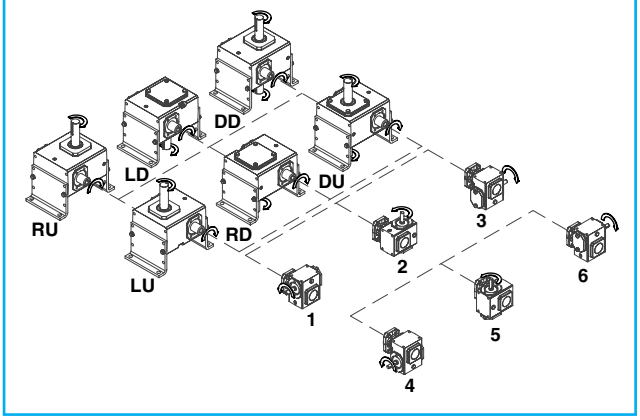


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DVH DIMENSIONS (Inches)

Series	A	B	BC	BJ	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key	Output Key
813	7.26	4.00	5.32	9.77	1.33	1.33	4.66	1.72	3.56	6.50	3.86	0.38	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	1.72	0.625	0.500	0.25	1/8 X 1.00	3/16 X 1.38
815	7.88	5.00	5.85	10.83	1.54	1.33	4.66	1.72	4.38	7.00	4.28	0.44	3.14	4.00	2.00	3.82	1.76	4.31	2.11	1.90	1.91	0.750	0.500	0.25	3/16 X 1.38	3/16 X 1.38
818	8.25	5.00	5.94	11.03	1.75	1.33	4.66	1.72	4.38	7.37	4.50	0.44	3.24	4.00	2.00	3.82	1.76	4.31	2.05	1.84	2.06	0.875	0.500	0.25	3/16 X 1.38	3/16 X 1.38
821	9.38	6.00	6.32	11.77	2.06	1.33	4.66	1.72	4.88	8.38	5.09	0.50	3.61	4.88	2.44	3.82	1.76	4.68	2.29	2.08	2.28	1.000	0.500	0.38	3/16 X 1.38	1/4 X 1.44
824	9.94	6.00	6.44	12.06	2.38	1.33	4.66	1.72	5.25	8.94	5.44	0.50	3.77	4.88	2.44	3.82	1.76	5.14	2.66	2.44	2.50	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
826	11.24	7.00	7.01	13.19	2.63	1.33	4.66	1.72	5.56	10.12	6.12	0.56	4.34	5.75	2.88	3.82	1.76	5.63	2.73	2.52	2.94	1.125	0.500	0.38	3/16 X 1.63	1/4 X 1.44
830	12.50	8.00	7.86	14.90	3.00	1.54	5.38	1.91	5.88	11.13	6.75	0.56	4.84	6.00	3.00	4.35	1.76	6.75	3.60	3.36	3.25	1.250	0.625	0.38	3/16 X 1.63	1/4 X 1.56
832	13.00	8.50	8.05	15.27	3.25	1.54	5.38	1.91	6.25	11.88	7.13	0.56	5.02	6.13	3.06	4.35	1.76	7.06	3.66	3.42	3.50	1.375	0.625	0.38	3/16 X 1.63	3/8 X 2.50
842	16.26	10.00	9.18	17.67	4.25	2.06	6.38	2.28	7.50	14.88	8.69	0.69	6.10	7.88	3.94	4.82	1.76	8.12	4.50	4.21	4.44	1.875	0.625	0.50	1/4 X 2.50	1/2 X 2.50
852	19.62	13.00	11.57	21.97	5.25	2.63	8.00	2.94	9.16	18.00	10.88	0.78	7.50	10.00	5.00	6.07	2.38	9.06	4.78	4.53	5.12	2.000	0.750	0.50	1/4 X 3.00	1/2 X 2.50
860**	23.26	14.75	13.30	26.94✇	6.00	3.25	9.38	3.50	9.63	20.88	12.19	0.91	N/A	11.76	5.88	6.76	2.38	10.00	4.66	4.66	6.50	2.500	0.875	0.50	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/ 140TC	L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

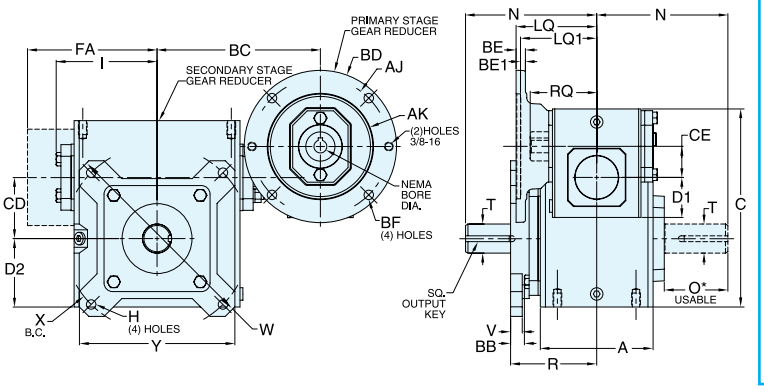
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

* Applies to double output shaft
** Series 860 reducers are supplied with a fan. Dimension FA=11.13"
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DFMQ



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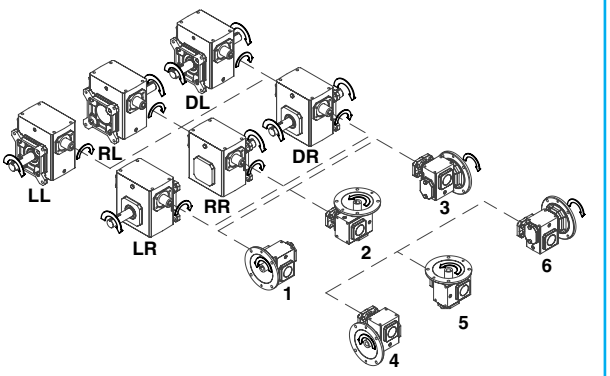
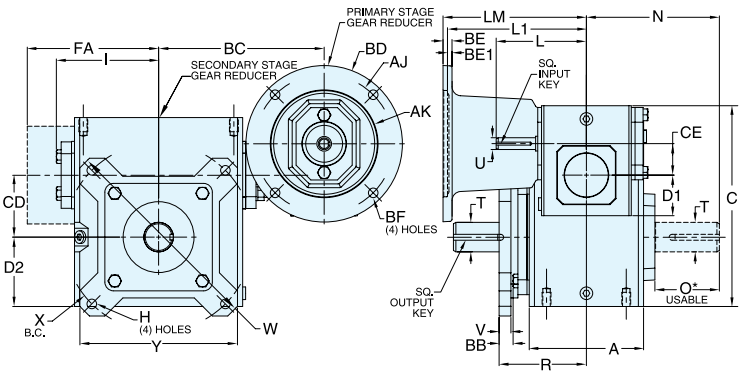


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFMQ DIMENSIONS (Inches)

Series	A	BB	BC	C	CD	CE	D1	D2	H	I	N	O*	R	T +0.000 -0.0015	V	W	X	Y	Output Key
813	2.82	.08	5.32	5.99	1.33	1.33	1.72	1.72	0.34	2.61	4.00	2.16	2.52	0.625	0.38	5.92	5.00	4.50	3/16 X 1.38
815	3.44	1.22	5.85	6.38	1.54	1.33	1.72	1.91	0.34	3.14	4.31	2.11	2.87	0.750	0.38	5.88	5.00	4.50	3/16 X 1.38
818	3.56	.11	5.94	6.75	1.75	1.33	1.72	2.06	0.34	3.24	4.31	2.05	3.18	0.875	0.38	6.64	5.88	5.00	3/16 X 1.38
821	3.81	.55	6.32	7.28	2.06	1.33	1.72	2.28	0.41	3.61	4.68	2.29	3.69	1.000	0.44	7.88	7.00	5.99	1/4 X 1.44
824	4.06	.51	6.44	7.81	2.38	1.33	1.72	2.50	0.41	3.77	5.14	2.66	3.67	1.125	0.44	8.39	7.50	6.27	1/4 X 1.44
826	4.84	.04	7.01	8.50	2.63	1.33	1.72	2.94	0.41	4.34	5.63	2.73	3.64	1.125	0.50	8.88	8.00	6.67	1/4 X 1.44
830	5.25	.07	7.86	9.72	3.00	1.54	1.91	3.25	0.41	4.84	6.75	3.60	3.72	1.250	0.50	9.89	9.00	7.37	1/4 X 1.56
832	5.75	.07	8.05	10.22	3.25	1.54	1.91	3.50	0.41	5.02	7.06	3.66	3.98	1.375	0.50	9.89	9.00	7.37	3.8 X 2.50
842	6.13	.06	9.18	12.78	4.25	2.06	2.28	4.44	0.56	6.10	8.12	4.50	4.50	1.875	0.62	12.95	11.50	9.65	1/2 X 2.50
852	7.19	.34	11.57	15.43	5.25	2.63	2.94	5.12	0.69	7.50	9.06	4.78	5.56	2.000	0.75	15.50	14.00	11.75	1/2 X 2.50
860**	8.13	1.38	13.30	18.38	6.00	3.25	3.50	6.50	0.69	N/A	10.00	4.65	7.22	2.500	0.75	18.00	15.63	14.00	5/8 X 4.00

STYLE DFM



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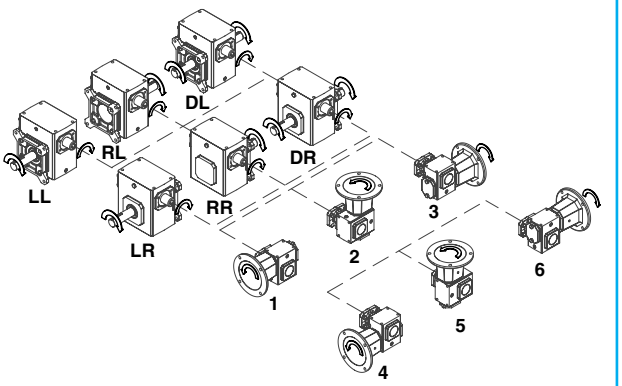
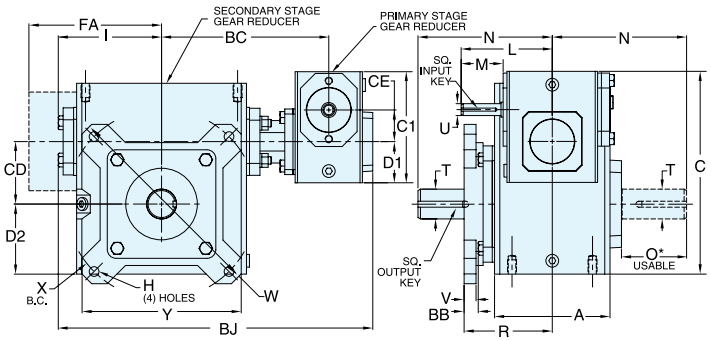


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFM DIMENSIONS (Inches)

Series	A	BB	BC	C	CD	CE	D1	D2	H	I	L	N	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	0.08	5.32	5.99	1.33	1.33	1.72	1.72	0.34	2.61	3.82	4.00	2.16	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.38
815	3.44	1.22	5.85	6.38	1.54	1.33	1.72	1.91	0.34	3.14	3.82	4.31	2.11	2.87	0.750	0.500	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.38
818	3.56	0.11	5.94	6.75	1.75	1.33	1.72	2.06	0.34	3.24	3.82	4.31	2.05	3.18	0.875	0.500	0.38	6.64	5.88	5.00	3/16 X 1.38	3/16 X 1.38
821	3.81	0.55	6.32	7.28	2.06	1.33	1.72	2.28	0.41	3.61	3.82	4.68	2.29	3.69	1.000	0.500	0.44	7.88	7.00	5.99	3/16 X 1.38	1/4 X 1.44
824	4.06	0.51	6.44	7.81	2.38	1.33	1.72	2.50	0.41	3.77	3.82	5.14	2.66	3.67	1.125	0.500	0.44	8.39	7.50	6.27	3/16 X 1.63	1/4 X 1.44
826	4.84	0.04	7.01	8.50	2.63	1.33	1.72	2.94	0.41	4.34	3.82	5.63	2.73	3.64	1.125	0.500	0.50	8.88	8.00	6.67	3/16 X 1.63	1/4 X 1.44
830	5.25	0.07	7.86	9.72	3.00	1.54	1.91	3.25	0.41	4.84	4.35	6.75	3.60	3.72	1.250	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	1/4 X 1.56
832	5.75	0.07	8.05	10.22	3.25	1.54	1.91	3.50	0.41	5.02	4.35	7.06	3.66	3.98	1.375	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	3/8 X 2.50
842	6.13	0.06	9.18	12.78	4.25	2.06	2.28	4.44	0.56	6.10	4.82	8.12	4.50	4.50	1.875	0.625	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 2.50
852	7.19	0.34	11.57	15.43	5.25	2.63	2.94	5.12	0.69	7.50	6.07	9.06	4.78	5.56	2.000	0.750	0.75	15.50	14.00	11.75	1/4 X 3.00	1/2 X 2.50
860**	8.13	1.38	13.30	18.38	6.00	3.25	3.50	6.50	0.69	N/A	6.76	10.00	4.65	7.22	2.500	0.875	0.75	18.00	15.63	14.00	3/8 X 3.00	5/8 X 4.00

STYLE DF



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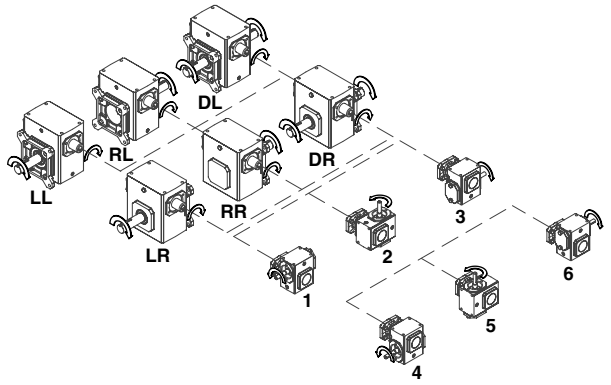


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DF DIMENSIONS (Inches)

Series	A	BB	BC	BJ	C	CD	CE	C1	D1	D2	H	I	L	M	N	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	.08	5.32	9.77	5.99	1.33	1.33	4.66	1.72	1.72	0.34	2.61	3.82	1.76	4.00	2.16	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.38
815	3.44	1.22	5.85	10.83	6.38	1.54	1.33	4.66	1.72	1.91	0.34	3.14	3.82	1.76	4.31	2.11	2.87	0.750	0.500	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.38
818	3.56	.11	5.94	11.03	6.75	1.75	1.33	4.66	1.72	2.06	0.34	3.24	3.82	1.76	4.31	2.05	3.18	0.875	0.500	0.38	6.64	5.88	5.00	3/16 X 1.38	3/16 X 1.38
821	3.81	.55	6.32	11.77	7.28	2.06	1.33	4.66	1.72	2.28	0.41	3.61	3.82	1.76	4.68	2.29	3.69	1.000	0.500	0.44	7.88	7.00	5.99	3/16 X 1.38	1/4 X 1.44
824	4.06	.51	6.44	12.06	7.81	2.38	1.33	4.66	1.72	2.50	0.41	3.77	3.82	1.76	5.14	2.66	3.67	1.125	0.500	0.44	8.39	7.50	6.27	3/16 X 1.63	1/4 X 1.44
826	4.84	.04	7.01	13.19	8.50	2.63	1.33	4.66	1.72	2.94	0.41	4.34	3.82	1.76	5.63	2.73	3.64	1.125	0.500	0.50	8.88	8.00	6.67	3/16 X 1.63	1/4 X 1.44
830	5.25	.07	7.86	14.90	9.72	3.00	1.54	5.38	1.91	3.25	0.41	4.84	4.35	1.76	6.75	3.60	3.72	1.250	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	1/4 X 1.56
832	5.75	.07	8.05	15.27	10.22	3.25	1.54	5.38	1.91	3.50	0.41	5.02	4.35	1.76	7.06	3.66	3.98	1.375	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	3/8 X 2.50
842	6.13	.06	9.18	17.67	12.78	4.25	2.06	6.38	2.28	4.44	0.56	6.10	4.82	1.76	8.12	4.50	4.50	1.875	0.625	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 2.50
852	7.19	.34	11.57	21.97	15.43	5.25	2.63	8.00	2.94	5.12	0.69	7.50	6.07	2.38	9.06	4.78	5.56	2.000	0.750	0.75	15.50	14.00	11.75	1/4 X 3.00	1/2 X 2.50
860**	8.13	1.38	13.30	26.94✇	18.38	6.00	3.25	9.38	3.50	6.50	0.69	N/A	6.76	2.38	10.00	4.65	7.22	2.500	0.875	0.75	18.00	15.63	14.00	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

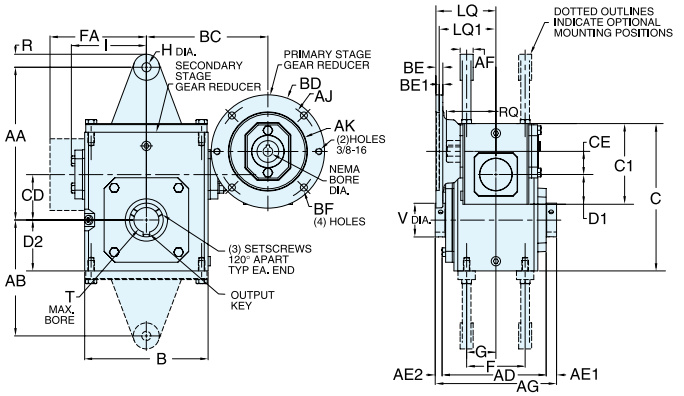
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

⋆ Applies to double output shaft
⋆⋆ Series 860 reducers are supplied with a fan. Dimension FA=11.13"
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DHMQ



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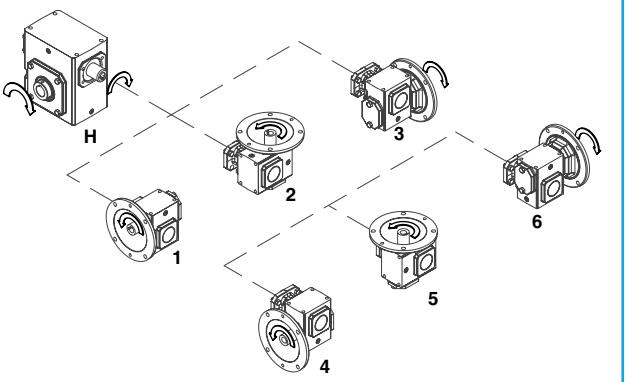
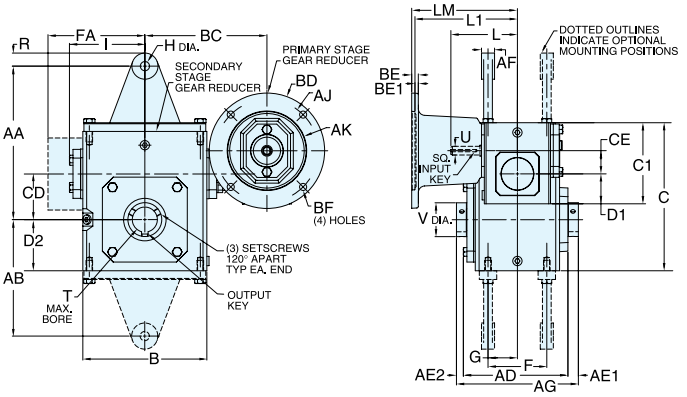


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DHMQ DIMENSIONS (Inches)

Series	AA	AB	AD	AE1	AE2	AF	AG	B	BC	C	CD	CE	D1	D2	F	G	H	I	R	T MAX✳ +0.000 -0.0025	V	Output Key
813	4.19	2.97	3.90	0.53	0.32	0.25	4.75	3.80	5.32	4.66	1.33	1.33	1.72	1.72	2.00	1.00	0.53	2.61	0.50	0.625	1.00	3/16 X 1.50
815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.85	5.38	1.54	1.33	1.72	1.91	2.75	1.38	0.53	3.14	0.75	0.625	1.00	3/16 X 1.50
818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.94	5.75	1.75	1.33	1.72	2.06	2.75	1.38	0.53	3.24	0.75	1.000	1.44	1/4 X 3.00
821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.32	6.38	2.06	1.33	1.72	2.28	2.88	1.44	0.53	3.61	0.75	1.438	1.94	3/8 X 3.00
824	7.69	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.44	6.94	2.38	1.33	1.72	2.50	2.88	1.44	0.53	3.77	0.75	1.438	1.94	3/8 X 3.00
826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	7.01	8.00	2.63	1.33	1.72	2.94	3.38	1.69	0.53	4.34	0.75	1.438	1.94	3/8 X 3.00
830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	7.86	8.88	3.00	1.54	1.91	3.25	4.00	2.00	0.53	4.84	0.88	1.938	2.51	1/2 X 3.00
832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	8.05	9.38	3.25	1.54	1.91	3.50	4.00	2.00	0.53	5.02	0.88	1.938	2.51	1/2 X 3.00
842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	9.18	11.38	4.25	2.06	2.28	4.44	5.00	2.50	0.53	6.10	0.75	2.188	2.75	1/2 X 3.00
852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	11.57	14.00	5.25	2.63	2.94	5.12	5.81	2.91	0.66	7.50	1.00	3.438	4.26	7/8 X 3.44
860**	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	13.30	16.50	6.00	3.25	3.50	6.50	6.38	3.19	0.66	N/A	0.69	3.438	4.18	7/8 X 3.44

STYLE DHM



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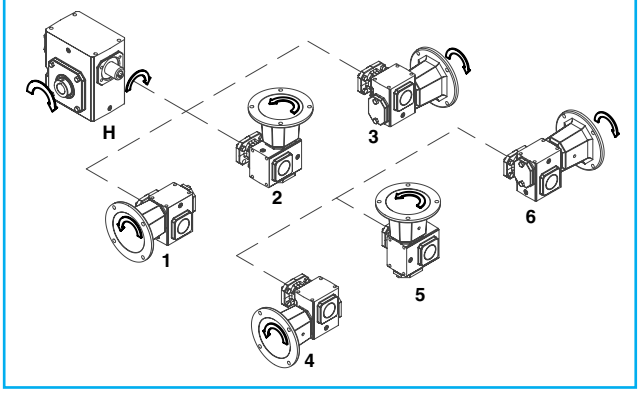
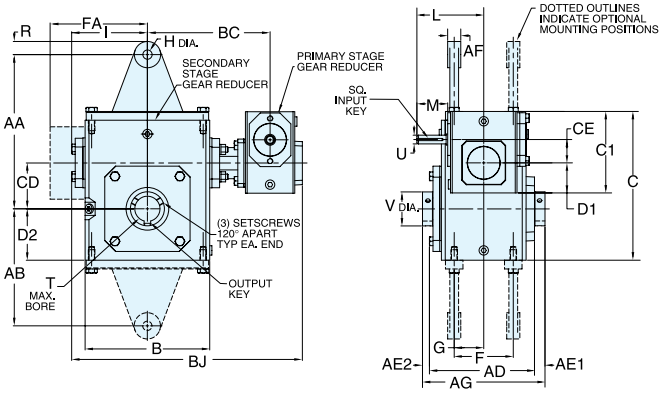


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DHM DIMENSIONS (Inches)

Series	AA	AB	AD	AE1	AE2	AF	AG	B	BC	C	CD	CE	D1	D2	F	G	H	I	L	R	T MAX✳ +0.000 -0.0025	U +0.000 -0.0015	V	Input Key	Output Key
813	4.19	2.97	3.90	0.53	0.32	0.25	4.75	3.80	5.32	4.66	1.33	1.33	1.72	1.72	2.00	1.00	0.53	2.61	3.82	0.50	0.625	0.500	1.00	1/8 X 1.00	3/16 X 1.50
815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.85	5.38	1.54	1.33	1.72	1.91	2.75	1.38	0.53	3.14	3.82	0.75	0.625	0.500	1.00	3/16 X 1.38	3/16 X 1.50
818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.94	5.75	1.75	1.33	1.72	2.06	2.75	1.38	0.53	3.24	3.82	0.75	1.000	0.500	1.44	3/16 X 1.38	1/4 X 3.00
821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.32	6.38	2.06	1.33	1.72	2.28	2.88	1.44	0.53	3.61	3.82	0.75	1.438	0.500	1.94	3/16 X 1.38	3/8 X 3.00
824	7.69	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.44	6.94	2.38	1.33	1.72	2.50	2.88	1.44	0.53	3.77	3.82	0.75	1.438	0.500	1.94	3/16 X 1.63	3/8 X 3.00
826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	7.01	8.00	2.63	1.33	1.72	2.94	3.38	1.69	0.53	4.34	3.82	0.75	1.438	0.500	1.94	3/16 X 1.63	3/8 X 3.00
830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	7.86	8.88	3.00	1.54	1.91	3.25	4.00	2.00	0.53	4.84	4.35	0.88	1.938	0.625	2.51	3/16 X 1.63	1/2 X 3.00
832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	8.05	9.38	3.25	1.54	1.91	3.50	4.00	2.00	0.53	5.02	4.35	0.88	1.938	0.625	2.51	3/16 X 1.63	1/2 X 3.00
842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	9.18	11.38	4.25	2.06	2.28	4.44	5.00	2.50	0.53	6.10	4.82	0.75	2.188	0.625	2.75	1/4 X 2.50	1/2 X 3.00
852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	11.57	14.00	5.25	2.63	2.94	5.12	5.81	2.91	0.66	7.50	6.07	1.00	3.438	0.750	4.26	1/4 X 3.00	7/8 X 3.44
860**	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	13.30	16.50	6.00	3.25	3.50	6.50	6.38	3.19	0.66	N/A	6.76	0.69	3.438	0.875	4.18	3/8 X 3.00	7/8 X 3.44

STYLE DH



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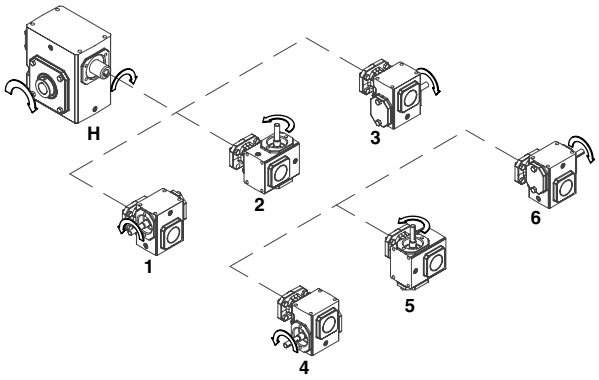


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DH DIMENSIONS (Inches)

Series	AA	AB	AD	AE1	AE2	AF	AG	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	I	L	M	R	T MAX✳ +0.000 -0.0025	U +0.000 -0.0015	V	Input Key	Output Key
813	4.19	2.97	3.90	0.53	0.32	0.25	4.75	3.80	5.32	9.77	4.66	1.33	1.33	4.66	1.72	1.72	2.00	1.00	0.53	2.61	3.82	1.76	0.50	0.625	0.500	1.00	1/8 X 1.00	3/16 X 1.50
815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.85	10.83	5.38	1.54	1.33	4.66	1.72	1.91	2.75	1.38	0.53	3.14	3.82	1.76	0.75	0.625	0.500	1.00	3/16 X 1.38	3/16 X 1.50
818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.94	11.03	5.75	1.75	1.33	4.66	1.72	2.06	2.75	1.38	0.53	3.24	3.82	1.76	0.75	1.000	0.500	1.44	3/16 X 1.38	1/4 X 3.00
821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.32	11.77	6.38	2.06	1.33	4.66	1.72	2.28	2.88	1.44	0.53	3.61	3.82	1.76	0.75	1.438	0.500	1.94	3/16 X 1.38	3/8 X 3.00
824	7.69	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.44	12.06	6.94	2.38	1.33	4.66	1.72	2.50	2.88	1.44	0.53	3.77	3.82	1.76	0.75	1.438	0.500	1.94	3/16 X 1.63	3/8 X 3.00
826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	7.01	13.19	8.00	2.63	1.33	4.66	1.72	2.94	3.38	1.69	0.53	4.34	3.82	1.76	0.75	1.438	0.500	1.94	3/16 X 1.63	3/8 X 3.00
830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	7.86	14.90	8.88	3.00	1.54	5.38	1.91	3.25	4.00	2.00	0.53	4.84	4.35	1.76	0.88	1.938	0.625	2.51	3/16 X 1.63	1/2 X 3.00
832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	8.05	15.27	9.38	3.25	1.54	5.38	1.91	3.50	4.00	2.00	0.53	5.02	4.35	1.76	0.88	1.938	0.625	2.51	3/16 X 1.63	1/2 X 3.00
842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	9.18	17.67	11.38	4.25	2.06	6.38	2.28	4.44	5.00	2.50	0.53	6.10	4.82	1.76	0.75	2.188	0.625	2.75	1/4 X 2.50	1/2 X 3.00
852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	11.57	21.97	14.00	5.25	2.63	8.00	2.94	5.12	5.81	2.91	0.66	7.50	6.07	2.38	1.00	3.438	0.750	4.26	1/4 X 3.00	7/8 X 3.44
860**	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	13.30	26.94✇	16.50	6.00	3.25	9.38	3.50	6.50	6.38	3.19	0.66	N/A	6.76	2.38	0.69	3.438	0.875	4.18	3/8 X 3.00	7/8 X 3.44

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

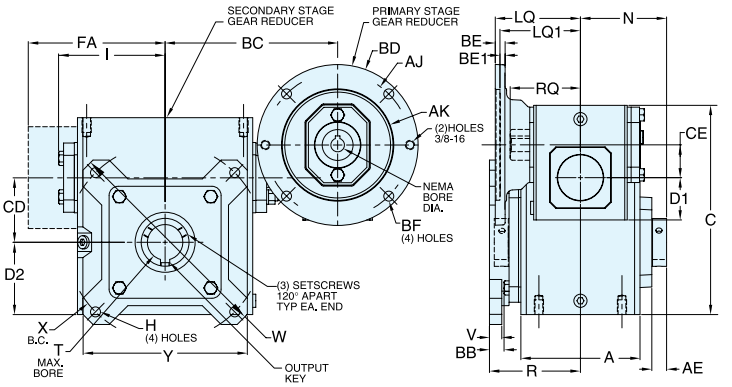
Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

** Series 860 reducers are supplied with a fan. Dimension FA=11.13"
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
✳ For additional bore sizes available, refer to page 107.
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM DIMENSIONS

STYLE DFHMQ



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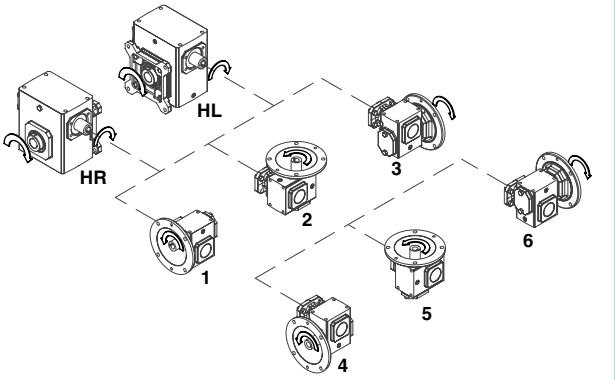
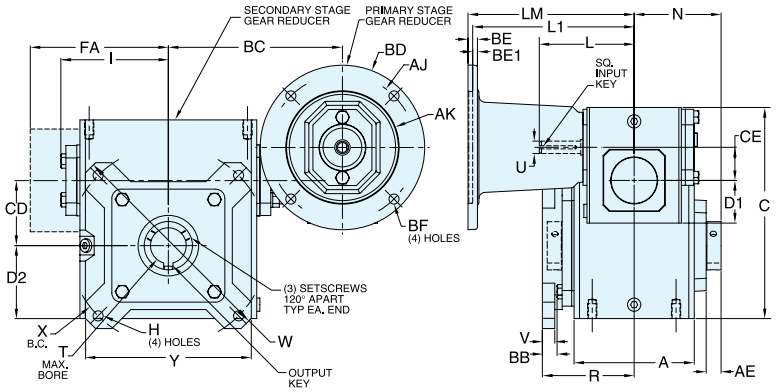


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

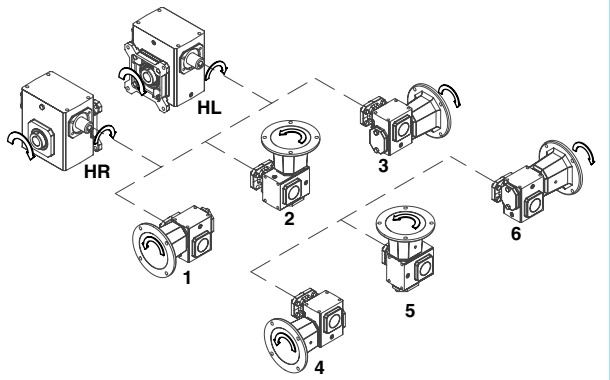
STYLE DFHMQ DIMENSIONS (Inches)

Series	A	AE	BB	BC	C	CD	CE	D1	D2	H	I	N	R	T MAX∗ -0.000 +0.0025	V	W	X	Y	Output Key
813	2.82	0.53	0.08	5.32	5.99	1.33	1.33	1.72	1.72	0.34	2.61	2.38	2.52	0.625	0.38	5.92	5.00	4.50	3/16 X 1.50
815	3.44	0.51	1.22	5.85	6.38	1.54	1.33	1.72	1.91	0.34	3.14	2.71	2.87	0.625	0.38	5.88	5.00	4.50	3/16 X 1.50
818	3.56	0.49	0.11	5.94	6.75	1.75	1.33	1.72	2.06	0.34	3.24	2.75	3.18	1.000	0.38	6.64	5.88	5.00	1/4 X 3.00
821	3.81	0.61	0.55	6.32	7.28	2.06	1.33	1.72	2.28	0.41	3.61	3.00	3.69	1.438	0.44	7.88	7.00	5.99	3/8 X 3.00
824	4.06	0.51	0.51	6.44	7.81	2.38	1.33	1.72	2.50	0.41	3.77	3.00	3.73	1.438	0.44	8.39	7.50	6.27	3/8 X 3.00
826	4.84	0.60	0.04	7.01	8.50	2.63	1.33	1.72	2.94	0.41	4.34	3.50	3.70	1.438	0.50	8.88	8.00	6.67	3/8 X 3.00
830	5.25	0.60	0.07	7.86	9.72	3.00	1.54	1.91	3.25	0.41	4.84	3.75	3.78	1.938	0.50	9.89	9.00	7.37	1/2 X 3.00
832	5.75	0.54	0.07	8.05	10.22	3.25	1.54	1.91	3.50	0.41	5.02	3.94	4.03	1.938	0.50	9.89	9.00	7.37	1/2 X 3.00
842	6.13	0.63	0.06	9.18	12.78	4.25	2.06	2.28	4.44	0.56	6.10	4.25	4.56	2.188	0.62	12.95	11.50	9.65	1/2 X 3.00
852	7.19	0.97	0.34	11.57	15.43	5.25	2.63	2.94	5.12	0.69	7.50	5.25	5.62	3.438	0.75	15.50	14.00	11.75	7/8 X 3.44
860∗∗	8.13	0.52	1.38	13.30	18.38	6.00	3.25	3.50	6.50	0.69	N/A	5.75	7.26	3.438	0.75	18.00	15.63	14.00	7/8 X 3.44

STYLE DFHM



ASSEMBLIES

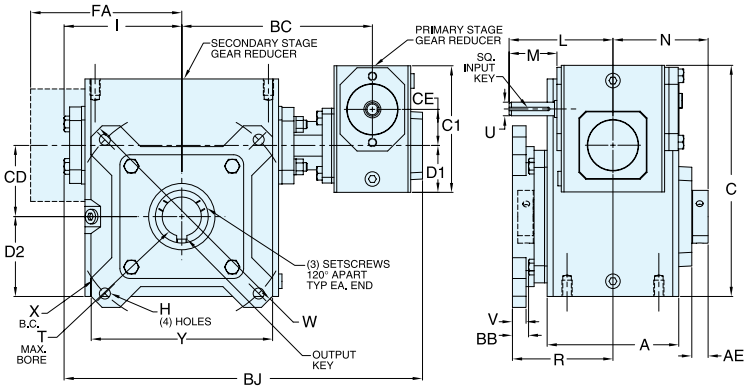


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

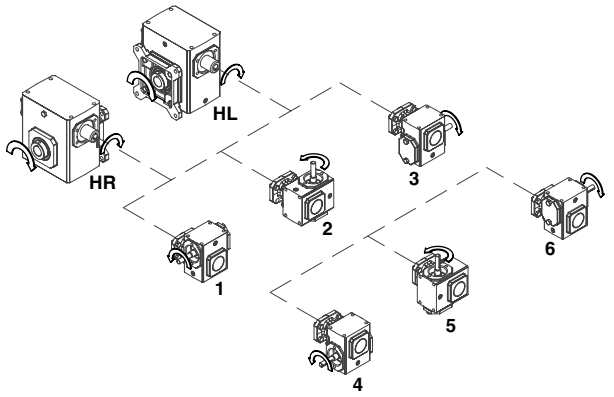
STYLE DFHM DIMENSIONS (Inches)

Series	A	AE	BB	BC	C	CD	CE	D1	D2	H	I	L	N	R	T MAX∗ -0.000 +0.0025	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	0.53	0.08	5.32	5.99	1.33	1.33	1.72	1.72	0.34	2.61	3.82	2.38	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.50
815	3.44	0.51	1.22	5.85	6.38	1.54	1.33	1.72	1.91	0.34	3.14	3.82	2.71	4.01	0.625	0.500	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.50
818	3.56	0.49	0.11	5.94	6.75	1.75	1.33	1.72	2.06	0.34	3.24	3.82	2.75	3.18	1.000	0.500	0.38	6.64	5.88	5.00	3/16 X 1.38	1/4 X 3.00
821	3.81	0.61	0.55	6.32	7.28	2.06	1.33	1.72	2.28	0.41	3.61	3.82	3.00	3.69	1.438	0.500	0.44	7.88	7.00	5.99	3/16 X 1.38	3/8 X 3.00
824	4.06	0.51	0.51	6.44	7.81	2.38	1.33	1.72	2.50	0.41	3.77	3.82	3.00	3.73	1.438	0.500	0.44	8.39	7.50	6.27	3/16 X 1.63	3/8 X 3.00
826	4.84	0.60	0.04	7.01	8.50	2.63	1.33	1.72	2.94	0.41	4.34	3.82	3.50	3.70	1.438	0.500	0.50	8.88	8.00	6.67	3/16 X 1.63	3/8 X 3.00
830	5.25	0.60	0.07	7.86	9.72	3.00	1.54	1.91	3.25	0.41	4.84	4.35	3.75	3.78	1.938	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
832	5.75	0.54	0.07	8.05	10.22	3.25	1.54	1.91	3.50	0.41	5.02	4.35	3.94	4.03	1.938	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
842	6.13	0.63	0.06	9.18	12.78	4.25	2.06	2.28	4.44	0.56	6.10	4.82	4.25	4.56	2.188	0.625	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 3.00
852	7.19	0.97	0.34	11.57	15.43	5.25	2.63	2.94	5.12	0.69	7.50	6.07	5.25	5.62	3.438	0.750	0.75	15.50	14.00	11.75	1/4 X 3.00	7/8 X 3.44
860∗∗	8.13	0.52	1.38	13.30	18.38	6.00	3.25	3.50	6.50	0.69	N/A	6.76	5.75	7.26	3.438	0.875	0.75	18.00	15.63	14.00	3/8 X 3.00	7/8 X 3.44

STYLE DFH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFH DIMENSIONS (Inches)

Series	A	AE	BB	BC	BJ	C	CD	CE	C1	D1	D2	H	I	L	M	N	R	T MAX✳ -0.000 +0.0025	U +0.000 -0.0015	V	W	X	Y	Input Key	Output Key
813	2.82	0.53	0.08	5.32	9.77	5.99	1.33	1.33	4.66	1.72	1.72	0.34	2.61	3.82	1.76	2.38	2.52	0.625	0.500	0.38	5.92	5.00	4.50	1/8 X 1.00	3/16 X 1.50
815	3.44	0.51	1.22	5.85	10.83	6.38	1.54	1.33	4.66	1.72	1.91	0.34	3.14	3.82	1.76	2.71	4.01	0.625	0.500	0.38	5.88	5.00	4.50	3/16 X 1.38	3/16 X 1.50
818	3.56	0.49	0.11	5.94	11.03	6.75	1.75	1.33	4.66	1.72	2.06	0.34	3.24	3.82	1.76	2.75	3.18	1.000	0.500	0.38	6.64	5.88	5.00	3/16 X 1.38	1/4 X 3.00
821	3.81	0.61	0.55	6.32	11.77	7.28	2.06	1.33	4.66	1.72	2.28	0.41	3.61	3.82	1.76	3.00	3.69	1.438	0.500	0.44	7.88	7.00	5.99	3/16 X 1.38	3/8 X 3.00
824	4.06	0.51	0.51	6.44	12.06	7.81	2.38	1.33	4.66	1.72	2.50	0.41	3.77	3.82	1.76	3.00	3.73	1.438	0.500	0.44	8.39	7.50	6.27	3/16 X 1.63	3/8 X 3.00
826	4.84	0.60	0.04	7.01	13.19	8.50	2.63	1.33	4.66	1.72	2.94	0.41	4.34	3.82	1.76	3.50	3.70	1.438	0.500	0.50	8.88	8.00	6.67	3/16 X 1.63	3/8 X 3.00
830	5.25	0.60	0.07	7.86	14.90	9.72	3.00	1.54	5.38	1.91	3.25	0.41	4.84	4.35	1.76	3.75	3.78	1.938	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
832	5.75	0.54	0.07	8.05	15.27	10.22	3.25	1.54	5.38	1.91	3.50	0.41	5.02	4.35	1.76	3.94	4.03	1.938	0.625	0.50	9.89	9.00	7.37	3/16 X 1.63	1/2 X 3.00
842	6.13	0.63	0.06	9.18	17.67	12.78	4.25	2.06	6.38	2.28	4.44	0.56	6.10	4.82	1.76	4.25	4.56	2.188	0.625	0.62	12.95	11.50	9.65	1/4 X 2.50	1/2 X 3.00
852	7.19	0.97	0.34	11.57	21.97	15.43	5.25	2.63	8.00	2.94	5.12	0.69	7.50	6.07	2.38	5.25	5.62	3.438	0.750	0.75	15.50	14.00	11.75	1/4 X 3.00	7/8 X 3.44
860**	8.13	0.52	1.38	13.30	26.94✇	18.38	6.00	3.25	9.38	3.50	6.50	0.69	N/A	6.76	2.38	5.75	7.26	3.438	0.875	0.75	18.00	15.63	14.00	3/8 X 3.00	7/8 X 3.44

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 48CZ	LM 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	LQ1 180TC	LQ1 210TC	RQ 48CZ/56C/140TC	RQ 180TC	RQ 210TC
813	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
815	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
818	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
821	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
824	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
826	5.63	6.07	N/A	3.46	N/A	N/A	3.09	N/A	N/A
830	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
832	6.16	6.60	N/A	3.99	N/A	N/A	3.62	N/A	N/A
842	6.63	7.07	N/A	4.46	N/A	N/A	4.06	N/A	N/A
852	N/A	8.32	9.32	5.19◆	5.62	N/A	4.82◆	5.13	N/A
860	N/A	9.01	10.01	5.88◆	6.31	6.75	5.51◆	5.81	6.25

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■
813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07
860	N/A	4.97	5.59	5.59	5.99	N/A	4.78	5.41	5.41	5.76

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

** Series 860 reducers are supplied with a fan. Dimension FA=11.13"
✳ For additional bore sizes available, refer to page 107.
✇ To back of fan
▲ Keyway width by depth
❖ Metric input flange options are available on quill input styles only.
◆ 48CZ not available
■ Also applies to frame size D112MD
● Dimensions in millimeters (mm).

DOUBLE REDUCTION • WORM / WORM
WEIGHTS

DOUBLE REDUCTION • WORM/WORM • APPROXIMATE WEIGHTS∆ (LBS.)

Reducer Style	Reducer Size										
	813	815	818	821	824	826	830	832	842	852	860
Solid Output Shaft											
DMQ	26	31	34	39	55	68	93	103	158	291	393
DM	30	35	38	43	59	72	97	108	162	292	404
D	25	30	33	38	52	65	90	101	155	283	389
DFMQ	29	34	37	43	65	78	109	119	178	309	416
DFM	33	38	41	47	69	82	113	124	182	310	427
DF	28	33	36	42	62	75	106	117	175	301	412
DJMQ	27	34	36	42	58	78	99	109	207	309	416
DJM	31	38	40	46	62	82	103	114	211	310	427
DJ	26	33	35	41	55	75	96	107	204	301	412
DTMQ & DUMQ	29	34	37	42	63	78	109	119	176	313	424
DTM & DUM	33	38	41	46	67	82	113	124	180	314	435
DT & DU	28	33	36	41	60	75	106	117	173	305	420
DBFMQ	32	---	40	49	65	81	---	---	---	---	---
DBFM	36	---	46	53	69	85	---	---	---	---	---
DBF	31	---	39	48	62	78	---	---	---	---	---
DVHMQ & DVLMQ	30	36	38	47	63	79	107	120	194	326	431
DVHM & DVLM	34	40	42	51	67	83	111	122	198	327	442
DVH & DVL	29	35	37	46	60	76	104	115	191	318	427
Hollow Output Shaft											
DHMQ	26	31	34	39	55	68	93	103	158	291	393
DHM	30	35	38	43	59	72	97	108	162	292	404
DH	25	30	33	38	52	65	90	101	155	283	389
DFHMQ	27	34	38	44	66	76	109	119	178	309	416
DFHM	31	38	42	48	70	80	113	124	182	310	427
DFH	26	33	37	43	63	73	106	117	175	301	412
DBFHMQ	32	---	40	49	65	81	---	---	---	---	---
DBFHM	36	---	46	53	69	85	---	---	---	---	---
DBFH	31	---	39	48	62	78	---	---	---	---	---

∆ Weights include oil.

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size										
	813	815	818	821	824	826	830	832	842	852	860
T/U	3	3	3	3	8	10	16	16	18	22	31
J	1	2	2	3	3	4	6	6	11	18	--
VL/VH	4	4	4	8	8	11	14	14	28	36	36
F (Cast Iron)	1	2	3	4	5	5	16	16	12	28	12
BF (Steel)	2	--	4	4	7	9	--	--	--	--	--
R	--	7	7	9	9	17	15	31	24	15	--

HOLLOW SHAFT BORE SIZES (Inches)*

Fraction Size	Decimal Size	Output Bore Code	813	815	818	821	824	826	830	832	842	852	860	Keyway**
5/8	0.625	10	■	■	■									3/16 x 3/32
11/16	0.688	11			■									3/16 x 3/32
3/4	0.750	12			■									3/16 x 3/32
7/8	0.875	14			■									3/16 x 3/32
1	1.000	16			■	■	■	■						1/4 x 1/8
1-1/8	1.125	18				■	■	■						1/4 x 1/8
1-3/16	1.188	19				■	■	■	■	■				1/4 x 1/8
1-1/4	1.250	20				■	■	■	■	■				1/4 x 1/8
1-7/16	1.438	23				■	■	■	■	■	■			3/8 x 3/16
1-1/2	1.500	24							■	■	■			3/8 x 3/16
1-5/8	1.625	26							■	■	■			3/8 x 3/16
1-11/16	1.688	27							■	■	■			3/8 x 3/16
1-3/4	1.750	28							■	■	■			3/8 x 3/16
1-7/8	1.875	30									■			1/2 x 1/4
1-15/16	1.938	31							■	■	■			1/2 x 1/4
2	2.000	32									■	■	■	1/2 x 1/4
2-3/16	2.188	35									■	■	■	1/2 x 1/4
2-1/4	2.250	36										■	■	1/2 x 1/4
2-7/16	2.438	39										■	■	5/8 x 5/16
2-1/2	2.500	40										■	■	5/8 x 5/16
2-11/16	2.688	43										■	■	5/8 x 5/16
2-15/16	2.938	47										■	■	3/4 x 3/8
3	3.000	48										■	■	3/4 x 3/8
3-3/16	3.188	51										■	■	3/4 x 3/8
3-7/16	3.438	55										■	■	7/8 x 7/16

■ Stock Bore Sizes.

* Other bore sizes are available. Contact LEESON for sizes and availability.

** Dimensions refer to customer driven shaft.

NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above. Refer to page 82 for complete model number description.

DOUBLE REDUCTION • HELICAL / WORM SOLID SHAFT OUTPUT

LEESON
OHIO GEAR™

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DXMQ, DXM and DX can be field or factory modified into a wide range of styles.*

Horizontal Base Worm Over

MOTORIZED C FLANGE QUILL INPUT

Style DXMQ

Ratings: Pages 111-113
Dimensions: Page 116

Style DXTMQ

Ratings: Pages 111-113
Dimensions: Page 118

MOTORIZED C FLANGE FLEXIBLE COUPLING INPUT

Style DXM

Ratings: Pages 111-113
Dimensions: Page 116

Style DXTM

Ratings: Pages 111-113
Dimensions: Page 118

NON-FLANGED

Style DX

Ratings: Pages 111-113
Dimensions: Page 117

Style DXT

Ratings: Pages 111-113
Dimensions: Page 119

***Additional accessories, options and assembly services are available, contact LEESON for details.**

LEESON 800 Series Gear Reducer Model Number Nomenclature

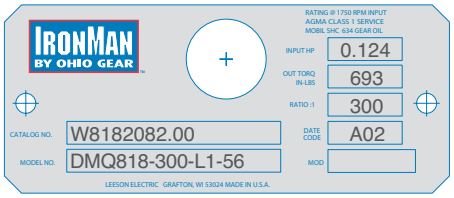
All stock and custom 800 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been factory modified by the addition of an optional base for example, the modification number T818, for example, is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, W8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, W8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from LEESON by catalog number.

TYPICAL NAMEPLATE



Style

SOLID OUTPUT SHAFT
DXMQ – Motorized, Quill Input
DXM – Motorized, Flexible Coupling Input
DX – Non-Flanged
See page 108 for other styles.

HOLLOW OUTPUT SHAFT

Contact LEESON for Hollow Output Shaft availability.

Series

CAST IRON 800 SERIES CENTER DISTANCES

Series	Center Distance (Inches)
813	1.33
815	1.50
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
860	6.00

Ratio

See Selection Tables on pages 111-113, for all available ratios.

Output Shaft Orientation

L – Left-hand Output Shaft*
R – Right-hand Output Shaft*
D – Double Output Shaft
* Viewed from drive end of reducer.

Mounting Assembly

Assembly numbers 1-6 are available. Refer to dimension layouts on pages 116 - 119.

Motor Flange

NEMA Input Flange Code	For NEMA Frame
48	48C
56	56C
140	143-5TC
180	182-4TC
210	213-5TC
250	254-6TC

Sample Model Number

Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.75" Center Distance, 300:1 Ratio, Left Hand Output Shaft, Right Angle Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DXMQ	818	300	L	1	56
Style	Series	Ratio	Output Shaft	Mounting Assembly	Motor Input Flange

DOUBLE REDUCTION • HELICAL / WORM
"HOW TO USE"
MAXIMUM RATING TABLES

LEESON
OHIO GEAR™

How To Use Maximum Rating Tables

Maximum Rating Tables for Double Reduction Gear Reducers are shown on pages 111-113. Selection of the appropriate gear reducer can be made using these tables or the Quick Selection Tables (page 114).

BEFORE YOU START:

Identify the Service Factor of the application (see page 174).

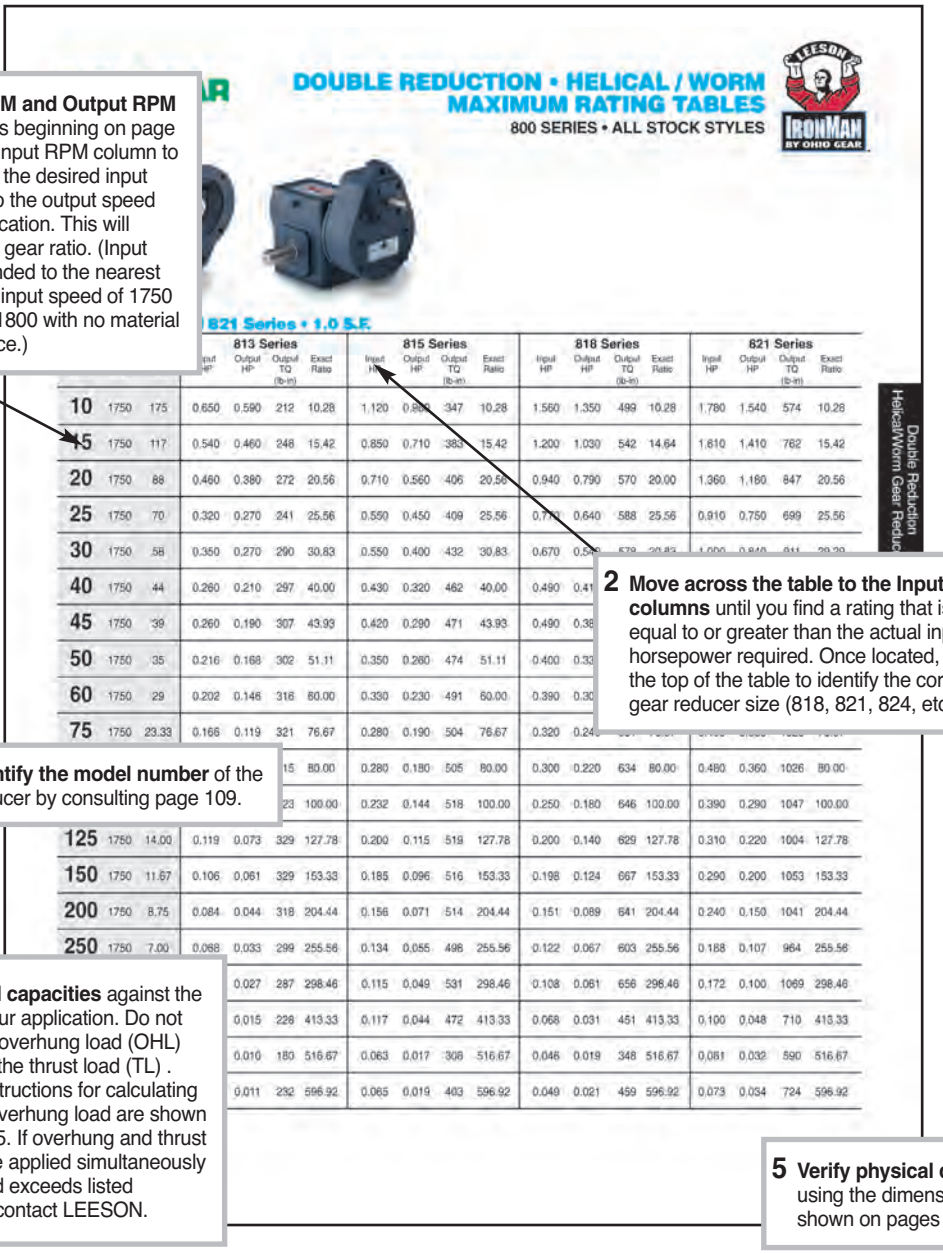
Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style charts shown on page 108.

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

1 Locate the Input RPM and Output RPM columns in the charts beginning on page 111. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. This will establish your overall gear ratio. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)


DOUBLE REDUCTION • HELICAL / WORM
MAXIMUM RATING TABLES
800 SERIES • ALL STOCK STYLES

821 Series • 1.0 S.F.

			813 Series				815 Series				818 Series				821 Series			
	Input RPM	Output RPM	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio
10	1750	175	0.650	0.590	212	10.28	1.120	0.960	347	10.28	1.560	1.350	499	10.28	1.780	1.540	574	10.28
15	1750	117	0.540	0.460	248	15.42	0.850	0.710	383	15.42	1.200	1.030	542	14.64	1.610	1.410	762	15.42
20	1750	88	0.460	0.380	272	20.56	0.710	0.560	406	20.56	0.940	0.790	570	20.00	1.360	1.160	847	20.56
25	1750	70	0.320	0.270	241	25.56	0.550	0.450	409	25.56	0.770	0.640	588	25.56	0.910	0.750	699	25.56
30	1750	58	0.350	0.270	290	30.83	0.550	0.400	432	30.83	0.670	0.500	578	30.83	1.000	0.840	811	29.29
40	1750	44	0.260	0.210	297	40.00	0.430	0.320	462	40.00	0.490	0.41						
45	1750	39	0.260	0.190	307	43.93	0.420	0.290	471	43.93	0.490	0.38						
50	1750	35	0.216	0.168	302	51.11	0.350	0.260	474	51.11	0.400	0.33						
60	1750	29	0.202	0.148	316	60.00	0.330	0.230	491	60.00	0.390	0.30						
75	1750	23.33	0.166	0.119	321	76.67	0.280	0.190	504	76.67	0.320	0.24						
					15	80.00	0.280	0.180	505	80.00	0.300	0.220	634	80.00	0.480	0.360	1026	80.00
					23	100.00	0.232	0.144	518	100.00	0.250	0.180	646	100.00	0.390	0.290	1047	100.00
125	1750	14.00	0.119	0.073	329	127.78	0.200	0.115	519	127.78	0.200	0.140	629	127.78	0.310	0.220	1004	127.78
150	1750	11.67	0.106	0.061	329	153.33	0.185	0.096	516	153.33	0.198	0.124	667	153.33	0.290	0.200	1053	153.33
200	1750	8.75	0.084	0.044	318	204.44	0.156	0.071	514	204.44	0.151	0.089	641	204.44	0.240	0.150	1041	204.44
250	1750	7.00	0.088	0.033	299	255.56	0.134	0.055	498	255.56	0.122	0.067	603	255.56	0.188	0.107	964	255.56
				0.027	287	298.46	0.115	0.049	531	298.46	0.108	0.061	656	298.46	0.172	0.100	1069	298.46
				0.015	228	413.33	0.117	0.044	472	413.33	0.068	0.031	451	413.33	0.100	0.048	710	413.33
				0.010	180	516.67	0.063	0.017	308	516.67	0.046	0.019	348	516.67	0.061	0.032	590	516.67
				0.011	232	596.92	0.065	0.019	403	596.92	0.049	0.021	459	596.92	0.073	0.034	724	596.92

2 Move across the table to the Input HP columns until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (818, 821, 824, etc.).

3 Identify the model number of the reducer by consulting page 109.

4 Check load capacities against the needs of your application. Do not exceed the overhung load (OHL) capacity or the thrust load (TL) . Detailed instructions for calculating the actual overhung load are shown on page 175. If overhung and thrust loads will be applied simultaneously or if the load exceeds listed capacities, contact LEESON.

5 Verify physical dimensions using the dimensional drawings shown on pages 116-119.

LEESON

OHIO GEAR™

DOUBLE REDUCTION • HELICAL / WORM MAXIMUM RATING TABLES

800 SERIES • ALL STOCK STYLES

813, 815, 818 and 821 Series • 1.0 S.F.

Nominal Ratio	Input RPM	Nominal Output RPM	813 Series				815 Series				818 Series				821 Series			
			Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio
10	1750	175	0.650	0.590	212	10.28	1.120	0.960	347	10.28	1.560	1.350	499	10.28	1.780	1.540	574	10.28
15	1750	117	0.540	0.460	248	15.42	0.850	0.710	383	15.42	1.200	1.030	542	14.64	1.610	1.410	762	15.42
20	1750	88	0.460	0.380	272	20.56	0.710	0.560	406	20.56	0.940	0.790	570	20.00	1.360	1.180	847	20.56
25	1750	70	0.320	0.270	241	25.56	0.550	0.450	409	25.56	0.770	0.640	588	25.56	0.910	0.750	699	25.56
30	1750	58	0.350	0.270	290	30.83	0.550	0.400	432	30.83	0.670	0.540	578	30.83	1.000	0.840	911	29.29
40	1750	44	0.260	0.210	297	40.00	0.430	0.320	462	40.00	0.490	0.410	584	40.00	0.790	0.660	944	40.00
45	1750	39	0.260	0.190	307	43.93	0.420	0.290	471	43.93	0.490	0.380	618	43.93	0.750	0.600	973	43.93
50	1750	35	0.216	0.168	302	51.11	0.350	0.260	474	51.11	0.400	0.330	595	51.11	0.650	0.540	965	51.11
60	1750	29	0.202	0.146	316	60.00	0.330	0.230	491	60.00	0.390	0.300	638	60.00	0.590	0.470	1007	60.00
75	1750	23.33	0.166	0.119	321	76.67	0.280	0.190	504	76.67	0.320	0.240	651	76.67	0.490	0.380	1028	76.67
80	1750	21.88	0.160	0.109	315	80.00	0.280	0.180	505	80.00	0.300	0.220	634	80.00	0.480	0.360	1026	80.00
100	1750	17.50	0.143	0.090	323	100.00	0.232	0.144	518	100.00	0.250	0.180	646	100.00	0.390	0.290	1047	100.00
125	1750	14.00	0.119	0.073	329	127.78	0.200	0.115	519	127.78	0.200	0.140	629	127.78	0.310	0.220	1004	127.78
150	1750	11.67	0.106	0.061	329	153.33	0.185	0.096	516	153.33	0.198	0.124	667	153.33	0.290	0.200	1053	153.33
200	1750	8.75	0.084	0.044	318	204.44	0.156	0.071	514	204.44	0.151	0.089	641	204.44	0.240	0.150	1041	204.44
250	1750	7.00	0.068	0.033	299	255.56	0.134	0.055	498	255.56	0.122	0.067	603	255.56	0.188	0.107	964	255.56
300	1750	5.83	0.060	0.027	287	298.46	0.115	0.049	531	298.46	0.108	0.061	656	298.46	0.172	0.100	1069	298.46
400	1750	4.38	0.040	0.015	228	413.33	0.117	0.044	472	413.33	0.068	0.031	451	413.33	0.100	0.048	710	413.33
500	1750	3.50	0.030	0.010	180	516.67	0.063	0.017	308	516.67	0.046	0.019	348	516.67	0.081	0.032	590	516.67
600	1750	2.92	0.029	0.011	232	596.92	0.065	0.019	403	596.92	0.049	0.021	459	596.92	0.073	0.034	724	596.92

DOUBLE REDUCTION • HELICAL / WORM
MAXIMUM RATING TABLES
800 SERIES • ALL STOCK STYLES

824, 826, 830 and 832 Series • 1.0 S.F.

Nominal Ratio	Input RPM	Nominal Output RPM	824 Series				826 Series				830 Series				832 Series			
			Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio
10	1750	175	2.92	2.60	935	10.00	3.57	3.30	1187	10.33	5.08	4.57	1645	10.00	6.99	6.30	2343	10.33
15	1750	117	2.46	2.16	1166	15.00	3.09	2.73	1474	15.00	4.56	4.03	2180	15.00	5.92	5.26	2839	15.00
20	1750	88	2.11	1.82	1309	20.00	2.73	2.37	1707	20.00	3.97	3.45	2488	20.00	5.19	4.56	3287	20.00
25	1750	70	1.49	1.29	1160	25.00	1.86	1.66	1495	25.83	2.75	2.40	2157	25.00	3.83	3.35	3117	25.83
30	1750	58	1.52	1.32	1427	29.13	1.99	1.74	1876	29.13	2.93	2.56	2771	29.13	3.85	3.41	3680	29.13
40	1750	44	1.23	1.03	1490	40.00	1.61	1.36	1966	40.00	2.39	2.03	2924	40.00	3.14	2.70	3894	40.00
45	1750	39	1.14	0.940	1525	43.70	1.40	1.19	1925	43.7	2.23	1.87	3026	43.7	2.97	2.50	4044	43.7
50	1750	35	1.02	0.850	1529	50.00	1.34	1.12	2023	50.00	2.00	1.68	3020	50.00	2.64	2.24	4028	50.00
60	1750	29	0.920	0.740	1589	60.00	1.18	0.950	2048	58.26	1.82	1.47	3181	60.00	2.44	1.98	4284	60.00
75	1750	23.33	0.770	0.600	1629	75.00	0.940	0.760	2047	75.00	1.52	1.21	3279	75.00	2.06	1.64	4434	75.00
80	1750	21.88	0.740	0.560	1611	80.00	0.950	0.740	2133	80.00	1.43	1.10	3186	80.00	1.89	1.47	4247	80.00
100	1750	17.50	0.620	0.460	1650	100.00	0.800	0.610	2186	100.00	1.21	0.910	3284	100.00	1.59	1.22	4385	100.00
125	1750	14.00	0.510	0.360	1627	125.00	0.650	0.480	2139	125.00	1.03	0.750	3359	125.00	1.30	0.960	4312	125.00
150	1750	11.67	0.470	0.310	1669	150.00	0.550	0.390	2100	150.00	0.900	0.620	3362	150.00	1.23	0.840	4547	150.00
200	1750	8.75	0.380	0.230	1640	200.00	0.480	0.300	2174	200.00	0.730	0.450	3266	200.00	0.950	0.610	4361	200.00
250	1750	7.00	0.310	0.170	1562	250.00	0.390	0.230	2054	250.00	0.620	0.360	3226	250.00	0.770	0.460	4141	250.00
300	1750	5.83	0.280	0.160	1688	287.27	0.320	0.180	1912	300.00	0.530	0.280	3062	300.00	0.640	0.360	3868	300.00
400	1750	4.38	0.176	0.092	1428	430.91	0.240	0.130	1964	430.91	0.400	0.200	3172	430.91	0.480	0.260	4006	430.91
500	1750	3.50	0.110	0.049	0.877	500.00	0.137	0.064	1157	500.00	0.240	0.110	1157	500.00	0.270	0.130	2326	500.00
600	1750	2.92	0.122	0.056	1164	574.55	0.154	0.075	1542	574.55	0.270	0.130	2618	574.55	0.310	0.150	3112	574.55

DOUBLE REDUCTION • HELICAL / WORM
MAXIMUM RATING TABLES

800 SERIES • ALL STOCK STYLES

842, 852 and 860 Series • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	842 Series Input HP	842 Series Output HP	842 Series Output TQ (lb-in)	842 Series Exact Ratio	852 Series Input HP	852 Series Output HP	852 Series Output TQ (lb-in)	852 Series Exact Ratio	860 Series Input HP	860 Series Output HP	860 Series Output TQ (lb-in)	860 Series Exact Ratio
10	1750	175	11.89	10.89	4051	10.33	20.00	18.39	6789	10.25	20.00	18.46	6649	10.00
15	1750	117	10.79	9.74	5263	15.00	18.26	16.59	8961	15.00	20.00	18.25	9858	15.00
20	1750	88	9.80	8.74	6295	20.00	14.87	13.25	9542	20.00	18.05	16.18	11653	20.00
25	1750	70	6.99	6.17	5933	26.69	10.07	8.97	8550	26.48	10.07	8.80	8187	25.83
30	1750	58	7.14	6.13	6620	30.00	11.35	10.01	10818	30.00	13.43	11.61	12544	30.00
40	1750	44	6.26	5.42	7896	40.45	10.63	9.16	13343	40.45	11.35	9.83	14316	40.45
50	1750	35	5.19	4.38	8156	51.67	9.04	7.69	14312	51.67	10.07	8.60	16001	51.67
60	1750	29	4.62	3.81	8319	60.68	7.98	6.54	14282	60.68	10.06	8.32	18176	60.68
75	1750	23.33	3.84	3.24	8788	75.38	6.69	5.49	15334	77.50	8.68	7.06	19700	77.50
80	1750	21.88	3.75	2.97	8642	80.90	6.42	5.00	14569	80.86	8.10	6.40	18647	80.90
100	1750	17.50	3.12	2.43	9034	103.33	5.50	4.19	15597	103.33	6.70	5.41	20122	103.33
125	1750	14.00	2.55	1.91	8879	129.17	4.65	3.37	15677	129.17	5.91	4.35	20229	129.17
150	1750	11.67	2.31	1.75	9510	150.77	4.21	3.10	16856	150.77	5.41	4.05	21969	150.77
200	1750	8.75	1.85	1.21	8989	206.67	3.32	2.09	15515	206.67	4.19	2.69	20026	206.67
250	1750	7.00	1.50	0.920	8530	258.33	2.80	1.62	15057	258.33	3.53	2.09	19434	258.33
300	1750	5.83	1.40	0.870	9456	301.54	2.59	1.54	16757	301.54	3.30	2.01	21844	301.54
400	1750	4.38	0.780	0.420	6210	413.33	1.72	0.797	11864	413.33	2.19	1.08	16037	413.33
500	1750	3.50	0.530	0.260	4782	516.67	1.21	0.522	9707	516.67	1.56	0.692	12884	516.67
600	1750	2.92	0.590	0.300	6488	603.08	1.37	0.590	12810	603.08	1.75	0.801	17397	603.08

DOUBLE REDUCTION • HELICAL / WORM QUICK SELECTION GUIDE

LEESON
OHIO GEAR™

1.00 SERVICE FACTOR • DOUBLE REDUCTION • HELICAL/WORM

Overall Ratio	Nominal Output RPM	INPUT HORSEPOWER @ 1750 RPM												
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10
10	175	813	813	813	813	813	815	815	818	824	826	830	842	852
15	117	813	813	813	813	813	815	818	821	824	826	832	842	852
20	88	813	813	813	813	815	818	821	824	824	830	832	842	852
25	70	813	813	813	815	815	818	824	824	830	832	842	852	852
30	58	813	813	813	813	815	821	821	824	826	832	842	852	852
40	44	813	813	813	815	818	821	824	826	830	832	842	852	852
45	39	813	813	813	815	818	821	824	830	830	832	N/A	N/A	N/A
50	35	813	813	815	815	821	824	824	830	830	842	842	852	860
60	29	813	813	815	815	821	824	826	830	832	842	852	852	860
75	23.33	813	813	815	821	824	824	830	830	832	842	852	860	
80	21.88	813	815	815	821	824	826	830	832	842	842	852	860	
100	17.5	813	815	818	821	824	826	830	832	842	842	852		
125	14	815	815	821	824	824	830	830	842	842	852	860		
150	11.67	815	815	821	824	826	830	832	842	842	852	860		
200	8.75	815	821	824	824	830	832	842	842	852	852			
250	7	815	821	824	826	830	832	842	842	852	860			
300	5.83	821	821	824	830	830	842	842	852	852	860			
400	4.38	824	824	830	830	842	842	852	852	860				
500	3.50	826	830	832	842	842	852	852	860					
600	2.92	826	830	830	842	842	852	852	860					

How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate 800 Series model. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 173 or your LEESON representative with specific application information.

Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

1.25 SERVICE FACTOR • DOUBLE REDUCTION • HELICAL/WORM

Overall Ratio	Nominal Output RPM	INPUT HORSEPOWER @ 1750 RPM												
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10
10	175	813	813	813	813	813	815	818	824	824	830	832	842	852
15	117	813	813	813	813	815	818	821	824	824	830	842	842	852
20	88	813	813	813	813	815	818	821	824	826	830	842	842	852
25	70	813	813	813	815	818	824	824	826	830	832	842	852	
30	58	813	813	813	815	818	821	824	826	830	832	842	852	860
40	44	813	813	815	815	821	824	824	830	832	842	842	852	
45	39	813	815	815	815	821	824	826	830	832				
50	35	813	815	815	821	821	824	826	830	832	842	852	860	
60	29	813	815	815	821	824	826	830	830	842	842	852	860	
75	23.33	813	815	818	821	824	826	830	832	842	842	852		
80	21.88	813	815	821	821	824	826	830	832	842	842	852		
100	17.5	815	815	821	824	826	830	832	842	842	852	860		
125	14	815	821	821	824	826	830	832	842	842	852			
150	11.67	815	821	824	824	830	832	832	842	852	852			
200	8.75	815	821	824	826	830	832	842	842	852	860			
250	7	821	824	824	830	832	842	842	852	852				
300	5.83	821	824	826	830	832	842	842	852	852				
400	4.38	824	826	830	832	842	852	852	860					
500	3.50	830	830	842	842	852	852	860						
600	2.92	826	830	832	842	852	852	852						

800 SERIES REDUCER CENTER DISTANCES

Series	Center Distance (Inch)
813	1.33
815	1.50
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
860	6.00

DOUBLE REDUCTION HELICAL WORM • APPROXIMATE WEIGHTS** (LBS.)

Reducer Style	Reducer Size										
	813	**815**	**818**	**821**	**824**	**826**	**830**	**832**	**842**	**852**	**860**
Solid Output Shaft											
DXMQ	37	42	44	50	71	84	105	108	184	285	382
DXM	--	--	--	--	74	89	110	113	189	290	387
DX	--	--	--	--	69	82	103	106	180	281	378
DXTMQ	41	44	46	53	79	94	121	124	194	307	402
DXTM	--	--	--	--	82	99	126	129	199	312	407
DXT	--	--	--	--	77	92	119	122	190	303	398

** Weights include oil.

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

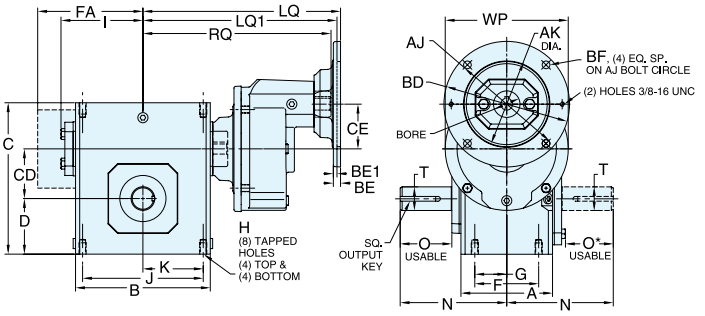
Accessory	Reducer Size										
	813	**815**	**818**	**821**	**824**	**826**	**830**	**832**	**842**	**852**	**860**
T/U	3	3	3	3	8	10	16	16	18	22	31
J	1	2	2	3	3	4	6	6	11	18	--
VL/VH	4	4	4	8	8	11	14	14	28	36	36
F (Cast Iron)	1	2	3	4	5	5	16	16	12	28	12
BF (Steel)	2	--	4	4	7	9	--	--	--	--	--
R	--	7	7	9	9	17	15	31	24	15	--

DOUBLE REDUCTION • HELICAL/WORM • EXACT RATIO COMBINATIONS

Total Ratio	GEAR REDUCER SIZE																					
	813		815		818		821		824		826		830		832		842		852		860	
	P TX1	S 813	P TX1	S 815	P TX1	S 818	P TX1	S 821	P TX2	S 824	P TX2	S 826	P TX2	S 830	P TX2	S 832	P TX3	S 842	P TX3	S 852	P TX3	S 860
10	2.056	5	2.056	5	2.056	5	2.056	5	2.000	5	2.000	5.17	2.000	5	2.000	5.17	2.000	5.17	2.000	5.13	2.000	5
15	2.056	7.5	2.056	7.5	2.929	5	2.056	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5
20	2.056	10	2.056	10	4.000	5	2.056	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10
25	5.111	5	5.111	5	5.111	5	5.111	5	5.000	5	5.000	5.17	5.000	5	5.000	5.17	5.167	5.17	5.167	5.13	5.167	5
30	2.056	15	2.056	15	2.056	15	2.929	10	2.913	10	2.913	10	2.913	10	2.913	10	2.000	15	2.000	15	2.000	15
40	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.045	10	4.045	10	4.045	10
45	2.929	15	2.929	15	2.929	15	2.929	15	2.913	15	2.913	15	2.913	15	2.913	15	--	--	--	--	--	--
50	5.111	10	5.111	10	5.111	10	5.111	10	5.000	10	5.000	10	5.000	10	5.000	10	5.167	10	5.167	10	5.167	10
60	4.000	15	4.000	15	4.000	15	4.000	15	4.000	15	2.913	20	4.000	15	4.000	15	4.045	15	4.045	15	4.045	15
75	5.111	15	5.111	15	5.111	15	5.111	15	5.000	15	5.000	15	5.000	15	5.000	15	7.538	10	5.167	15	5.167	15
80	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.045	20	4.043	20	4.045	20
100	4.000	25	4.000	25	4.000	25	4.000	25	4.000	25	5.000	20	5.000	20	5.000	20	5.167	20	5.167	20	5.167	20
125	5.111	25	5.111	25	5.111	25	5.111	25	5.000	25	5.000	25	5.000	25	5.000	25	5.167	25	5.167	25	5.167	25
150	5.111	30	5.111	30	5.111	30	5.111	30	5.000	30	5.000	30	5.000	30	5.000	30	7.538	20	7.538	20	7.538	20
200	5.111	40	5.111	40	5.111	40	5.111	40	5.000	40	5.000	40	5.000	40	5.000	40	5.167	40	5.167	40	5.167	40
250	5.111	50	5.111	50	5.111	50	5.111	50	5.000	50	5.000	50	5.000	50	5.000	50	5.167	50	5.167	50	5.167	50
300	7.462	40	7.462	40	7.462	40	7.462	40	7.182	40	5.000	60	5.000	60	5.000	60	7.538	40	7.538	40	7.538	40
400	5.167	80	5.167	80	5.167	80	5.167	80	7.182	60	7.182	60	7.182	60	7.182	60	5.167	80	5.167	80	5.167	80
500	5.167	100	5.167	100	5.167	100	5.167	100	5.000	100	5.000	100	5.000	100	5.000	100	5.167	100	5.167	100	5.167	100
600	7.462	80	7.462	80	7.462	80	7.462	80	7.182	80	7.182	80	7.182	80	7.182	80	7.538	80	7.538	80	7.538	80

Note: Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio

STYLE DXMQ



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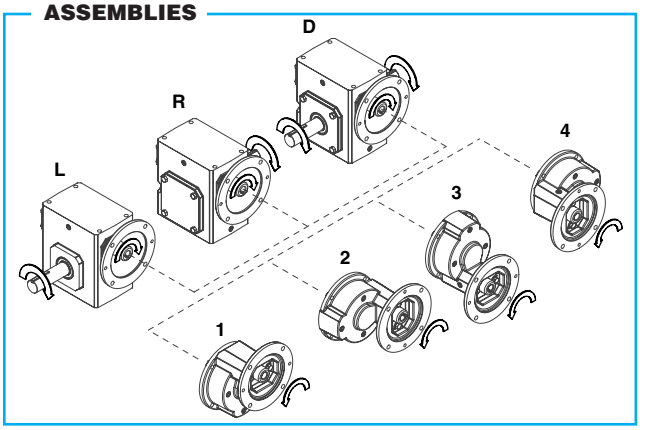
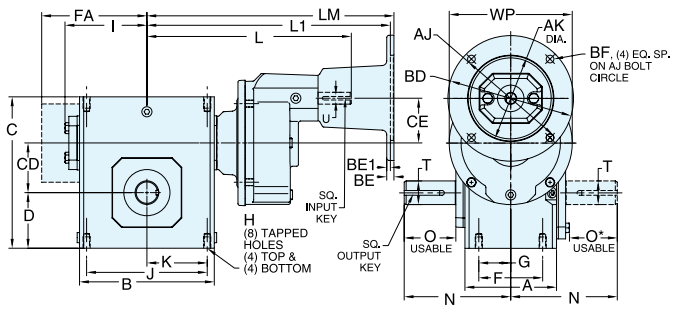


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXMQ DIMENSIONS (Inches)

Series	A	B	C	CD	CE	D	F	G	H Tap Size	H Depth	I	J	K	N	O	O*	T +0.000 -0.0015	WP	Output Key
813	2.82	3.80	4.66	1.33	1.91	1.72	2.00	1.00	5/16-18	0.50	2.61	3.25	1.63	4.00	2.16	1.94	0.625	5.00	3/16 X 1.38
815	3.44	4.88	5.38	1.54	1.91	1.91	2.75	1.38	5/16-18	0.63	3.14	4.19	2.09	4.31	2.11	1.90	0.750	5.00	3/16 X 1.38
818	3.56	5.06	5.75	1.75	1.91	2.06	2.75	1.38	5/16-18	0.63	3.24	4.19	2.09	4.31	2.05	1.84	0.875	5.00	3/16 X 1.38
821	3.81	5.80	6.38	2.06	1.91	2.28	3.00	1.50	5/16-18	0.63	3.61	4.75	2.38	4.68	2.29	2.08	1.000	5.00	1/4 X 1.44
824	4.06	6.12	6.94	2.38	2.36	2.50	2.88	1.44	3/8-16	0.69	3.77	5.00	2.50	5.14	2.66	2.44	1.125	6.50	1/4 X 1.44
826	4.84	7.12	8.00	2.63	2.36	2.94	3.38	1.69	3/8-16	0.69	4.34	6.38	3.19	5.63	2.73	2.52	1.250	6.50	1/4 X 1.44
830	5.25	8.12	8.88	3.00	2.36	3.25	4.00	2.00	7/16-14	0.88	4.84	7.00	3.50	6.75	3.60	3.36	1.250	6.50	1/4 X 1.56
832	5.75	8.50	9.38	3.25	2.36	3.50	4.00	2.00	7/16-14	0.88	5.02	7.50	3.75	7.06	3.66	3.42	1.500	6.50	3/8 X 2.50
842	6.13	10.25	11.38	4.25	2.87	4.44	5.00	2.50	5/8-11	1.00	6.10	8.50	4.25	8.12	4.50	4.21	1.875	8.50	1/2 X 2.50
852	7.19	13.00	14.00	5.25	2.87	5.12	5.81	2.91	5/8-11	1.25	7.50	11.00	5.50	9.06	4.78	4.53	2.000	8.50	1/2 X 2.50
860**	8.13	14.25	16.50	6.00	2.87	6.50	6.38	3.19	5/8-11	1.00	N/A	12.75	6.38	10.00	4.65	4.65	2.500	8.50	5/8 X 4.00

STYLE DXM



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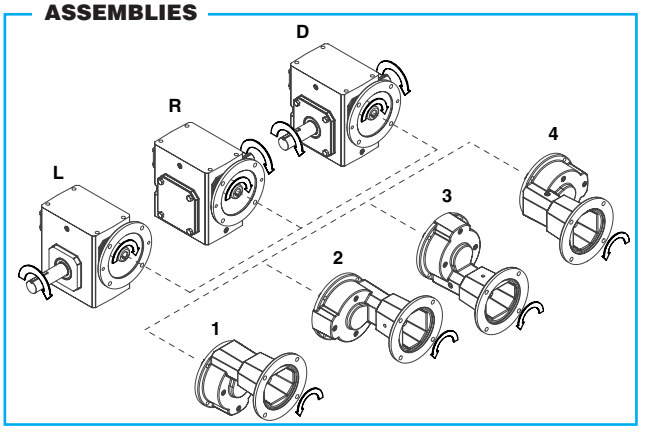
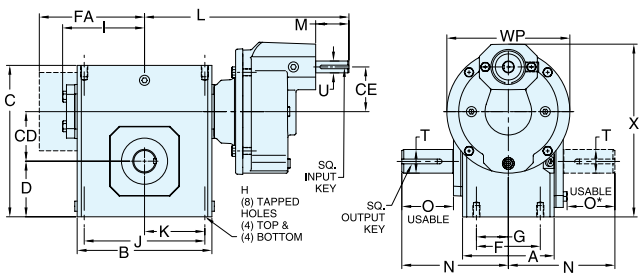


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXM DIMENSIONS (Inches)

Series	A	B	C	CD	CE	D	F	G	H Tap Size	H Depth	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	WP	Input Key	Output Key
824	4.06	6.12	6.94	2.38	2.32	2.50	2.88	1.44	3/8-16	0.69	3.77	5.00	2.50	10.24	5.14	2.66	2.44	1.125	0.625	6.50	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	8.00	2.63	2.36	2.94	3.38	1.69	3/8-16	0.69	4.34	6.38	3.19	10.80	5.63	2.73	2.52	1.250	0.625	6.50	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	8.88	3.00	2.36	3.25	4.00	2.00	7/16-14	0.88	4.84	7.00	3.50	11.30	6.75	3.60	3.36	1.250	0.625	6.50	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	9.38	3.25	2.36	3.50	4.00	2.00	7/16-14	0.88	5.02	7.50	3.75	11.49	7.06	3.66	3.42	1.500	0.625	6.50	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	11.38	4.25	2.87	4.44	5.00	2.50	5/8-11	1.00	6.10	8.50	4.25	16.72	8.12	4.50	4.21	1.875	1.250	8.50	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	14.00	5.25	2.87	5.12	5.81	2.91	5/8-11	1.25	7.50	11.00	5.50	18.12	9.06	4.78	4.53	2.000	1.250	8.50	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	16.50	6.00	2.87	6.50	6.38	3.19	5/8-11	1.00	N/A	12.75	6.38	20.72	10.00	4.65	4.65	2.500	1.250	8.50	3/8 X 3.00	5/8 X 4.00

STYLE DX



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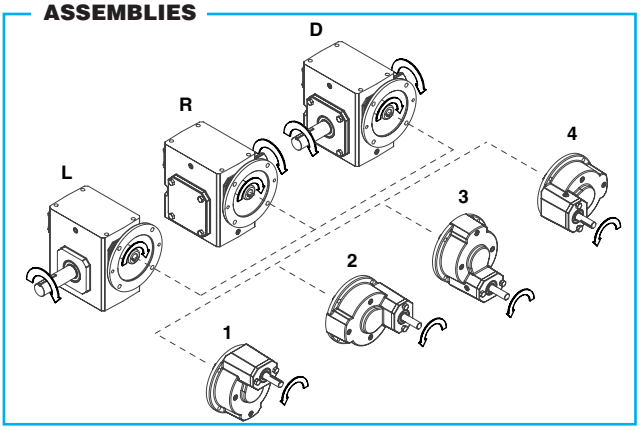


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DX DIMENSIONS (Inches)

Series	A	B	C	CD	CE	D	F	G	H Tap Size	H Depth	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	WP	X	Input Key	Output Key
824	4.06	6.12	6.94	2.38	2.36	2.50	2.88	1.44	3/8-16	0.69	3.77	5.00	2.50	10.24	1.76	5.14	2.66	2.44	1.125	0.625	6.50	8.55	3/16 X 1.63	1/4 X 1.44
826	4.84	7.12	8.00	2.63	2.36	2.94	3.38	1.69	3/8-16	0.69	4.34	6.38	3.19	10.80	1.76	5.63	2.73	2.52	1.250	0.625	6.50	9.24	3/16 X 1.63	1/4 X 1.44
830	5.25	8.12	8.88	3.00	2.36	3.25	4.00	2.00	7/16-14	0.88	4.84	7.00	3.50	11.30	1.76	6.75	3.60	3.36	1.250	0.625	6.50	9.92	3/16 X 1.63	1/4 X 1.56
832	5.75	8.50	9.38	3.25	2.36	3.50	4.00	2.00	7/16-14	0.88	5.02	7.50	3.75	11.49	1.76	7.06	3.66	3.42	1.500	0.625	6.50	10.42	3/16 X 1.63	3/8 X 2.50
842	6.13	10.25	11.38	4.25	2.87	4.44	5.00	2.50	5/8-11	1.00	6.10	8.50	4.25	16.72	3.61	8.12	4.50	4.21	1.875	1.250	8.50	13.47	1/4 X 2.50	1/2 X 2.50
852	7.19	13.00	14.00	5.25	2.87	5.12	5.81	2.91	5/8-11	1.25	7.50	11.00	5.50	18.12	3.61	9.06	4.78	4.53	2.000	1.250	8.50	15.15	1/4 X 3.00	1/2 X 2.50
860**	8.13	14.25	16.50	6.00	2.87	6.50	6.38	3.19	5/8-11	1.00	N/A	12.75	6.38	20.72	3.61	10.00	4.65	4.65	2.500	1.250	8.50	17.28	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 56C/ 140TC	L1 180TC/	L1 210TC	L1 250TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	8.71	N/A	N/A	N/A	8.29	N/A	N/A	N/A	7.79	N/A	N/A	N/A
815	9.24	N/A	N/A	N/A	8.82	N/A	N/A	N/A	8.32	N/A	N/A	N/A
818	9.34	N/A	N/A	N/A	8.92	N/A	N/A	N/A	8.42	N/A	N/A	N/A
821	9.71	N/A	N/A	N/A	9.29	N/A	N/A	N/A	8.79	N/A	N/A	N/A
824	9.88	18.51	N/A	N/A	9.88*	12.82	N/A	N/A	9.38◆	12.31	N/A	N/A
826	10.44	19.07	N/A	N/A	10.44*	13.38	N/A	N/A	9.94◆	12.87	N/A	N/A
830	10.94	19.57	20.01	N/A	10.94*	13.88	14.32	N/A	10.44◆	13.37	13.81	N/A
832	11.13	19.76	20.20	N/A	11.13*	14.07	14.51	N/A	10.63◆	13.56	14.00	N/A
842	11.70	20.66	20.66	21.78	N/A	14.97	14.97	16.09	N/A	14.46	14.46	15.42
852	13.10	22.06	22.06	23.18	N/A	16.37	16.37	17.49	N/A	15.86	15.86	16.82
860	15.70	22.78	22.78	23.95	N/A	17.09	17.09	18.26	N/A	16.58	16.58	17.59

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.64	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.64	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

* Applies to double output shaft

** Series 860 reducers are supplied with a fan. Dimension FA=11.13"

▲ Keyway width by depth

❖ Metric input flange options are available on quill input styles only.

◆ 48CZ not available

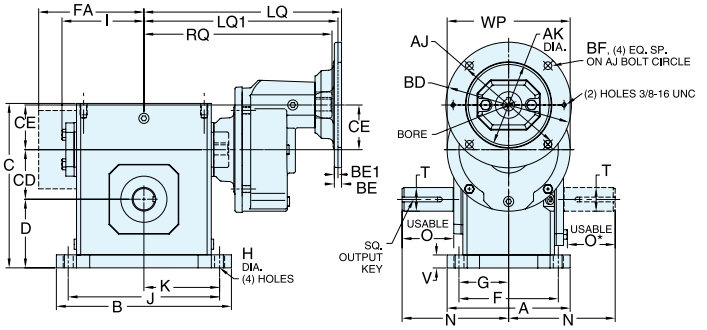
■ Also applies to frame size D112MD

● Dimensions in millimeters (mm).

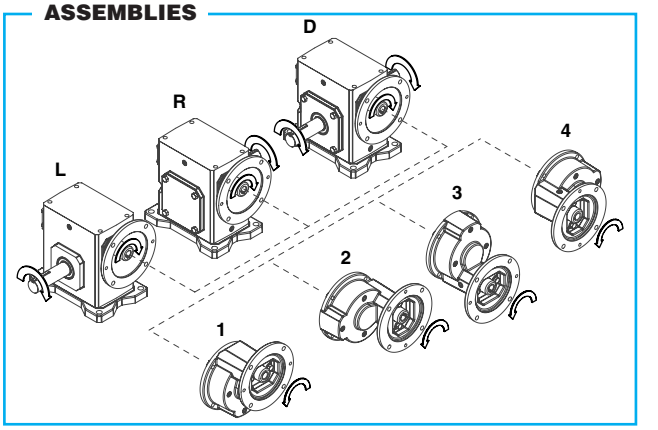
DOUBLE REDUCTION • HELICAL / WORM DIMENSIONS

LEESON
OHIO GEAR™

STYLE DXTMQ



ASSEMBLIES

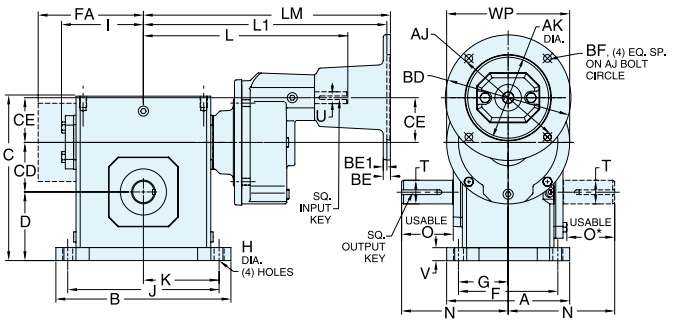


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

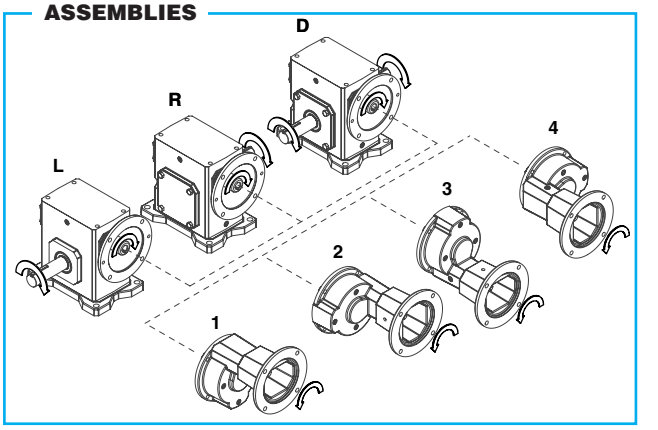
STYLE DXTMQ DIMENSIONS (Inches)

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	N	O	O*	T +0.000 -0.0015	V	WP	Output Key
813	5.38	5.37	5.19	1.33	1.91	2.25	3.31	1.66	0.34	2.61	4.37	2.19	4.00	2.16	1.94	0.625	0.53	5.00	3/16 X 1.38
815	5.56	6.50	5.97	1.54	1.91	2.50	4.31	2.16	0.41	3.14	5.25	2.63	4.31	2.11	1.90	0.750	0.59	5.00	3/16 X 1.38
818	5.75	6.99	6.44	1.75	1.91	2.75	4.50	2.25	0.41	3.24	5.75	2.88	4.31	2.05	1.84	0.875	0.69	5.00	3/16 X 1.38
821	6.00	7.69	7.09	2.06	1.91	3.00	4.69	2.34	0.47	3.61	6.38	3.19	4.68	2.29	2.08	1.000	0.72	5.00	1/4 X 1.44
824	6.19	8.37	7.69	2.38	2.36	3.25	4.88	2.44	0.47	3.77	7.06	3.53	5.14	2.66	2.44	1.125	0.75	6.50	1/4 X 1.44
826	6.50	9.25	8.75	2.63	2.36	3.69	5.25	2.63	0.53	4.34	8.00	4.00	5.63	2.73	2.52	1.250	0.75	6.50	1/4 X 1.44
830	7.50	10.00	9.63	3.00	2.36	4.00	5.88	2.94	0.53	4.84	8.44	4.22	6.75	3.60	3.36	1.250	0.75	6.50	1/4 X 1.56
832	7.75	11.12	10.25	3.25	2.36	4.38	6.13	3.06	0.53	5.02	9.50	4.75	7.06	3.66	3.42	1.500	0.88	6.50	3/8 X 2.50
842	9.75	13.24	12.38	4.25	2.87	5.44	7.63	3.81	0.66	6.10	11.12	5.56	8.12	4.50	4.21	1.875	1.00	8.50	1/2 X 2.50
852	10.50	16.24	15.13	5.25	2.87	6.25	8.38	4.19	0.78	7.50	14.12	7.06	9.06	4.78	4.53	2.000	1.13	8.50	1/2 X 2.50
860**	12.00	18.99	17.75	6.00	2.87	7.75	9.50	4.75	0.91	N/A	16.49	8.25	10.00	4.65	4.65	2.500	1.25	8.50	5/8 X 4.00

STYLE DXTM



ASSEMBLIES

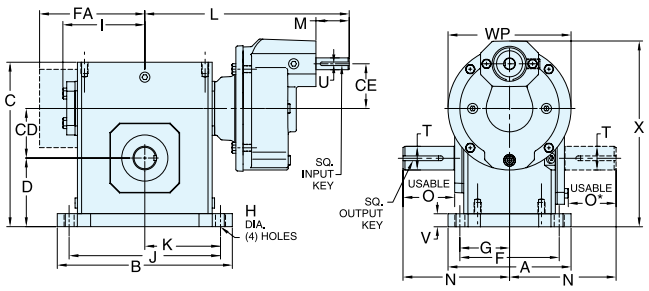


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

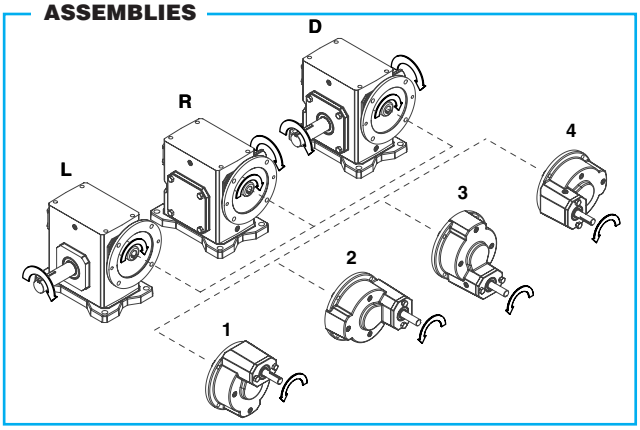
STYLE DXTM DIMENSIONS (Inches)

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	WP	Input Key	Output Key
824	6.19	8.37	7.69	2.38	2.36	3.25	4.88	2.44	0.47	3.77	7.06	3.53	10.24	5.14	2.66	2.44	1.125	0.625	0.75	6.50	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	8.75	2.63	2.36	3.69	5.25	2.63	0.53	4.34	8.00	4.00	10.80	5.63	2.73	2.52	1.250	0.625	0.75	6.50	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	9.63	3.00	2.36	4.00	5.88	2.94	0.53	4.84	8.44	4.22	11.30	6.75	3.60	3.36	1.250	0.625	0.75	6.50	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	10.25	3.25	2.36	4.38	6.13	3.06	0.53	5.02	9.50	4.75	11.49	7.06	3.66	3.42	1.500	0.625	0.88	6.50	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	12.38	4.25	2.87	5.44	7.63	3.81	0.66	6.10	11.12	5.56	16.72	8.12	4.50	4.21	1.875	1.250	1.00	8.50	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	15.13	5.25	2.87	6.25	8.38	4.19	0.78	7.50	14.12	7.06	18.12	9.06	4.78	4.53	2.000	1.250	1.13	8.50	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	17.75	6.00	2.87	7.75	9.50	4.75	0.91	N/A	16.49	8.25	20.72	10.00	4.65	4.65	2.500	1.250	1.25	8.50	3/8 X 3.00	5/8 X 4.00

STYLE DXT



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXT DIMENSIONS (Inches)

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	V	WP	X	Input Key	Output Key
824	6.19	8.37	7.69	2.38	2.36	3.25	4.88	2.44	0.47	3.77	7.06	3.53	10.24	1.76	5.14	2.66	2.44	1.125	0.625	0.75	6.50	8.55	3/16 X 1.63	1/4 X 1.44
826	6.50	9.25	8.75	2.63	2.36	3.69	5.25	2.63	0.53	4.34	8.00	4.00	10.80	1.76	5.63	2.73	2.52	1.250	0.625	0.75	6.50	9.24	3/16 X 1.63	1/4 X 1.44
830	7.50	10.00	9.63	3.00	2.36	4.00	5.88	2.94	0.53	4.84	8.44	4.22	11.30	1.76	6.75	3.60	3.36	1.250	0.625	0.75	6.50	9.92	3/16 X 1.63	1/4 X 1.56
832	7.75	11.12	10.25	3.25	2.36	4.38	6.13	3.06	0.53	5.02	9.50	4.75	11.49	1.76	7.06	3.66	3.42	1.500	0.625	0.88	6.50	10.42	3/16 X 1.63	3/8 X 2.50
842	9.75	13.24	12.38	4.25	2.87	5.44	7.63	3.81	0.66	6.10	11.12	5.56	16.72	3.61	8.12	4.50	4.21	1.875	1.250	1.00	8.50	13.47	1/4 X 2.50	1/2 X 2.50
852	10.50	16.24	15.13	5.25	2.87	6.25	8.38	4.19	0.78	7.50	14.12	7.06	18.12	3.61	9.06	4.78	4.53	2.000	1.250	1.13	8.50	15.15	1/4 X 3.00	1/2 X 2.50
860**	12.00	18.99	17.75	6.00	2.87	7.75	9.50	4.75	0.91	N/A	16.49	8.25	20.72	3.61	10.00	4.65	4.65	2.500	1.250	1.25	8.50	17.28	3/8 X 3.00	5/8 X 4.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Series	LM 56C/ 140TC	L1 180TC/	L1 210TC	L1 250TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	LQ1 210TC	LQ1 250TC	RQ 48CZ/ 56C/140TC	RQ 180TC	RQ 210TC	RQ 250TC
813	8.71	N/A	N/A	N/A	8.29	N/A	N/A	N/A	7.79	N/A	N/A	N/A
815	9.24	N/A	N/A	N/A	8.82	N/A	N/A	N/A	8.32	N/A	N/A	N/A
818	9.34	N/A	N/A	N/A	8.92	N/A	N/A	N/A	8.42	N/A	N/A	N/A
821	9.71	N/A	N/A	N/A	9.29	N/A	N/A	N/A	8.79	N/A	N/A	N/A
824	9.88	18.51	N/A	N/A	9.88*	12.82	N/A	N/A	9.38◆	12.31	N/A	N/A
826	10.44	19.07	N/A	N/A	10.44*	13.38	N/A	N/A	9.94◆	12.87	N/A	N/A
830	10.94	19.57	20.01	N/A	10.94*	13.88	14.32	N/A	10.44◆	13.37	13.81	N/A
832	11.13	19.76	20.20	N/A	11.13*	14.07	14.51	N/A	10.63◆	13.56	14.00	N/A
842	11.70	20.66	20.66	21.78	N/A	14.97	14.97	16.09	N/A	14.46	14.46	15.42
852	13.10	22.06	22.06	23.18	N/A	16.37	16.37	17.49	N/A	15.86	15.86	16.82
860	15.70	22.78	22.78	23.95	N/A	17.09	17.09	18.26	N/A	16.58	16.58	17.59

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway▲	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.64	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.64	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC DIMENSIONS (Inches)❖

Series	LQ1 D63D	LQ1 D71D	LQ1 D80D	LQ1 D90D	LQ1 D100LD■	LQ1 D132D	RQ D63D	RQ D71D	RQ D80D	RQ D90D	RQ D100LD■	RQ D132D
813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

Frame●	AJ	AK	BD	BE	Bore Dia.	Keyway▲	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD■	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

* Applies to double output shaft

** Series 860 reducers are supplied with a fan. Dimension FA=11.13".

▲ Keyway width by depth

❖ Metric input flange options are available on quill input styles only.

◆ 48CZ not available

■ Also applies to frame size D112MD

● Dimensions in millimeters (mm).

WASHGUARD® Gear Reducers Designed For Washdown Duty

WASHGUARD® REDUCER FEATURES

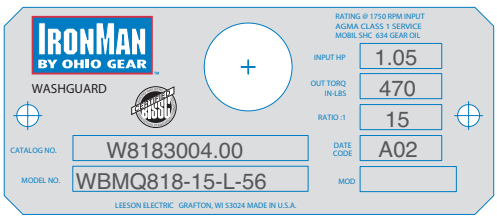
LEESON washdown reducers are designed and built to withstand the rigors of high pressure washdowns in food service and other wet or humid conditions. They combine the **standard IRONMAN™ features noted on pages 4 & 5**, with added WASHGUARD® features assuring trouble-free operation. Use these with LEESON WASHGUARD® "Duck" motors for a gearmotor with truly unmatched ability to thrive under conditions that quickly destroy most motors and gear reducers.

BISSC Certified – Bakery Industry Sanitation Standards Committee

O-ring on input flange provides a positive seal against moisture intrusion.

Flat-finished mounting surface on cast-iron input flange surface has no recessed areas where residue or moisture could be retained.

Stainless Steel nameplate, riveted to frame and adhesive backed to eliminate particle entrapment.



O-ring seals on input and output covers eliminate gaskets, sealants and leaks.

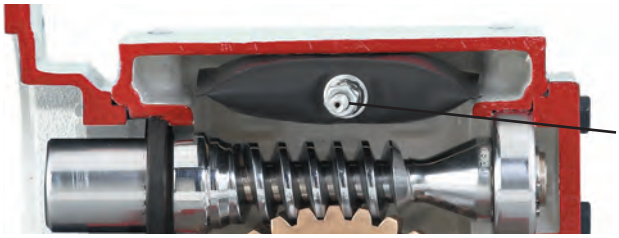
WASHGUARD® Stock Modified Units
See page 153 for WASHGUARD® mounting accessories and modification information.

WASHGUARD® Motors and GEAR+MOTOR™
See page 160 for a complete selection of WASHGUARD® motors. See pages 130-139 for WASHGUARD® GEAR+MOTORS.™

MOD-SQUAD
REDUCERS MODIFIED FAST

Square-head stainless steel pipe plugs eliminate entrapment areas on housing.

Fine-grain cast iron housing is naturally resistant to contaminants, provides excellent surface for coating adherence.



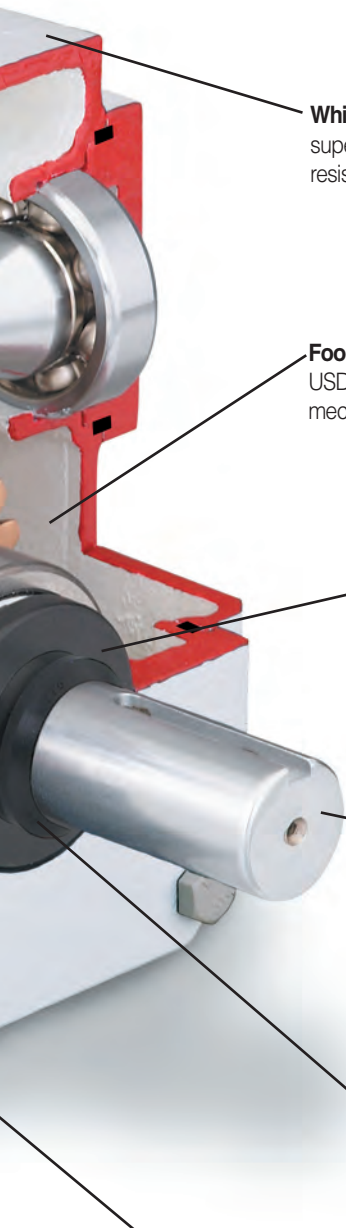
Vent free design The ENVIRO-SEAL is standard in all stock LEESON WASHGUARD® reducers to create a "Sealed For Life" design. There is no need to install a vent.

LEESON

OHIO GEAR™

Plugs are factory-inserted into all mounting holes to seal open areas from particle entrapment. User removes plugs only in those holes used for application mounting.

LEESON IRONMAN BY OHIO GEAR™



White, food-grade epoxy finish provides superior durability in wet environments and resists caustic cleaning solutions.

Food-grade synthetic lubricant, Mobil SHC634, meets USDA Class H2 standards while providing superior mechanical/thermal performance and long lube life.

Viton double-lip seals are up to five times more durable than nitrile seals and provide added resistance to chemicals common in washdown applications.

Stainless steel solid output shaft is corrosion resistant for long life and ease. Hollow output shafts are available in stainless steel. Contact LEESON for availability.

Patented Forsheda V-ring on output shaft provides extra protection from high-pressure water spray and other contaminants in the most vulnerable area.

Stainless steel assembly hardware resists corrosion from moisture and chemicals.

PROTECTED WITH RUST-OLEUM® COATINGS

GOOD

WASHGUARD®

Combine WASHGUARD® white epoxy gear reducers and WASHGUARD® white epoxy motors.
(see pages 130 & 139 for selections)

White Duck

Enhanced performance in wet, humid areas.

BETTER

WASHGUARD II® with STAINLESS FRAME MOTOR

Combine WASHGUARD® white epoxy gear reducers and paint-free exterior motors with stainless frames.
(see pages 130 & 139 for selections)

Super Duck

Superior, extended life in severe environments.

BEST

PREMIUM WASHGUARD® ALL-STAINLESS

Combine all-stainless reducers and motors to create a package suitable for nearly any severe duty application.
(see pages 140 & 145 for selections)

PREMIUM STAINLESS STEEL DUCK

Maximum service in critically clean or corrosive environments.

Additional WASHGUARD® Product Available

- Hollow output shafts (standard & stainless steel)
- Double reductions
- 642-660 sizes available

GEAR+MOTOR™

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

813 SERIES • ALL STOCK STYLES

LEESON® OHIO GEAR™

813 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Style WBMQ Left Hand Catalog No.	Style WBMQ Right Hand Catalog No.	Style WBMQ Double Extension Catalog No.	Style WHMQ● Hollow Output Catalog No.
5	1750	350	1.06	0.96	172	56C	W8133001	W8133013	W8133025	W8133501.10
	1150	230	0.83	0.74	198					
	850	170	0.67	0.59	213					
	100	20	0.10	0.08	256					
7.5	1750	233	0.78	0.64	173	56C	W8133002	W8133014	W8133026	W8133502.10
	1150	153	0.57	0.49	200					
	850	113	0.47	0.40	214					
	100	13	0.07	0.06	258					
10	1750	175	0.72	0.61	219	56C	W8133003	W8133015	W8133027	W8133503.10
	1150	115	0.55	0.45	244					
	850	85	0.44	0.35	258					
	100	10	0.07	0.05	295					
15	1750	117	0.56	0.45	242	56C	W8133004	W8133016	W8133028	W8133504.10
	1150	77	0.43	0.33	272					
	850	57	0.35	0.26	288					
	100	6.7	0.06	0.04	337					
20	1750	88	0.44	0.33	240	56C	W8133005	W8133017	W8133029	W8133505.10
	1150	58	0.33	0.24	266					
	850	43	0.27	0.19	280					
	100	5	0.04	0.03	318					
25	1750	70	0.36	0.27	243	56C	W8133006	W8133018	W8133030	W8133506.10
	1150	46	0.27	0.20	271					
	850	34	0.22	0.16	285					
	100	4	0.04	0.02	328					
30	1750	58	0.32	0.22	242	56C	W8133007	W8133019	W8133031	W8133507.10
	1150	38	0.25	0.16	268					
	850	28	0.21	0.13	282					
	100	3.3	0.03	0.02	320					
40	1750	44	0.25	0.17	239	56C	W8133008	W8133020	W8133032	W8133508.10
	1150	29	0.20	0.12	265					
	850	21	0.17	0.09	278					
	100	2.5	0.03	0.013	316					
50	1750	35	0.23	0.13	233	56C	W8133009	W8133021	W8133033	W8133509.10
	1150	23	0.18	0.10	268					
	850	17	0.15	0.08	282					
	100	2	0.03	0.010	316					
60	1750	29	0.18	0.10	220	56C	W8133010	W8133022	W8133034	W8133510.10
	1150	19	0.15	0.07	244					
	850	14	0.12	0.06	261					
	100	1.7	0.02	0.008	300					
80	1750	22	0.12	0.06	181	56C	W8133011	W8133023	W8133035	W8133511.10
	1150	14	0.09	0.05	200					
	850	11	0.08	0.04	209					
	100	1.3	0.01	0.005	237					
100	1750	18	0.08	0.04	142	56C	W8133012	W8133024	W8133036	W8133512.10
	1150	12	0.06	0.03	156					
	850	9	0.05	0.02	163					
	100	1.0	0.01	0.003	185					

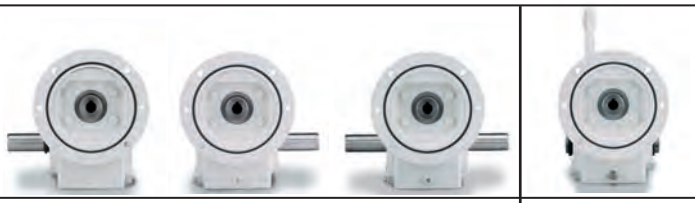
▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

815 SERIES • ALL STOCK STYLES

815 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Style WBMQ Left Hand Catalog No.	Style WBMQ Right Hand Catalog No.	Style WBMQ Double Extension Catalog No.	Style WHMQ● Hollow Output Catalog No.
										
5	1750	350	1.62	1.46	263	56C 143-5TC	W8153001 W8153037	W8153013 W8153049	W8153025 W8153061	W8153501.10 W8153513.10
	1150	230	1.32	1.17	316					
	850	170	1.09	0.96	347					
	100	20	0.02	0.14	443					
7.5	1750	233	1.24	1.09	294	56C 143-5TC	W8153002 W8153038	W8153014 W8153050	W8153026 W8153062	W8153502.10 W8153514.10
	1150	153	1.01	0.87	350					
	850	113	0.83	0.71	383					
	100	13	0.14	0.10	484					
10	1750	175	1.02	0.87	313	56C 143-5TC	W8153003 W8153039	W8153015 W8153051	W8153027 W8153063	W8153503.10 W8153515.10
	1150	115	0.83	0.69	372					
	850	85	0.69	0.56	406					
	100	10	0.12	0.08	511					
15	1750	117	0.77	0.62	334	56C 143-5TC	W8153004 W8153040	W8153016 W8153052	W8153028 W8153064	W8153504.10 W8153516.10
	1150	77	0.64	0.49	396					
	850	57	0.53	0.40	433					
	100	6.7	0.09	0.06	542					
20	1750	88	0.64	0.48	349	56C 143-5TC	W8153005 W8153041	W8153017 W8153053	W8153029 W8153065	W8153505.10 W8153517.10
	1150	58	0.53	0.38	411					
	850	43	0.44	0.31	447					
	100	5	0.08	0.04	556					
25	1750	70	0.54	0.39	353	56C	W8153006	W8153018	W8153030	W8153506.10
	1150	46	0.45	0.31	414					
	850	34	0.38	0.25	450					
	100	4	0.07	0.04	556					
30	1750	58	0.47	0.32	343	56C	W8153007	W8153019	W8153031	W8153507.10
	1150	38	0.40	0.25	406					
	850	28	0.34	0.20	443					
	100	3.3	0.07	0.03	555					
40	1750	44	0.39	0.24	347	56C	W8153008	W8153020	W8153032	W8153508.10
	1150	29	0.33	0.19	408					
	850	21	0.28	0.15	444					
	100	2.5	0.06	0.02	552					
50	1750	35	0.33	0.19	339	56C	W8153009	W8153021	W8153033	W8153509.10
	1150	23	0.28	0.15	398					
	850	17	0.24	0.12	432					
	100	2	0.05	0.02	533					
60	1750	29	0.28	0.15	323	56C	W8153010	W8153022	W8153034	W8153510.10
	1150	19	0.24	0.12	378					
	850	14	0.21	0.09	410					
	100	1.7	0.04	0.01	505					
80	1750	22	0.20	0.09	269	56C	W8153011	W8153023	W8153035	W8153511.10
	1150	14	0.18	0.07	314					
	850	11	0.15	0.06	340					
	100	1.3	0.03	0.01	418					
100	1750	18	0.15	0.06	213	56C	W8153012	W8153024	W8153036	W8153512.10
	1150	12	0.13	0.05	248					
	850	9	0.11	0.04	268					
	100	1.0	0.02	0.01	328					

▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

818 SERIES • ALL STOCK STYLES

LEESON® OHIO GEAR™

818 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Style WBMQ Left Hand Catalog No.	Style WBMQ Right Hand Catalog No.	Style WBMQ Double Extension Catalog No.	Style WHMQ● Hollow Output Catalog No.*
5	1750	350	1.70	1.56	281	56C 143-5TC	W8183001 W8183037	W8183013 W8183049	W8183025 W8183061	W8183501.XX W8183513.XX
	1150	230	1.39	1.26	339					
	850	170	1.15	1.03	373					
	100	20	0.19	0.15	478					
7.5	1750	233	1.67	1.50	404	56C 143-5TC	W8183002 W8183038	W8183014 W8183050	W8183026 W8183062	W8183502.XX W8183514.XX
	1150	153	1.28	1.13	465					
	850	113	1.05	0.91	496					
	100	13	0.16	0.13	595					
10	1750	175	1.38	1.21	436	56C 143-5TC	W8183003 W8183039	W8183015 W8183051	W8183027 W8183063	W8183503.XX W8183515.XX
	1150	115	1.06	0.91	496					
	850	85	0.87	0.71	529					
	100	10	0.13	0.10	622					
15	1750	117	1.05	0.87	470	56C 143-5TC	W8183004 W8183040	W8183016 W8183052	W8183028 W8183064	W8183504.XX W8183516.XX
	1150	77	0.81	0.65	532					
	850	57	0.66	0.51	567					
	100	6.7	0.11	0.07	662					
20	1750	88	0.82	0.67	480	56C 143-5TC	W8183005 W8183041	W8183017 W8183053	W8183029 W8183065	W8183505.XX W8183517.XX
	1150	58	0.53	0.49	542					
	850	43	0.52	0.39	577					
	100	5	0.08	0.05	672					
25	1750	70	0.67	0.53	477	56C	W8183006	W8183018	W8183030	W8183506.XX
	1150	46	0.51	0.39	540					
	850	34	0.42	0.32	571					
	100	4	0.07	0.04	669					
30	1750	58	0.61	0.45	485	56C	W8183007	W8183019	W8183031	W8183507.XX
	1150	38	0.48	0.33	547					
	850	28	0.40	0.26	582					
	100	3.3	0.07	0.04	677					
40	1750	44	0.48	0.33	480	56C	W8183008	W8183020	W8183032	W8183508.XX
	1150	29	0.38	0.25	541					
	850	21	0.30	0.19	574					
	100	2.5	0.05	0.03	667					
50	1750	35	0.40	0.26	463	56C	W8183009	W8183021	W8183033	W8183509.XX
	1150	23	0.30	0.19	520					
	850	17	0.25	0.15	551					
	100	2	0.04	0.02	638					
60	1750	29	0.32	0.20	434	56C	W8183010	W8183022	W8183034	W8183510.XX
	1150	19	0.25	0.15	485					
	850	14	0.21	0.12	513					
	100	1.7	0.04	0.02	589					
80	1750	22	0.21	0.12	353	56C	W8183011	W8183023	W8183035	W8183511.XX
	1150	14	0.16	0.09	394					
	850	11	0.14	0.07	415					
	100	1.3	0.02	0.01	478					
100	1750	18	0.14	0.08	277	56C	W8183012	W8183024	W8183036	W8183512.XX
	1150	12	0.11	0.06	308					
	850	9	0.09	0.05	324					
	100	1.0	0.02	0.01	371					

*Catalog numbers are for hollow output shafts. Refer to page 169 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

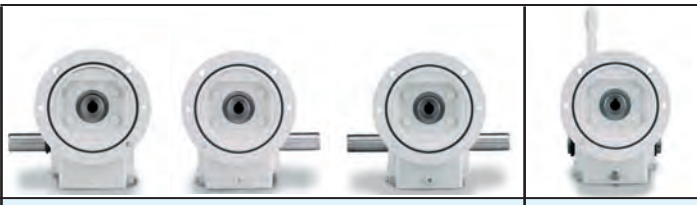
▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

821 SERIES • ALL STOCK STYLES

821 Series

							Style WBMQ			Style WHMQ●
										
Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	1750	350	2.51	2.32	418	56C 143-5TC	W8213001 W8213037	W8213013 W8213049	W8213025 W8213061	W8213501.XX W8213513.XX
	1150	230	2.10	1.92	517					
	850	170	1.77	1.60	578					
	100	20	0.29	0.24	766					
7.5	1750	233	2.48	2.24	605	56C 143-5TC	W8213002 W8213038	W8213014 W8213050	W8213026 W8213062	W8213502.XX W8213514.XX
	1150	153	2.02	1.72	705					
	850	113	1.58	1.40	758					
	100	13	0.24	0.20	923					
10	1750	175	2.10	1.86	671	56C 143-5TC	W8213003 W8213039	W8213015 W8213051	W8213027 W8213063	W8213503.XX W8213515.XX
	1150	115	1.66	1.42	778					
	850	85	1.37	1.13	838					
	100	10	0.21	0.16	1009					
15	1750	117	1.58	1.34	725	56C 143-5TC	W8213004 W8213040	W8213016 W8213052	W8213028 W8213064	W8213504.XX W8213516.XX
	1150	77	1.24	1.02	836					
	850	57	1.01	0.81	897					
	100	6.7	0.15	0.11	1071					
20	1750	88	1.25	1.03	742	56C 143-5TC	W8213005 W8213041	W8213017 W8213053	W8213029 W8213065	W8213505.XX W8213517.XX
	1150	58	0.99	0.78	853					
	850	43	0.81	0.62	915					
	100	5	0.13	0.09	1090					
25	1750	70	1.01	0.82	735	56C 143-5TC	W8213006 W8213042	W8213018 W8213054	W8213030 W8213066	W8213506.XX W8213518.XX
	1150	46	0.79	0.62	844					
	850	34	0.65	0.50	901					
	100	4	0.10	0.07	1076					
30	1750	58	0.90	0.69	749	56C 143-5TC	W8213007 W8213043	W8213019 W8213055	W8213031 W8213067	W8213507.XX W8213519.XX
	1150	38	0.72	0.52	860					
	850	28	0.60	0.41	922					
	100	3.3	0.10	0.06	1096					
40	1750	44	0.72	0.52	742	56C	W8213008	W8213020	W8213032	W8213508.XX
	1150	29	0.57	0.39	851					
	850	21	0.47	0.31	912					
	100	2.5	0.08	0.04	1083					
50	1750	35	0.57	0.40	720	56C	W8213009	W8213021	W8213033	W8213509.XX
	1150	23	0.47	0.30	826					
	850	17	0.39	0.24	885					
	100	2	0.07	0.03	1051					
60	1750	29	0.49	0.31	674	56C	W8213010	W8213022	W8213034	W8213510.XX
	1150	19	0.41	0.23	765					
	850	14	0.34	0.18	815					
	100	1.7	0.06	0.03	956					
80	1750	22	0.33	0.19	552	56C	W8213011	W8213023	W8213035	W8213511.XX
	1150	14	0.25	0.14	628					
	850	11	0.21	0.12	667					
	100	1.3	0.04	0.02	787					
100	1750	18	0.22	0.12	433	56C	W8213012	W8213024	W8213036	W8213512.XX
	1150	12	0.17	0.09	492					
	850	9	0.15	0.07	522					
	100	1.0	0.03	0.01	614					

*Catalog numbers are for hollow output shafts. Refer to page 169 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

824 SERIES • ALL STOCK STYLES

LEESON® OHIO GEAR™

824 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Style WBMQ Left Hand Catalog No.	Style WBMQ Right Hand Catalog No.	Style WBMQ Double Extension Catalog No.	Style WHMQ● Hollow Output Catalog No.*
5	1750	350	3.89	3.63	653	143-5TC	W8243037	W8243049	W8243061	W8243513.XX
	1150	230	3.34	3.08	829					
	850	170	2.84	2.59	937					
	100	20	0.49	0.41	1286					
7.5	1750	233	3.47	3.20	863	143-5TC	W8243038	W8243050	W8243062	W8243514.XX
	1150	153	2.87	2.61	1053					
	850	113	2.40	2.15	1168					
	100	13	0.39	0.32	1523					
10	1750	175	3.13	2.75	992	143-5TC	W8243039	W8243051	W8243063	W8243515.XX
	1150	115	2.55	2.16	1182					
	850	85	2.12	1.74	1291					
	100	10	0.33	0.26	1607					
15	1750	117	2.33	1.99	1076	56C 143-5TC	W8243004 W8243040	W8243016 W8243052	W8243028 W8243064	W8243504.XX W8243516.XX
	1150	77	1.90	1.55	1276					
	850	57	1.59	1.25	1389					
	100	6.7	0.25	0.18	1718					
20	1750	88	1.85	1.53	1101	56C 143-5TC	W8243005 W8243041	W8243017 W8243053	W8243029 W8243065	W8243505.XX W8243517.XX
	1150	58	1.51	1.19	1299					
	850	43	1.27	0.95	1412					
	100	5	0.21	0.14	1737					
25	1750	70	1.56	1.21	1087	56C 143-5TC	W8243006 W8243042	W8243018 W8243054	W8243030 W8243066	W8243506.XX W8243518.XX
	1150	46	1.18	0.93	1279					
	850	34	1.04	0.76	1379					
	100	4	0.16	0.11	1698					
30	1750	58	1.33	1.03	1113	56C 143-5TC	W8243007 W8243043	W8243019 W8243055	W8243031 W8243067	W8243507.XX W8243519.XX
	1150	38	1.10	0.80	1314					
	850	28	0.93	0.64	1428					
	100	3.3	0.16	0.09	1758					
40	1750	44	1.05	0.76	1101	56C 143-5TC	W8243008 W8243044	W8243020 W8243056	W8243032 W8243068	W8243508.XX W8243520.XX
	1150	29	0.88	0.59	1297					
	850	21	0.74	0.47	1407					
	100	2.5	0.13	0.07	1726					
50	1750	35	0.86	0.59	1065	56C 143-5TC	W8243009 W8243045	W8243021 W8243057	W8243033 W8243069	W8243509.XX W8243521.XX
	1150	23	0.72	0.45	1245					
	850	17	0.62	0.36	1347					
	100	2	0.11	0.05	1638					
60	1750	29	0.72	0.47	1007	56C	W8243010	W8243022	W8243034	W8243510.XX
	1150	19	0.57	0.36	1173					
	850	14	0.47	0.29	1266					
	100	1.7	0.08	0.04	1531					
80	1750	22	0.46	0.29	830	56C	W8243011	W8243023	W8243035	W8243511.XX
	1150	14	0.37	0.22	946					
	850	11	0.31	0.18	1011					
	100	1.3	0.06	0.02	1202					
100	1750	18	0.31	0.18	648	56C	W8243012	W8243024	W8243036	W8243512.XX
	1150	12	0.25	0.14	735					
	850	9	0.21	0.11	784					
	100	1.0	0.04	0.02	926					

*Catalog numbers are for hollow output shafts. Refer to page 169 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

826 SERIES • ALL STOCK STYLES

826 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Style WBMQ Left Hand Catalog No.	Style WBMQ Right Hand Catalog No.	Style WBMQ Double Extension Catalog No.	Style WHMQ● Hollow Output Catalog No.*
										
5	1750	350	4.80	4.50	810	143-5TC	W8263037	W8263049	W8263061	W8263513.XX
	1150	230	4.05	3.75	1028					
	850	170	3.47	3.18	1179					
	100	20	0.61	0.51	1617					
7.5	1750	233	4.27	3.95	1068	143-5TC	W8263038	W8263050	W8263062	W8263514.XX
	1150	153	3.58	3.28	1322					
	850	113	3.01	2.72	1477					
	100	13	0.50	0.42	1962					
10	1750	175	3.99	3.65	1315	143-5TC	W8263039	W8263051	W8263063	W8263515.XX
	1150	115	3.26	2.91	1596					
	850	85	2.70	2.37	1758					
	100	10	0.43	0.35	2206					
15	1750	117	3.04	2.64	1427	143-5TC	W8263040	W8263052	W8263064	W8263516.XX
	1150	77	2.46	2.09	1719					
	850	57	2.02	1.70	1886					
	100	6.7	0.31	0.23	2164					
20	1750	88	2.42	2.03	1463	56C	W8263005	W8263017	W8263029	W8263505.XX
	1150	58	1.96	1.60	1757					
	850	43	1.60	1.30	1926	143-5TC	W8263041	W8263053	W8263065	W8263517.XX
	100	5	0.26	0.19	2332					
25	1750	70	2.03	1.61	1445	56C	W8263006	W8263018	W8263030	W8263506.XX
	1150	46	1.55	1.24	1704					
	850	34	1.29	1.02	1841	143-5TC	W8263042	W8263054	W8263066	W8263518.XX
	100	4	0.21	0.14	2275					
30	1750	58	1.78	1.37	1479	56C	W8263007	W8263019	W8263031	W8263507.XX
	1150	38	1.44	1.08	1773					
	850	28	1.20	0.87	1941	143-5TC	W8263043	W8263055	W8263067	W8263519.XX
	100	3.3	0.20	0.12	2292					
40	1750	44	1.39	1.02	1464	56C	W8263008	W8263020	W8263032	W8263508.XX
	1150	29	1.14	0.80	1754					
	850	21	0.95	0.65	1920	143-5TC	W8263044	W8263056	W8263068	W8263520.XX
	100	2.5	0.17	0.09	2345					
50	1750	35	1.12	0.79	1416	56C	W8263009	W8263021	W8263033	W8263509.XX
	1150	23	0.93	0.61	1678					
	850	17	0.77	0.49	1826	143-5TC	W8263045	W8263057	W8263069	W8263521.XX
	100	2	0.13	0.07	2206					
60	1750	29	0.96	0.62	1343	56C	W8263010	W8263022	W8263034	W8263510.XX
	1150	19	0.77	0.48	1587					
	850	14	0.64	0.39	1726	143-5TC	W8263046	W8263058	W8263070	W8263522.XX
	100	1.7	0.11	0.05	2002					
80	1750	22	0.60	0.38	1095	56C	W8263011	W8263023	W8263035	W8263511.XX
	1150	14	0.52	0.29	1284					
	850	11	0.42	0.24	1382					
	100	1.3	0.08	0.03	1695					
100	1750	18	0.40	0.24	856	56C	W8263012	W8263024	W8263036	W8263512.XX
	1150	12	0.35	0.18	996					
	850	9	0.28	0.15	1069					
	100	1.0	0.05	0.02	1299					

*Catalog numbers are for hollow output shafts. Refer to page 169 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲ Consult LEESON for other motor flanges available.

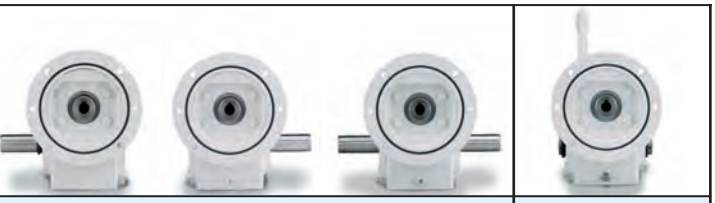
● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

830 SERIES • ALL STOCK STYLES

LEESON® OHIO GEAR™

830 Series

							Style WBMQ			Style WHMQ●
										
Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
10	1750	175	5.91	5.32	1915	143-5TC	W8303039	W8303051	W8303063	W8303515.XX
	1150	115	5.17	4.36	2390					
	850	85	4.18	3.66	2650					
	100	10	0.69	0.56	3522					
15	1750	117	4.41	3.86	2085	143-5TC	W8303040	W8303052	W8303064	W8303516.XX
	1150	77	3.64	3.12	2562					
	850	57	3.08	2.60	2822					
	100	6.7	0.52	0.39	3677					
20	1750	88	3.49	2.97	2141	143-5TC	W8303041	W8303053	W8303065	W8303517.XX
	1150	58	3.05	2.41	2640					
	850	43	2.47	2.01	2911					
	100	5	0.43	0.30	3808					
25	1750	70	3.03	2.40	2160	143-5TC	W8303042	W8303054	W8303066	W8303518.XX
	1150	46	2.39	1.93	2643					
	850	34	2.03	1.60	2903					
	100	4	0.35	0.24	3760					
30	1750	58	2.48	2.01	2167	143-5TC	W8303043	W8303055	W8303067	W8303519.XX
	1150	38	2.06	1.61	2648					
	850	28	1.76	1.34	2908					
	100	3.3	0.31	0.20	3762					
40	1750	44	2.05	1.49	2146	56C	W8303008	W8303020	W8303032	W8303508.XX
	1150	29	1.65	1.20	2637					
	850	21	1.42	1.00	2904	143-5TC	W8303044	W8303056	W8303068	W8303520.XX
	100	2.5	0.27	0.15	3784					
50	1750	35	1.59	1.16	2085	56C	W8303009	W8303021	W8303033	W8303509.XX
	1150	23	1.34	0.93	2545					
	850	17	1.15	0.77	2793	143-5TC	W8303045	W8303057	W8303069	W8303521.XX
	100	2	0.22	0.12	3607					
60	1750	29	1.32	0.92	1980	56C	W8303010	W8303022	W8303034	W8303510.XX
	1150	19	1.12	0.74	2416					
	850	14	1.02	0.61	2651	143-5TC	W8303046	W8303058	W8303070	W8303522.XX
	100	1.7	0.19	0.09	3424					
80	1750	22	0.90	0.59	1684	56C	W8303011	W8303023	W8303035	W8303511.XX
	1150	14	0.76	0.46	1996					
	850	11	0.65	0.38	2179	143-5TC	W8303047	W8303059	W8303071	W8303523.XX
	100	1.3	0.13	0.05	2731					
100	1750	18	0.60	0.37	1321	56C	W8303012	W8303024	W8303036	W8303512.XX
	1150	12	0.51	0.29	1554					
	850	9	0.44	0.23	1691					
	100	1.0	0.09	0.03	2100					

*Catalog numbers are for hollow output shafts. Refer to page 169 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

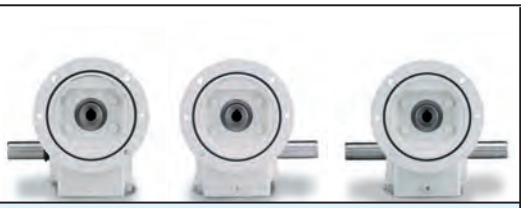
▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

WASHGUARD® • SINGLE REDUCTION MAXIMUM RATING TABLES

832 SERIES • ALL STOCK STYLES

832 Series

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Style WBMQ Left Hand Catalog No.	Style WBMQ Right Hand Catalog No.	Style WBMQ Double Extension Catalog No.	Style WHMQ● Hollow Output Catalog No.*
										
10	1750	175	7.03	6.51	2343	143-5TC	**W8323039**	**W8323051**	**W8323063**	**W8323515.XX**
	1150	115	5.97	5.45	2932					
	850	85	5.06	4.45	3220					
	100	10	0.86	0.70	4372					
15	1750	117	5.28	4.72	2551	143-5TC	**W8323040**	**W8323052**	**W8323064**	**W8323516.XX**
	1150	77	4.53	3.97	3207					
	850	57	3.77	3.19	3466					
	100	6.7	0.65	0.49	4647					
20	1750	88	4.19	3.66	2633	143-5TC	**W8323041**	**W8323053**	**W8323065**	**W8323517.XX**
	1150	58	3.48	2.91	3189					
	850	43	3.13	2.45	3542					
	100	5	0.53	0.38	4728					
25	1750	70	3.47	2.95	2658	143-5TC	**W8323042**	**W8323054**	**W8323066**	**W8323518.XX**
	1150	46	2.91	2.41	3248					
	850	34	2.49	1.97	3567					
	100	4	0.45	0.30	4751					
30	1750	58	3.09	2.39	2578	143-5TC	**W8323043**	**W8323055**	**W8323067**	**W8323519.XX**
	1150	38	2.50	1.96	3221					
	850	28	2.15	1.65	3573					
	100	3.3	0.40	0.25	4754					
40	1750	44	2.35	1.83	2641	56C	**W8323008**	**W8323020**	**W8323032**	**W8323508.XX**
	1150	29	2.02	1.51	3251					
	850	21	1.71	1.22	3535	143-5TC	**W8323044**	**W8323056**	**W8323068**	**W8323520.XX**
	100	2.5	0.34	0.19	4698					
50	1750	35	1.91	1.43	2568	56C	**W8323009**	**W8323021**	**W8323033**	**W8323509.XX**
	1150	23	1.62	1.13	3095					
	850	17	1.41	0.95	3432	143-5TC	**W8323045**	**W8323057**	**W8323069**	**W8323521.XX**
	100	2	0.28	0.15	4558					
60	1750	29	1.57	1.13	2437	56C	**W8323010**	**W8323022**	**W8323034**	**W8323510.XX**
	1150	19	1.35	0.91	2951					
	850	14	1.19	0.75	3258	143-5TC	**W8323046**	**W8323058**	**W8323070**	**W8323522.XX**
	100	1.7	0.25	0.11	4327					
80	1750	22	1.05	0.68	1962	56C	**W8323011**	**W8323023**	**W8323035**	**W8323511.XX**
	1150	14	0.91	0.55	2413					
	850	11	0.79	0.46	2657	143-5TC	**W8323047**	**W8323059**	**W8323071**	**W8323523.XX**
	100	1.3	0.16	0.07	3464					
100	1750	18	0.71	0.43	1546	56C	**W8323012**	**W8323024**	**W8323036**	**W8323512.XX**
	1150	12	0.61	0.34	1885					
	850	9	0.53	0.29	2068					
	100	1.0	0.11	0.04	2666					

*Catalog numbers are for hollow output shafts. Refer to page 169 for bore sizes available. When ordering, substitute the XX suffix with the required output bore code

▲ Consult LEESON for other motor flanges available.

● Hollow output shaft is non-stainless steel as standard. Contact LEESON for availability of stainless steel hollow shafts.

Style WBMQ - Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style WBMQ, left hand output reducers and Gear+Motors. For other reducer configurations, see the Maximum Rating Tables beginning on page 122.

1/3 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	3.19	54	400	5:1	17	56C	WBMQ813-05-L-56	**W8133001**
233	2.34	74	400	7.5:1	17	56C	WBMQ813-7.5-L-56	**W8133002**
175	2.19	100	400	10:1	17	56C	WBMQ813-10-L-56	**W8133003**
117	1.70	142	400	15:1	17	56C	WBMQ813-15-L-56	**W8133004**
117	2.35	142	500	15:1	22	56C	WBMQ815-15-L-56	**W8153004**
88	1.35	178	400	20:1	17	56C	WBMQ813-20-L-56	**W8133005**
88	1.95	179	500	20:1	22	56C	WBMQ815-20-L-56	**W8153005**
88	2.51	191	475	20:1	24	56C	WBMQ818-20-L-56	**W8183005**
70	1.08	225	400	25:1	17	56C	WBMQ813-25-L-56	**W8133006**
70	1.65	214	500	25:1	22	56C	WBMQ815-25-L-56	**W8153006**
70	2.02	236	475	25:1	24	56C	WBMQ818-25-L-56	**W8183006**
58	1.42	241	500	30:1	17	56C	WBMQ815-30-L-56	**W8153007**
58	1.84	263	475	30:1	24	56C	WBMQ818-30-L-56	**W8183007**
58	2.71	276	475	30:1	30	56C	WBMQ821-30-L-56	**W8213007**
44	1.19	291	500	40:1	22	56C	WBMQ815-40-L-56	**W8153008**
44	1.47	326	475	40:1	24	56C	WBMQ818-40-L-56	**W8183008**
44	2.20	338	475	40:1	30	56C	WBMQ821-40-L-56	**W8213008**
35	1.00	338	500	50:1	22	56C	WBMQ815-50-L-56	**W8153009**
35	1.20	385	475	50:1	24	56C	WBMQ818-50-L-56	**W8183009**
35	1.73	416	475	50:1	30	56C	WBMQ821-50-L-56	**W8213009**
29	1.48	454	475	60:1	30	56C	WBMQ821-60-L-56	**W8213010**
29	2.16	466	1100	60:1	46	56C	WBMQ824-60-L-56	**W8243010**
22	1.01	548	475	80:1	30	56C	WBMQ821-80-L-56	**W8213011**
22	1.39	598	1100	80:1	46	56C	WBMQ824-80-L-56	**W8243011**
22	1.82	603	1025	80:1	59	56C	WBMQ826-80-L-56	**W8263011**
18	1.24	689	1025	100:1	59	56C	WBMQ826-100-L-56	**W8263012**
18	1.88	703	1500	100:1	80	56C	WBMQ830-100-L-56	**W8303012**
18	2.19	705	1450	100:1	83	56C	WBMQ832-100-L-56	**W8323012**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

WASHGUARD® SINGLE REDUCTION QUICK SELECTIONS



1/3 HP — Gear+Motor™ Quick Selections

TENV, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8133001-113954	41	W8133001-114311	49	W8133001-108424	43
W8133002-113954	41	W8133002-114311	49	W8133002-108424	43
W8133003-113954	41	W8133003-114311	49	W8133003-108424	43
W8133004-113954	41	W8133004-114311	49	W8133003-108424	43
W8153004-113954	46	W8153004-114311	54	W8153004-108424	48
W8133005-113954	41	W8133005-114311	49	W8133005-108424	43
W8153005-113954	46	W8153005-114311	54	W8153005-108424	48
W8183005-113954	48	W8183005-114311	56	W8183005-108424	48
W8133006-113954	41	W8133006-114311	49	W8133006-108424	43
W8153006-113954	46	W8153006-114311	54	W8153006-108424	48
W8183006-113954	48	W8183006-114311	56	W8183006-108424	50
W8153007-113954	46	W8153007-114311	54	W8153007-108424	48
W8183007-113954	48	W8183007-114311	56	W8183007-108424	50
W8213007-113954	54	W8213007-114311	62	W8213007-108424	56
W8153008-113954	46	W8153008-114311	54	W8153008-108424	48
W8183008-113954	48	W8183008-114311	56	W8183008-108424	50
W8213008-113954	54	W8213008-114311	62	W8213008-108424	56
W8153009-113954	46	W8153009.-114311	54	W8153009-108424	48
W8183009-113954	48	W8183009-114311	56	W8183009-108424	50
W8213009-113954	54	W8213009-114311	62	W8213009-108424	56
W8213010-113954	54	W8213010-114311	62	W8213010-108424	56
W8243010-113954	70	W8243010-114311	78	W8243010-108424	72
W8213011-113954	54	W8213011-114311	62	W8213011-108424	56
W8243011-113954	70	W8243011-114311	78	W8243011-108424	72
W8263011-113954	83	W8263011-114311	91	W8263011-108424	85
W8263012-113954	83	W8263012-114311	91	W8263012-108424	85
W8303012-113954	94	W8303012-114311	112	W8303012-108424	106
W8323012-113954	97	W8323012-114311	115	W8323012-108424	109

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.

◆ Weight includes oil.

WASHGUARD® Reducers and GEAR+MOTORS™

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Style WBMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style WBMQ, left hand output reducers and Gear+Motors. For other reducer configurations, see the Maximum Rating Tables beginning on page 122.

1/2 HP Gear Reducer Quick Selections								
Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	2.12	81	400	5	17	56C	WBMQ813-05-L-56	**W8133001**
233	1.54	112	400	7.5	17	56C	WBMQ813-7.5-L-56	**W8133002**
175	1.45	151	400	10	17	56C	WBMQ813-10-L-56	**W8133003**
175	2.05	153	500	10	22	56C	WBMQ815-10-L-56	**W8153003**
117	1.13	215	400	15	17	56C	WBMQ813-15-L-56	**W8133004**
117	1.55	215	500	15	22	56C	WBMQ815-15-L-56	**W8153004**
117	2.10	224	475	15	24	56C	WBMQ818-15-L-56	**W8183004**
88	1.29	271	500	20	22	56C	WBMQ815-20-L-56	**W8153005**
88	1.66	289	475	20	24	56C	WBMQ818-20-L-56	**W8183005**
88	2.52	295	475	20	30	56C	WBMQ821-20-L-56	**W8213005**
70	1.09	324	500	25	22	56C	WBMQ815-25-L-56	**W8153006**
70	1.34	357	475	25	24	56C	WBMQ818-25-L-56	**W8183006**
70	2.02	364	475	25	30	56C	WBMQ821-25-L-56	**W8213006**
58	1.22	398	475	30	24	56C	WBMQ818-30-L-56	**W8183007**
58	1.80	417	475	30	30	56C	WBMQ821-30-L-56	**W8213007**
58	2.65	420	1100	30	46	56C	WBMQ824-30-L-56	**W8243007**
44	1.45	512	475	40	30	56C	WBMQ821-40-L-56	**W8213008**
44	2.12	520	1100	40	46	56C	WBMQ824-40-L-56	**W8243008**
35	1.14	630	475	50	30	56C	WBMQ821-50-L-56	**W8213009**
35	1.72	619	1100	50	46	56C	WBMQ824-50-L-56	**W8243009**
35	2.25	630	1025	50	59	56C	WBMQ826-50-L-56	**W8263009**
29	0.98	687	475	60	30	56C	WBMQ821-60-L-56	**W8213010**
29	1.43	706	1100	60	46	56C	WBMQ824-60-L-56	**W8243010**
29	1.90	707	1025	60	59	56C	WBMQ826-60-L-56	**W8263010**
29	2.62	757	1500	60	80	56C	WBMQ830-60-L-56	**W8303010**
22	1.20	913	1025	80	59	56C	WBMQ826-80-L-56	**W8263011**
22	1.80	936	1500	80	80	56C	WBMQ830-80-L-56	**W8303011**
22	2.10	933	1450	80	83	56C	WBMQ832-80-L-56	**W8323011**
18	1.24	1066	1500	100	80	56C	WBMQ830-100-L-56	**W8303012**
18	1.45	1068	1450	100	83	56C	WBMQ832-100-L-56	**W8323012**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

WASHGUARD® SINGLE REDUCTION QUICK SELECTIONS

1/2 HP — Gear+Motor™ Quick Selections

TENV, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V		Stainless Frame, 3 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8133001-113473	39	W8133001-114313	46	W8133001-108226	55	W8133001-108227	61	W8133001-114394	47
W8133002-113473	39	W8133002-114313	46	W8133002-108226	55	W8133002-108227	61	W8133002-114394	47
W8133003-113473	39	W8133003-114313	46	W8133003-108226	55	W8133003-108227	61	W8133003-114394	47
W8153003-113473	44	W8153003-114313	51	W8153003-108226	60	W8153003-108227	66	W8153003-114394	52
W8133004-113473	39	W8133004-114313	46	W8133004-108226	55	W8133004-108227	61	W8133004-114394	47
W8153004-113473	44	W8153004-114313	51	W8153004-108226	60	W8153004-108227	66	W8153004-114394	52
W8183004-113473	46	W8183004-114313	53	W8183004-108226	62	W8183004-108227	68	W8183004-114394	54
W8153005-113473	44	W8153005-114313	51	W8153005-108226	60	W8153005-108227	66	W8153005-114394	52
W8183005-113473	46	W8183005-114313	53	W8183005-108226	62	W8183005-108227	68	W8183005-114394	54
W8213005-113473	52	W8213005-114313	59	W8213005-108226	68	W8213005-108227	74	W8213005-114394	60
W8153006-113473	44	W8153006-114313	51	W8153006-108226	60	W8153006-108227	66	W8153006-114394	52
W8183006-113473	46	W8183006-114313	53	W8183006-108226	62	W8183006-108227	68	W8183006-114394	54
W8213006-113473	52	W8213006-114313	59	W8213006-108226	68	W8213006-108227	74	W8213006-114394	60
W8183007-113473	46	W8183007-114313	53	W8183007-108226	62	W8183007-108227	68	W8183007-114394	54
W8213007-113473	52	W8213007-114313	59	W8213007-108226	68	W8213007-108227	74	W8213007-114394	60
W8243007-113473	68	W8243007-114313	75	W8243007-108226	84	W8243007-108227	90	W8243007-114394	76
W8213008-113473	52	W8213008-114313	59	W8213008-108226	68	W8213008-108227	74	W8213008-114394	60
W8243008-113473	68	W8243008-114313	75	W8243008-108226	84	W8243008-108227	60	W8243008-114394	76
W8213009-113473	52	W8213009-114313	59	W8213009-108226	68	W8213009-108227	74	W8213009-114394	60
W8243009-113473	68	W8243009-114313	75	W8243009-108226	84	W8243009-108227	60	W8243009-114394	76
W8263009-113473	81	W8263009-114313	88	W8263009-108226	97	W8263009-108227	103	W8263009-114394	89
W8213010-113473	52	W8213010-114313	59	W8213010-108226	68	W8213010-108227	74	W8213010-114394	60
W8243010-113473	68	W8243010-114313	75	W8243010-108226	84	W8243010-108227	60	W8243010-114394	76
W8263010-113473	81	W8263010-114313	88	W8263010-108226	97	W8263010-108227	103	W8263010-114394	89
W8303010-113473	102	W8303010-114313	109	W8303010-108226	118	W8303010-108227	124	W8303010-114394	110
W8263011-113473	81	W8263011-114313	88	W8263011-108226	97	W8263011-108227	103	W8263011-114394	89
W8303011-113473	102	W8303011-114313	109	W8303011-108226	118	W8303011-108227	124	W8303011-114394	110
W8323011-113473	105	W8323011-114313	112	W8323011-108226	121	W8323011-108227	127	W8323011-114394	113
W8303012-113473	102	W8303012-114313	109	W8303012-108226	118	W8303012-108227	124	W8303012-114394	110
W8323012-113473	105	W8323012-114313	112	W8323012-108226	121	W8323012-108227	127	W8323012-114394	113

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.

◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

Style WBMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style WBMQ, left hand output reducers and Gear+Motors. For other reducer configurations, see the Maximum Rating Tables beginning on page 122.

3/4 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.41	122	400	5	17	56C	WBMQ813-5-L-56	**W8133001**
350	2.16	122	400	5	22	56C	WBMQ815-5-L-56	**W8153001**
233	1.03	168	400	7.5	17	56C	WBMQ813-7.5-L-56	**W8133002**
233	1.64	179	500	7.5	22	56C	WBMQ815-7.5-L-56	**W8153002**
233	2.22	182	475	7.5	24	56C	WBMQ818-7.5-L-56	**W8183002**
175	1.36	230	500	10	22	56C	WBMQ815-10-L-56	**W8153003**
175	1.85	236	475	10	24	56C	WBMQ818-10-L-56	**W8185003**
175	2.81	239	475	10	30	56C	WBMQ821-10-L-56	**W8213003**
117	1.03	323	500	15	30	56C	WBMQ815-15-L-56	**W8153004**
117	1.40	336	475	15	24	56C	WBMQ818-15-L-56	**W8183004**
117	2.11	344	475	15	30	56C	WBMQ821-15-L-56	**W8213004**
88	1.11	434	475	20	24	56C	WBMQ818-20-L-56	**W8183005**
88	1.68	442	475	20	30	56C	WBMQ821-20-L-56	**W8213005**
88	2.48	444	824	20	46	56C	WBMQ824-20-L-56	**W8243005**
70	1.35	546	475	25	30	56C	WBMQ821-25-L-56	**W8213006**
70	2.07	525	1100	25	46	56C	WBMQ824-25-L-56	**W8243006**
58	1.20	626	475	30	30	56C	WBMQ821-30-L-56	**W8213007**
58	1.77	629	1100	30	46	56C	WBMQ824-30-L-56	**W8243007**
58	2.36	628	1025	30	59	56C	WBMQ826-30-L-56	**W8263007**
44	1.41	780	1100	40	46	56C	WBMQ824-40-L-56	**W8243008**
44	1.87	784	1025	40	59	56C	WBMQ826-40-L-56	**W8263008**
44	2.75	781	1500	40	80	56C	WBMQ830-40-L-56	**W8303008**
35	1.15	928	1100	50	46	56C	WBMQ824-50-L-56	**W8243009**
35	1.50	945	1025	50	59	56C	WBMQ826-50-L-56	**W8263009**
35	2.11	986	1500	50	80	56C	WBMQ830-50-L-56	**W8303009**
29	1.27	1060	1025	60	59	56C	WBMQ826-60-L-56	**W8263010**
29	1.74	1135	1500	60	80	56C	WBMQ830-60-L-56	**W8303010**
29	2.08	1169	1450	60	83	56C	WBMQ832-60-L-56	**W8323010**
22	1.20	1404	1500	80	80	56C	WBMQ830-80-L-56	**W8303011**
22	1.40	1399	1450	80	83	56C	WBMQ832-80-L-56	**W8323011**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

LEESON

OHIO GEAR™

WASHGUARD® SINGLE REDUCTION QUICK SELECTIONS

IRONMAN BY OHIO GEAR

3/4 HP — Gear+Motor™ Quick Selections

TENV, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V		DC SCR 180V		Stainless Frame, 3 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8133001-113019	45	W8133001-114315	48	W8133001-108228	70	W8133001-108229	67	W8133001-114395	51
W8153001-113019	45	W8153001-114315	48	W8153001-108228	70	W8153001-108229	67	W8153001-114395	51
W8133002-113019	45	W6133002-114315	48	W6133002-108228	70	W6133002-108229	67	W6133002-114395	51
W8153002-113019	50	W6153002-114315	53	W6153002-108228	75	W6153002-108229	72	W6153002-114395	56
W8183002-113019	52	W8183002-114315	55	W8183002-108228	77	W8183002-108229	74	W8183002-114395	56
W8153003-113019	50	W8153003-114315	53	W8153003-108228	75	W8153003-108229	71	W8153003-114395	56
W8185003-113019	52	W8185003-114315	55	W8185003-108228	77	W8185003-108229	74	W8185003-114395	58
W8213003-113019	58	W8213003-114315	61	W8213003-108228	83	W8213003-108229	80	W8213003-114395	64
W8153004-113019	50	W8153004-114315	53	W8153004-108228	75	W8153004-108229	72	W8153004-114395	56
W8183004-113019	52	W8183004-114315	55	W8183004-108228	77	W8183004-108229	74	W8183004-114395	58
W8213004-113019	58	W8213004-114315	61	W8213004-108228	83	W8213004-108229	80	W8213004-114395	64
W8183005-113019	52	W8183005-114315	55	W8183005-108228	77	W8183005-108229	74	W8183005-114395	58
W8213005-113019	58	W8213005-114315	61	W8213005-108228	83	W8213005-108229	80	W8213005-114395	64
W8243005-113019	64	W8243005-114315	67	W8243005-108228	89	W8243005-108229	86	W8243005-114395	70
W8213006-113019	58	W8213006-114315	61	W8213006-108228	83	W8213006-108229	80	W8213006-114395	64
W8243006-113019	64	W8243006-114315	67	W8243006-108228	89	W8243006-108229	86	W8243006-114395	70
W8213007-113019	58	W8213007-114315	61	W8213007-108228	83	W8213007-108229	80	W8213007-114395	64
W8243007-113019	64	W8243007-114315	67	W8243007-108228	89	W8243007-108229	86	W8243007-114395	70
W8263007-113019	77	W8263007-114315	80	W8263007-108228	102	W8263007-108229	99	W8263007-114395	83
W8243008-113019	77	W8243008-114315	80	W8243008-108228	102	W8243008-108229	99	W8243008-114395	83
W8263008-113019	77	W8263008-114315	80	W8263008-108228	102	W8263008-108229	99	W8263008-114395	83
W8303008-113019	98	W8303008-114315	101	W8303008-108228	123	W8303008-108229	120	W8303008-114395	104
W8243009-113019	64	W8243009-114315	67	W8243009-108228	89	W8243009-108229	86	W8243009-114395	70
W8263009-113019	77	W8263009-114315	80	W8263009-108228	102	W8263009-108229	99	W8263009-114395	83
W8303009-113019	98	W8303009-114315	101	W8303009-108228	123	W8303009-108229	120	W8303009-114395	104
W8263010-113019	77	W8263010-114315	80	W8263010-108228	102	W8263010-108229	99	W8263010-114395	83
W8303010-113019	98	W8303010-114315	101	W8303010-108228	123	W8303010-108229	120	W8303010-114395	104
W8323010-113019	101	W8323010-114315	104	W8323010-108228	126	W8323010-108229	123	W8323010-114395	107
W8303011-113019	98	W8303011-114315	101	W8303011-108228	123	W8303011-108229	120	W8303011-114395	104
W8323011-113019	101	W8323011-114315	104	W8323011-108228	126	W8323011-108229	123	W8323011-114395	107

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.

◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

Style WBMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style WBMQ, left hand output reducers and Gear+Motors. For other reducer configurations, see the Maximum Rating Tables beginning on page 122.

1 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor ▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.06	162	400	5	17	56C	WBMQ813-5-L-56	**W8133001**
350	1.61	163	500	5	22	56C	WBMQ815-5-L-56	**W8153001**
350	2.52	166	475	5	30	56C	WBMQ821-5-L-56	**W8213001**
233	1.24	238	500	7.5	22	56C	WBMQ815-7.5-L-56	**W8153002**
233	1.67	242	475	7.5	24	56C	WBMQ818-7.5-L-56	**W8183002**
233	2.48	244	475	7.5	30	56C	WBMQ821-7.5-L-56	**W8213002**
175	1.02	307	500	10	22	56C	WBMQ815-10-L-56	**W8153003**
175	1.38	315	475	10	24	56C	WBMQ818-10-L-56	**W8183003**
175	2.10	319	475	10	30	56C	WBMQ821-10-L-56	**W8213003**
117	1.05	448	475	15	24	56C	WBMQ818-15-L-56	**W8183004**
117	1.58	459	475	15	30	56C	WBMQ821-15-L-56	**W8213004**
117	2.34	460	1100	15	46	56C	WBMQ824-15-L-56	**W8243004**
88	1.26	590	475	20	30	56C	WBMQ821-20-L-56	**W8213005**
88	1.86	592	1100	20	46	56C	WBMQ824-20-L-56	**W8243005**
88	2.43	602	1025	20	59	56C	WBMQ826-20-L-56	**W8263005**
70	1.01	728	475	25	30	56C	WBMQ821-25-L-56	**W8213006**
70	1.56	699	1100	25	46	56C	WBMQ824-25-L-56	**W8243006**
58	1.33	839	1100	30	46	56C	WBMQ824-30-L-56	**W8243007**
58	1.77	837	1025	30	59	56C	WBMQ826-30-L-56	**W8263007**
58	2.47	878	1500	30	80	56C	WBMQ830-30-L-56	**W8303007**
44	1.06	1040	1100	40	46	56C	WBMQ824-40-L-56	**W8243008**
44	1.40	1045	1025	40	59	56C	WBMQ826-40-L-56	**W8263008**
44	2.06	1042	1500	40	80	56C	WBMQ826-40-L-56	**W8303008**
35	1.12	1260	1025	50	59	56C	WBMQ826-50-L-56	**W8263009**
35	1.59	1315	1500	50	80	56C	WBMQ830-50-L-56	**W8303009**
35	1.91	1347	1450	50	83	56C	WBMQ832-50-L-56	**W8323009**
29	1.31	1513	1500	60	80	56C	WBMQ830-60-L-56	**W8303010**
29	1.56	1558	1450	60	83	56C	WBMQ832-60-L-56	**W8323010**
22	1.05	1865	1450	80	83	56C	WBMQ832-80-L-56	**W8323011**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

WASHGUARD® SINGLE REDUCTION QUICK SELECTIONS

1 HP Gear+Motor™ Quick Selections

TENV, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 90V, TEFC		DC SCR 180V		Stainless Frame, 3 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8133001-113020	49	W8133001-114317	51	W8133001-108230	62	W8133001-108231	59	W8133001-114437	61
W8153001-113020	54	W8153001-114317	56	W8153001-108230	67	W8153001-108231	64	W8153001-114437	66
W8213001-113020	62	W8213001-114317	64	W8213001-108230	75	W8213001-108231	72	W8213001-114437	74
W8153002-113020	54	W8153002-114317	56	W8153002-108230	67	W8153002-108231	64	W8153002-114437	66
W8183002-113020	56	W8183002-114317	58	W8183002-108230	69	W8183002-108231	66	W8183002-114437	68
W8213002-113020	62	W8213002-114317	64	W8213002-108230	75	W8213002-108231	72	W8213002-114437	64
W8153003-113020	54	W8153003-114317	56	W8153003-108230	67	W8153003-108231	64	W8153003-114437	66
W8183003-113020	56	W8183003-114317	58	W8183003-108230	69	W8183003-108231	66	W8183003-114437	68
W8213003-113020	62	W8213003-114317	64	W8213003-108230	75	W8213003-108231	72	W8213003-114437	74
W8183004-113020	56	W8183004-114317	58	W8183004-108230	69	W8183004-108231	66	W8183004-114437	68
W8213004-113020	62	W8213004-114317	64	W8213004-108230	75	W8213004-108231	72	W8213004-114437	74
W8243004-113020	78	W8243004-114317	80	W8243004-108230	91	W8243004-108231	87	W8243004-114437	90
W8213005-113020	62	W8213005-114317	64	W8213005-108230	75	W8213005-108231	72	W8213005-114437	74
W8243005-113020	78	W8243005-114317	80	W8243005-108230	91	W8243005-108231	87	W8243005-114437	90
W8263005-113020	91	W8263005-114317	93	W8263005-108230	104	W8263005-108231	101	W8263005-114437	103
W8213006-113020	62	W8213006-114317	64	W8213006-108230	75	W8213006-108231	72	W8213006-114437	74
W8243006-113020	78	W8243006-114317	80	W8243006-108230	91	W8243006-108231	87	W8243006-114437	90
W8243007-113020	78	W8243007-114317	80	W8243007-108230	91	W8243007-108231	87	W8243007-114437	90
W8263007-113020	91	W8263007-114317	93	W8263007-108230	104	W8263007-108231	101	W8263007-114437	103
W8303007-113020	112	W8303007-114317	114	W8303007-108230	125	W8303007-108231	122	W8303007-114437	124
W8243008-113020	78	W8243008-114317	80	W8243008-108230	91	W8243008-108231	87	W8243008-114437	90
W8263008-113020	91	W8263008-114317	93	W8263008-108230	104	W8263008-108231	101	W8263008-114437	103
W8303008-113020	112	W8303008-114317	114	W8303008-108230	125	W8303008-108231	122	W8303008-114437	124
W8263009-113020	91	W8263009-114317	93	W8263009-108230	104	W8263009-108231	101	W8263009-114437	103
W8303009-113020	112	W8303009-114317	114	W8303009-108230	125	W8303009-108231	122	W8303009-114437	124
W8323009-113020	115	W8323009-114317	117	W8323009-108230	128	W8323009-108231	125	W8323009-114437	127
W8303010-113020	112	W8303010-114317	114	W8303010-108230	125	W8303010-108231	122	W8303010-114437	124
W8323010-113020	115	W8323010-114317	117	W8323010-108230	128	W8323010-108231	125	W8323010-114437	127
W8323011-113020	115	W8323011-114317	117	W8323011-108230	128	W8323011-108231	125	W8323011-114437	127

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.

◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

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LEESON®
OHIO GEAR™

Style WBMQ - Quill Input
Left Hand Output Shaft
1750 RPM Input

This Quick Selection is only for style WBMQ, left hand output reducers and Gear+Motors. For other reducer configurations, see the Maximum Rating Tables beginning on page 122.

1-1/2 HP — Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.07	245	500	5	22	56C	WBMQ815-5-L-56	**W8153001**
350	1.67	250	475	5	30	56C	WBMQ821-5-L-56	**W8213001**
350	2.59	252	1100	5	46	56C	WBMQ824-5-L-56	**W8243001**
233	1.11	363	475	7.5	24	56C	WBMQ818-7.5-L-56	**W8183002**
233	1.65	366	475	7.5	30	56C	WBMQ821-7.5-L-56	**W8213002**
233	2.31	374	1100	7.5	46	56C	WBMQ824-7.5-L-56	**W8243002**
175	1.40	478	475	10	30	56C	WBMQ821-10-L-56	**W8213003**
175	2.08	476	1100	10	46	56C	WBMQ824-10-L-56	**W8243003**
117	1.05	688	475	15	30	56C	WBMQ821-15-L-56	**W8213004**
117	1.56	691	1100	15	46	56C	WBMQ824-15-L-56	**W8243004**
117	2.03	703	1025	15	59	56C	WBMQ826-15-L-56	**W8263004**
88	1.24	887	1100	20	46	56C	WBMQ824-20-L-56	**W8243005**
88	1.62	902	1025	20	59	56C	WBMQ826-20-L-56	**W8263005**
88	2.34	915	1500	20	80	56C	WBMQ830-20-L-56	**W8303005**
70	1.04	1049	1100	25	46	56C	WBMQ824-25-L-56	**W8243006**
70	1.36	1066	1025	25	59	56C	WBMQ826-25-L-56	**W8263006**
70	2.02	1069	1500	25	80	56C	WBMQ830-25-L-56	**W8303006**
58	1.18	1255	1025	30	59	56C	WBMQ826-30-L-56	**W8263007**
58	1.64	1318	1500	30	80	56C	WBMQ830-30-L-56	**W8303007**
58	2.05	1260	1450	30	83	56C	WBMQ832-30-L-56	**W8323007**
44	1.37	1562	1500	40	80	56C	WBMQ830-40-L-56	**W8303008**
44	1.57	1678	1450	40	83	56C	WBMQ832-40-L-56	**W8323008**
35	1.06	1972	1500	50	80	56C	WBMQ830-50-L-56	**W8303009**
35	1.27	2020	1450	50	83	56C	WBMQ832-50-L-56	**W8323009**
29	1.04	2338	1450	60	83	56C	WBMQ832-60-L-56	**W8323010**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

WASHGUARD® SINGLE REDUCTION QUICK SELECTIONS

1-1/2 HP — Gear+Motor™ Quick Selections

TENV, 3 Phase 230/460V		TEFC, 1 Phase 115/230V		DC SCR 180V, TEFC		Stainless Frame, 3 Phase, 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8153001-113021	66	W8153001-114319	65	W8153001-108232	72	W8153001-114581	67
W8213001-113021	74	W8213001-114319	73	W8213001-108232	80	W8213001-114581	75
W8243001-113021	90	W8243001-114319	90	W8243001-108232	97	W8243001-114581	92
W8183002-113021	68	W8183002-114319	67	W8183002-108232	74	W8183002-114581	69
W8213002-113021	74	W8213002-114319	73	W8213002-108232	80	W8213002-114581	75
W8243002-113021	90	W8243002-114319	89	W8243002-108232	96	W8243002-114581	91
W8213003-113021	74	W8213003-114319	73	W8213003-108232	80	W8213003-114581	75
W8243003-113021	90	W8243003-114319	89	W8243003-108232	96	W8243003-114581	91
W8213004-113021	74	W8213004-114319	73	W8213004-108232	80	W8213004-114581	75
W8243004-113021	90	W8243004-114319	89	W8243004-108232	96	W8243004-114581	91
W8263004-113021	103	W8263004-114319	102	W8263004-108232	109	W8263004-114581	104
W8243005-113021	90	W8243005-114319	89	W8243005-108232	96	W8243005-114581	91
W8263005-113021	103	W8263005-114319	102	W8263005-108232	109	W8263005-114581	104
W8303005-113021	124	W8303005-114319	123	W8303005-108232	130	W8303005-114581	125
W8243006-113021	90	W8243006-114319	89	W8243006-108232	96	W8243006-114581	91
W8263006-113021	103	W8263006-114319	102	W8263006-108232	109	W8263006-114581	104
W8303006-113021	124	W8303006-114319	123	W8303006-108232	130	W8303006-114581	125
W8263007-113021	103	W8263007-114319	102	W8263007-108232	109	W8263007-114581	104
W8303007-113021	124	W8303007-114319	123	W8303007-108232	130	W8303007-114581	125
W8323007-113021	127	W8323007-114319	126	W8323007-108232	133	W8323007-114581	128
W8303008-113021	124	W8303008-114319	123	W8303008-108232	130	W8303008-114581	125
W8323008-113021	127	W8323008-114319	126	W8323008-108232	133	W8323008-114581	128
W8303009-113021	124	W8303009-114319	123	W8303009-108232	130	W8303009-114581	125
W8323009-113021	127	W8323009-114319	126	W8323009-108232	133	W8323009-114581	128
W8323010-113021	127	W8323010-114319	126	W8323010-108232	133	W8323010-114581	128

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.

◆ Weight includes oil.

MAX RATINGS QUICK REFERENCE

LEESON
OHIO GEAR™

Style SBMQ - C-Faced Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style SBMQ, left hand output reducers and Gear+Motors™. Contact LEESON for other reducer configurations.

1/2 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	2.12	81	400	5	17	56C	SBMQ813-5-L-56	**W8133801**
233	1.54	112	400	7.5	17	56C	SBMQ813-7.5-L-56	**W8133802**
233	2.47	119	500	7.5	22	56C	SBMQ815-7.5-L-56	**W8153802**
175	1.45	151	400	10	17	56C	SBMQ813-10-L-56	**W8133803**
175	2.05	153	500	10	22	56C	SBMQ815-10-L-56	**W8153803**
117	1.13	215	400	15	17	56C	SBMQ813-15-L-56	**W8133804**
117	1.55	215	500	15	22	56C	SBMQ815-15-L-56	**W8153804**
117	4.68	230	1100	15	46	56C	SBMQ824-15-L-56	**W8243804**
88	1.29	271	500	20	22	56C	SBMQ815-20-L-56	**W8153805**
88	3.72	296	1100	20	46	56C	SBMQ824-20-L-56	**W8243805**
70	1.09	324	500	25	22	56C	SBMQ815-25-L-56	**W8153806**
70	3.11	350	1100	25	46	56C	SBMQ824-25-L-56	**W8243806**
58	2.65	420	1100	30	46	56C	SBMQ824-30-L-56	**W8243807**
44	2.12	520	1100	40	46	56C	SBMQ824-40-L-56	**W8243808**
35	1.72	619	1100	50	46	56C	SBMQ824-50-L-56	**W8243809**
35	3.82	673	1450	50	83	56C	SBMQ832-50-L-56	**W8323809**
29	1.43	706	1100	60	46	56C	SBMQ824-60-L-56	**W8243810**
29	3.13	779	1450	60	83	56C	SBMQ832-60-L-56	**W8323810**
22	2.10	933	1450	80	83	56C	SBMQ832-80-L-56	**W8323811**
18	1.45	1068	1450	100	83	56C	SBMQ832-100-L-56	**W8323812**

3/4 HP Gear Reducer Quick Selections

350	1.41	122	400	5	17	56C	SBMQ813-5-L-56	**W8133801**
350	2.16	122	500	5	22	56C	SBMQ815-5-L-56	**W8153801**
233	1.03	168	400	7.5	17	56C	SBMQ813-7.5-L-56	**W8133802**
233	1.64	179	500	7.5	22	56C	SBMQ815-7.5-L-56	**W8153802**
175	1.36	230	500	10	22	56C	SBMQ815-10-L-56	**W8153803**
175	4.17	238	1100	10	46	56C	SBMQ824-10-L-56	**W8243803**
117	1.03	323	500	15	22	56C	SBMQ815-15-L-56	**W8153804**
117	3.12	345	1100	15	46	56C	SBMQ824-15-L-56	**W8243804**
88	2.48	444	1100	20	46	56C	SBMQ824-20-L-56	**W8243805**
70	2.07	525	1100	25	46	56C	SBMQ824-25-L-56	**W8243806**
58	1.77	629	1100	30	46	56C	SBMQ824-30-L-56	**W8243807**
58	4.09	630	1450	30	83	56C	SBMQ832-30-L-56	**W8323807**
44	1.41	780	1100	40	46	56C	SBMQ824-40-L-56	**W8243808**
44	3.15	839	1450	40	83	56C	SBMQ832-40-L-56	**W8323808**
35	1.15	928	1100	50	46	56C	SBMQ824-50-L-56	**W8243809**
35	2.54	1010	1450	50	83	56C	SBMQ832-50-L-56	**W8323809**
29	2.08	1169	1450	60	83	56C	SBMQ832-60-L-56	**W8323810**
22	1.40	1399	1450	80	83	56C	SBMQ832-80-L-56	**W8323811**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

LEESON

OHIO GEAR™

STAINLESS STEEL • SINGLE REDUCTION QUICK SELECTIONS

IRONMAN BY OHIO GEAR

1/2 HP Gear+Motor™ Quick Selections

Stainless Frame, TENV, 3 Phase 230/460V		All Stainless, TENV, 3 Phase 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8133801-114394	47	W8133801-116166	39
W8133802-114394	47	W8133802-116166	39
W8153802-114394	52	W8153802-116166	44
W8133803-114394	47	W8133803-116166	39
W8153803-114394	52	W8153803-116166	44
W8133804-114394	47	W8133804-116166	39
W8153804-114394	52	W8153804-116166	44
W8243804-114394	76	W8243804-116166	68
W8153805-114394	52	W8153805-116166	44
W8243805-114394	76	W8243805-116166	68
W8153806-114394	52	W8153806-116166	44
W8243806-114394	76	W8243806-116166	68
W8243807-114394	76	W8243807-116166	68
W8243808-114394	76	W8243808-116166	68
W8243809-114394	76	W8243809-116166	68
W8323809-114394	113	W8323809-116166	105
W8243810-114394	76	W8243810-116166	68
W8323810-114394	113	W8323810-116166	105
W8323811-114394	113	W8323811-116166	105
W8323812-114394	113	W8323812-116166	105

3/4 HP Gear+Motor™ Quick Selections

W8133801-114395	51	W8133801-116168	54
W8153801-114395	56	W8153801-116168	59
W8133802-114395	51	W8133802-116168	54
W8153802-114395	56	W8153802-116168	59
W8153803-114395	56	W8153803-116168	59
W8243803-114395	80	W8243803-116168	83
W8153804-114395	56	W8153804-116168	59
W8243804-114395	80	W8243804-116168	83
W8243805-114395	80	W8243805-116168	83
W8243806-114395	80	W8243806-116168	83
W8243807-114395	80	W8243807-116168	83
W8323807-114395	117	W8323807-116168	120
W8243808-114395	80	W8243808-116168	83
W8323808-114395	117	W8323808-116168	120
W8243809-114395	80	W8243809-116168	83
W8323809-114395	117	W8323809-116168	120
W8323810-114395	117	W8323810-116168	120
W8323811-114395	117	W8323811-116168	120

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
◆ Weight includes oil.

Style SBMQ - C-Faced Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style SBMQ, left hand output reducers and Gear+Motors™. Contact LEESON for other reducer configurations.

1 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.06	162	400	5	17	56C	SBMQ813-5-L-56	**W8133801**
350	1.61	163	500	5	22	56C	SBMQ815-5-L-56	**W8153801**
350	3.89	168	1100	5	46	143-5TC	SBMQ824-5-L-140	**W8243837**
233	1.24	238	500	7.5	22	56C	SBMQ815-7.5-L-56	**W8153802**
233	1.24	238	500	7.5	22	143-5TC	SBMQ815-7.5-L-140	**W8153838**
233	3.47	249	1100	7.5	46	143-5TC	SBMQ824-7.5-L-140	**W8243838**
175	1.02	307	500	10	22	56C	SBMQ815-10-L-56	**W8153803**
175	3.13	317	1100	10	46	143-5TC	SBMQ824-10-L-140	**W8243839**
117	2.34	460	1100	15	46	143-5TC	SBMQ824-15-L-140	**W8243840**
88	1.86	592	1100	20	46	143-5TC	SBMQ824-20-L-140	**W8243841**
88	4.21	626	1450	20	83	143-5TC	SBMQ832-20-L-140	**W8323841**
70	1.56	699	1100	25	46	143-5TC	SBMQ824-25-L-140	**W8243842**
70	3.47	767	1450	25	83	143-5TC	SBMQ832-25-L-140	**W8323842**
58	1.33	839	1100	30	46	143-5TC	SBMQ824-30-L-140	**W8243843**
58	3.07	840	1450	30	83	143-5TC	SBMQ832-30-L-140	**W8323843**
44	1.06	1040	1100	40	46	56C	SBMQ824-40-L-56	**W8243808**
44	2.36	1119	1450	40	83	143-5TC	SBMQ832-40-L-140	**W8323844**
35	1.91	1347	1450	50	83	143-5TC	SBMQ832-50-L-140	**W8323845**
29	1.56	1558	1450	60	83	143-5TC	SBMQ832-60-L-140	**W8323846**
22	1.05	1865	1450	80	83	56C	SBMQ832-80-L-56	**W8323811**

1-1/2 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.07	245	500	5	22	143-5TC	SBMQ815-5-L-140	**W8153837**
350	2.59	252	1100	5	46	143-5TC	SBMQ824-5-L-140	**W8243837**
233	2.31	374	1100	7.5	46	143-5TC	SBMQ824-7.5-L-140	**W8243838**
175	2.08	476	1100	10	46	143-5TC	SBMQ824-10-L-140	**W8243839**
117	1.56	691	1100	15	46	143-5TC	SBMQ824-15-L-140	**W8243840**
117	3.53	723	1450	15	83	143-5TC	SBMQ832-15-L-140	**W8323840**
88	1.24	887	1100	20	46	143-5TC	SBMQ824-20-L-140	**W8243841**
88	2.81	938	1450	20	83	143-5TC	SBMQ832-20-L-140	**W8323841**
70	1.04	1049	1100	25	46	143-5TC	SBMQ824-25-L-140	**W8243842**
70	2.31	1151	1450	25	83	143-5TC	SBMQ832-25-L-140	**W8323842**
58	2.05	1260	1450	30	83	143-5TC	SBMQ832-30-L-140	**W8323843**
44	1.57	1678	1450	40	83	143-5TC	SBMQ832-40-L-140	**W8323844**
35	1.27	2020	1450	50	83	143-5TC	SBMQ832-50-L-140	**W8323845**
29	1.04	2338	1450	60	83	143-5TC	SBMQ832-60-L-140	**W8323846**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

LEESON®

OHIO GEAR™

STAINLESS STEEL • SINGLE REDUCTION QUICK SELECTIONS

LEESON IRONMAN BY OHIO GEAR™

1 HP Gear+Motor™ Quick Selections

Stainless Frame, TENV, 3 Phase 230/460V		All Stainless, TENV, 3 Phase 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8133801-114437	61	W8133801-116170	55
W8153801-114437	66	W8153801-116170	60
W8243837-121109	86	W8243837-121523	85
W8153802-114437	66	W8153802-116170	60
W8153838-121109	62	W8153838-121523	61
W8243838-121109	86	W8243838-121523	85
W8153803-114437	66	W8153803-116170	60
W8243839-121109	86	W8243839-121523	85
W8243840-121109	86	W8243840-121523	85
W8243841-121109	86	W8243841-121523	85
W8323841-121109	123	W8323841-121523	122
W8243842-121109	86	W8243842-121523	85
W8323842-121109	123	W8323842-121523	122
W8243843-121109	86	W8243843-121523	85
W8323843-121109	123	W8323843-121523	122
W8243808-114437	90	W8243808-116170	84
W8323844-121109	123	W8323844-121523	122
W8323845-121109	123	W8323845-121523	122
W8323846-121109	123	W8323846-121523	122
W8323811-114437	127	W8323811-116170	121

1-1/2 HP Gear+Motor™ Quick Selections

W8153837-121350**	62	W8153837-121525*	68
W8243837-121350**	86	W8243837-121525*	92
W8243838-121350**	86	W8243838-121525*	92
W8243839-121350**	86	W8243839-121525*	92
W8243840-121350**	86	W8243840-121525*	92
W8323840-121350**	123	W8323840-121525*	129
W8243841-121350**	86	W8243841-121525*	92
W8323841-121350**	123	W8323841-121525*	129
W8243842-121350**	86	W8243842-121525*	92
W8323842-121350**	123	W8323842-121525*	129
W8323843-121350**	123	W8323843-121525*	129
W8323844-121350**	123	W8323844-121525*	129
W8323845-121350**	123	W8323845-121525*	129
W8323846-121350**	123	W8323846-121525*	129

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
* These motors are fan cooled.
** These motors are TEFC with stainless steel fan cover and chemically inert fan.
◆ Weight includes oil.

LEESON
OHIO GEAR™

Style SBMQ - C-Faced Quill Input Left Hand Output Shaft 1750 RPM Input

This Quick Selection is only for style SBMQ, left hand output reducers and Gear+Motors™. Contact LEESON for other reducer configurations.

2 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.94	336	1100	5	46	143-5TC	SBMQ824-5-L-140	**W8243837**
233	1.73	499	1100	7.5	46	143-5TC	SBMQ824-7.5-L-140	**W8243838**
233	3.91	505	1450	7.5	83	143-5TC	SBMQ832-7.5-L-140	**W8323838**
175	1.56	635	1100	10	46	143-5TC	SBMQ824-10-L-140	**W8243839**
175	3.51	667	1450	10	83	143-5TC	SBMQ832-10-L-140	**W8323839**
117	1.17	921	1100	15	46	143-5TC	SBMQ824-15-L-140	**W8243840**
117	2.65	964	1450	15	83	143-5TC	SBMQ832-15-L-140	**W8323840**
88	2.10	1251	1450	20	83	143-5TC	SBMQ832-20-L-140	**W8323841**
70	1.73	1535	1450	25	83	143-5TC	SBMQ832-25-L-140	**W8323842**
58	1.53	1680	1450	30	83	143-5TC	SBMQ832-30-L-140	**W8323843**

3 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.30	504	1100	5	46	182-4TC	SBMQ824-5-L-180	**W8243873**
350	3.15	509	1450	5	83	182-4TC	SBMQ832-5-L-180	**W8323873**
233	1.15	748	1100	7.5	46	182-4TC	SBMQ824-7.5-L-180	**W8243874**
233	2.61	757	1450	7.5	83	182-4TC	SBMQ832-7.5-L-180	**W8323874**
175	1.04	952	1100	10	46	182-4TC	SBMQ824-10-L-180	**W8243875**
175	2.34	1000	1450	10	83	182-4TC	SBMQ832-10-L-180	**W8323875**
117	1.76	1446	1450	15	83	182-4TC	SBMQ832-15-L-180	**W8323876**
88	1.40	1877	1450	20	83	182-4TC	SBMQ832-20-L-180	**W8323877**
70	1.15	2302	1450	25	83	182-4TC	SBMQ832-25-L-180	**W8323878**
58	1.02	2520	1450	30	83	182-4TC	SBMQ832-30-L-180	**W8323879**

5 HP Gear Reducer Quick Selections

Output Speed (RPM)	Service Factor▲	Output Torque (lb-in)	Overhung Load ■ (lbs.)	Ratio	Reducer Weight ◆ (lbs.)	Motor Frame	Model Number	Reducer Only Catalog Number
350	1.89	849	1450	5	83	182-4TC	SBMQ832-5-L-180	**W8323873**
233	1.57	1262	1450	7.5	83	182-4TC	SBMQ832-7.5-L-180	**W8323874**
175	1.41	1667	1450	10	83	182-4TC	SBMQ832-10-L-180	**W8323875**
117	1.06	2410	1450	15	83	182-4TC	SBMQ832-15-L-180	**W8323876**

▲ Service factor is based on maximum torque rating of reducer. Refer to page 173 for special application considerations.
■ Output shaft overhung load rating is based on load applied one shaft diameter from face of reducer housing.
◆ Weight includes oil.

LEESON®

OHIO GEAR™

STAINLESS STEEL • SINGLE REDUCTION QUICK SELECTIONS

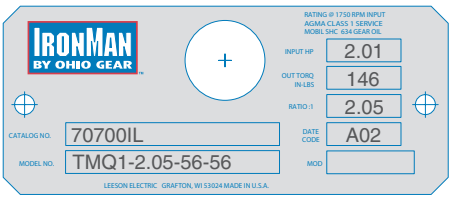
2 HP Gear+Motor™ Quick Selections			
Stainless Frame, TEFC, 3 Phase 230/460V		All Stainless, TENV, 3 Phase 230/460V	
Catalog No.	Wgt.◆ (lbs.)	Catalog No.	Wgt.◆ (lbs.)
W8243837-121351	97	W8243837-121527	93
W8243838-121351	97	W8243838-121527	93
W8323838-121351	134	W8323838-121527	130
W8243839-121351	97	W8243839-121527	93
W8323839-121351	134	W8323839-121527	130
W8243840-121351	97	W8243840-121527	93
W8323840-121351	134	W8323840-121527	130
W8323841-121351	134	W8323841-121527	130
W8323842-121351	134	W8323842-121527	130
W8323843-121351	134	W8323843-121527	130
3 HP Gear+Motor™ Quick Selections			
—	—	W8243873-131923	113
—	—	W8323873-131923	150
—	—	W8243874-131923	113
—	—	W8323874-131923	150
—	—	W8243875-131923	113
—	—	W8323875-131923	150
—	—	W8323876-131923	150
—	—	W8323877-131923	150
—	—	W8323878-131923	150
—	—	W8323879-131923	150
5 HP Gear+Motor™ Quick Selections			
—	—	W8323873-131924	162
—	—	W8323874-131924	162
—	—	W8323875-131924	162
—	—	W8323876-131924	162

GEAR+MOTOR™ catalog numbers are comprised of the reducer catalog number followed by the motor catalog number.
◆ Weight includes oil.

STOCK RATIO MULTIPLIER MODEL NUMBER SYSTEM

LEESON
OHIO GEAR™

TYPICAL NAMEPLATE



LEESON 800 Series Gear Reducer Model Number Nomenclature

All stock and custom 800 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All ratio multipliers also have a catalog number—for example 707012L. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.

Style

SOLID OUTPUT SHAFT
TXMQ – Motorized, Quill Input
TXM – Motorized, Flexible Coupling Input
TX – Non-Flanged

Series

1, 2, 3

Ratio

SEE SELECTION TABLES ON PAGES 146-147 FOR ALL AVAILABLE RATIOS

Motor Flange

NEMA Input Flange Code	For NEMA Frame
48	48CZ
56	56C
140	143-5TC
180	182-4TC
210	213-5TC
250	254-6TC
N	Non-motorized input

Output Flange

NEMA Input Flange Code	For NEMA Frame
56	56C
140	143-5TC
180	182-4TC
210	213-5TC

Sample Model Number

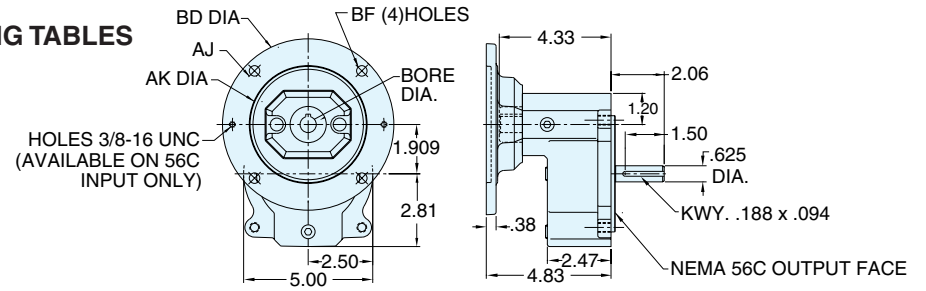
Motorized Quill Input Series 1; 4:1 Ratio, 5/8" Input Bore with NEMA 56C Flange, and 56C output flange.

TXMQ	1	4	56	56
Style	Series	Ratio	Motor Input Flange	Output Flange

RATIO MULTIPLIER

DIMENSIONS • MAXIMUM RATING TABLES

SERIES 1



SERIES 1 DIMENSIONS (Inches)

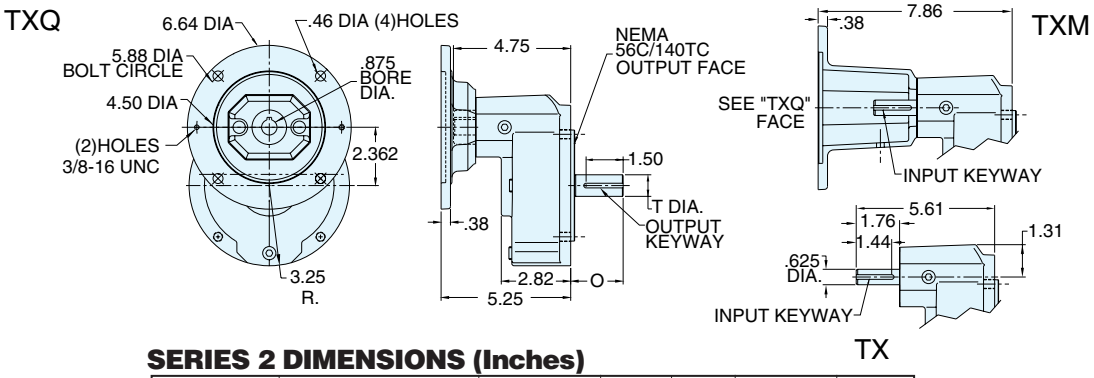
Style	Frame Combinations (Input - Output)	AJ	AK	BD	BF	Input Bore	Input Keyway*	Weight (lbs.)
TXMQ	48CZ - 56C	3.75	3.00	4.36	0.28	.500	1/8 X 1/16	19
	56C - 56C	5.88	4.50	6.64	0.41	.625	3/16 X 3/32	19

* Keyway width by depth

SERIES 1 • MAXIMUM RATINGS

Exact Ratio	Input R.P.M.	Output R.P.M.	Input H.P.	Output H.P.	Output TQ. (lb-in.)	Overhung Load (lbs.)
2.056	1750	851	2.01	1.97	146	222
2.929	1750	598	1.43	1.41	148	265
4.000	1750	438	1.20	1.18	170	300
5.111	1750	342	1.03	1.01	186	300
7.462	1750	235	0.75	0.73	196	300

SERIES 2



SERIES 2 DIMENSIONS (Inches)

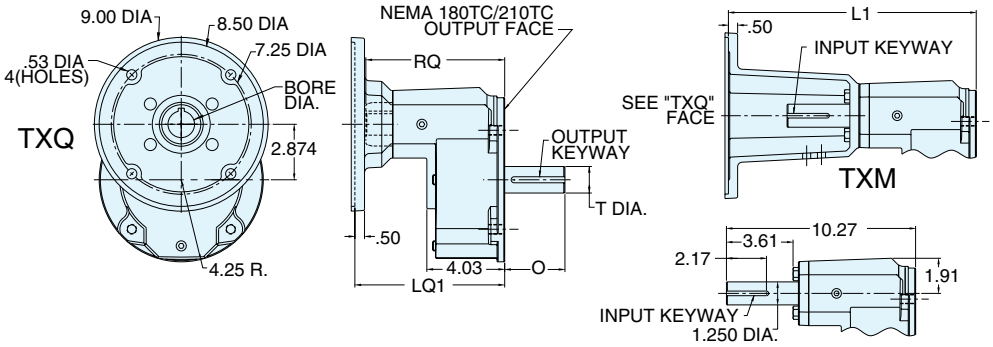
Style	Frame Combinations (Input - Output)	Input Keyway*	O	T +0.000 -0.0015	Output Keyway*	Weight (lbs.)
TXMQ, TXM, TX	140TC - 56C	.188 x .094	2.06	0.625	.188 x .094	22
	140TC - 140TC	.188 x .094	2.13	0.875	.188 x .094	22

* Keyway width by depth

SERIES 2 • MAXIMUM RATINGS

Exact Ratio	Input R.P.M.	Output R.P.M.	Input H.P.	Output H.P.	Output TQ. (lb-in.)	Overhung Load 56C Output (lbs.)	Overhung Load 140TC Output (lbs.)
2.000	1750	875	6.00	5.88	424	358	358
2.913	1750	601	4.21	4.13	433	375	434
4.000	1750	438	3.63	3.55	511	375	455
5.000	1750	350	3.00	2.94	529	375	455
7.182	1750	244	2.62	2.57	664	375	455

STYLE 3



SERIES 3 DIMENSIONS (Inches)

Style	Frame Combinations (Input - Output)	Input Bore	L1	LQ1	O	RQ	T +0.000 -0.0015	Input Keyway*	Output Keyway*	Weight (lbs.)
TXMQ, TXM, TX	180TC - 180TC	1.125	13.45	7.76	2.62	7.25	1.125	.250 x .125	.250 x .125 x 1.80	45
	210TC - 180TC	1.375	13.45	7.76	2.62	7.25	1.125	.312 x .156**	.250 x .125 x 1.80	45
	250TC - 180TC	1.625	14.01	8.32	2.62	7.65	1.125	.375 x .188**	.250 x .125 x 1.80	45
	180TC - 210TC	1.125	13.45	7.76	3.12	7.25	1.375	.250 x .125	.312 x .156 x 2.63	45
	210TC - 210TC	1.375	13.45	7.76	3.12	7.25	1.375	.312 x .156**	.312 x .156 x 2.63	45
	250TC - 210TC	1.625	14.01	8.32	3.12	7.65	1.375	.375 x .188**	.312 x .156 x 2.63	45

* Keyway width by depth
** Input keyway for styles TXM & TX is .250 x .125

SERIES 3 • MAXIMUM RATINGS

Exact Ratio	Input R.P.M.	Output R.P.M.	Input H.P.	Output H.P.	Output TQ. (lb-in.)	Overhung Load (lbs.)
2.000	1750	875	20.00	19.60	1412	900
2.964	1750	590	12.98	12.72	1357	900
4.045	1750	433	11.35	11.13	1621	900
5.167	1750	339	10.07	9.87	1836	900
7.538	1750	232	5.80	5.69	1544	900

RATIO MULTIPLIER
AVAILABLE SELECTIONS

LEESON
OHIO GEAR™

SERIES 1 • AVAILABLE SELECTIONS

Exact Ratio	Style	Motor C-Flange	Output C-Flange	Catalog Number
2.056	TXMQ	48CZ	56C	707000L
		56C	56C	707001L
2.929	TXMQ	48CZ	56C	707002L
		56C	56C	707003L
4.000	TXMQ	48CZ	56C	707004L
		56C	56C	707005L
5.111	TXMQ	48CZ	56C	707006L
		56C	56C	707007L
7.462	TXMQ	48CZ	56C	707008L
		56C	56C	707009L

SERIES 2 • AVAILABLE SELECTIONS

Exact Ratio	Style	Motor C-Flange	Output C-Flange	Catalog Number
2.000	TXMQ	143-5TC	56C	707012L
		143-5TC	143-5TC	707013L
	TXM	143-5TC	56C	707032L
		143-5TC	143-5TC	707033L
	TX	--	56C	707050L
		--	143-5TC	707051L
2.913	TXMQ	143-5TC	56C	707016L
		143-5TC	143-5TC	707017L
	TXM	143-5TC	56C	707036L
		143-5TC	143-5TC	707037L
	TX	--	56C	707052L
		--	143-5TC	707053L
4.000	TXMQ	143-5TC	56C	707020L
		143-5TC	143-5TC	707021L
	TXM	143-5TC	56C	707040L
		143-5TC	143-5TC	707041L
	TX	--	56C	707054L
		--	143-5TC	707055L
5.000	TXMQ	143-5TC	56C	707024L
		143-5TC	143-5TC	707025L
	TXM	143-5TC	56C	707044L
		143-5TC	143-5TC	707045L
	TX	--	56C	707056L
		--	143-5TC	707057L
7.182	TXMQ	143-5TC	56C	707028L
		143-5TC	143-5TC	707029L
	TXM	143-5TC	56C	707048L
		143-5TC	143-5TC	707049L
	TX	--	56C	707058L
		--	143-5TC	707059L

SERIES 3 • AVAILABLE SELECTIONS

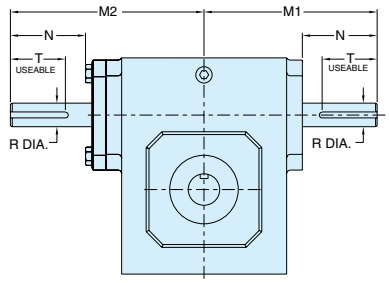
Exact Ratio	Style	Motor C-Flange	Output C-Flange	Catalog Number
2.000	TXMQ	213-5TC	213-5TC	707064L
		254-6TC	213-5TC	707067L
	TXM	213-5TC	213-5TC	707094L
		254-6TC	213-5TC	707097L
	TX	--	213-5TC	707121L
2.964	TXMQ	182-4TC	182-4TC	707069L
		182-4TC	213-5TC	707070L
		213-5TC	182-4TC	707072L
		213-5TC	213-5TC	707073L
	TXM	182-4TC	182-4TC	707099L
		182-4TC	213-5TC	707100L
		213-5TC	182-4TC	707102L
		213-5TC	213-5TC	707103L
	TX	--	182-4TC	707123L
		--	213-5TC	707124L
4.045	TXMQ	182-4TC	182-4TC	707075L
		182-4TC	213-5TC	707076L
		213-5TC	182-4TC	707078L
		213-5TC	213-5TC	707079L
	TXM	182-4TC	182-4TC	707105L
		182-4TC	213-5TC	707106L
		213-5TC	182-4TC	707108L
		213-5TC	213-5TC	707109L
	TX	--	182-4TC	707126L
		--	213-5TC	707127L
5.167	TXMQ	182-4TC	182-4TC	707081L
		182-4TC	213-5TC	707082L
		213-5TC	182-4TC	707084L
		213-5TC	213-5TC	707085L
	TXM	182-4TC	182-4TC	707111L
		182-4TC	213-5TC	707112L
		213-5TC	182-4TC	707114L
		213-5TC	213-5TC	707115L
	TX	--	182-4TC	707129L
		--	213-5TC	707130L
7.538	TXMQ	182-4TC	182-4TC	707087L
	TXM	182-4TC	182-4TC	707117L
	TX	--	182-4TC	707132L

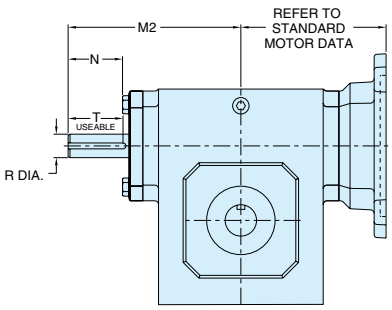
ADDITIONAL CAPABILITIES

In addition to the thousands of stock/standard IRONMAN BY OHIO GEAR™ products available from LEESON, there are also many special reducer configurations possible. Some of the special features available are listed below.

Contact LEESON with engineering requirements.

- Special Paint
- Custom Mounting Brackets/Bases
- Longer/Shorter Shaft Extensions
- Special Shaft Extension Diameters
- Cross-drilled Holes on Shafts
- Custom Ratios
- Stainless-Steel Hollow Output Shafts
- Reduced Backlash Designs
- Dual Input Shaft Extensions (Detailed Below)





TYPICAL DUAL INPUT EXTENSION DIMENSIONS AVAILABLE FROM LEESON

Unit	M1	M2	N	R	T**
813	3.82	4.37	1.76	.500	1/8 x 1.44
815	4.35	4.90	1.76	.625	3/16 x 1.50
818	4.45	5.00	1.76	.625	3/16 x 1.50
821	4.82	5.37	1.76	.625	3/16 x 1.50
824	5.51	6.15	2.38	.750	3/16 x 1.50
826	6.07	6.72	2.38	.750	3/16 x 1.50
830	6.57	7.22	2.38	.875	3/16 x 1.50
832	6.76	7.40	2.38	.875	3/16 x 1.50
842	9.57	9.57	3.47	1.250	1/4 x 2.88
852	10.88	10.88	3.38	1.250	1/4 x 3.00
860	11.78	14.55	3.41	1.500	3/8 x 3.00

**Keyway width by length

PRODUCT LITERATURE

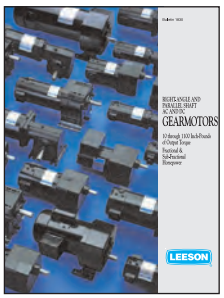
In addition to the information in this catalog, your LEESON distributor or local District Sales Office can provide additional literature, product support or application assistance.

Bravo® Aluminum Worm Gear Reducers (Bulletin 5050)

Compact, high-performance gear reducers designed as cost-effective drive solutions for OEM's. Variety of output drive mountings available. Bravo® reducers team easily with LEESON motors.

LeCENTRIC™ Aluminum Inline Gear Reducers (Bulletin 7050)

Light weight, industrial-duty gear reducers, designed for high performance applications. Variety of base and flange mountings available.



Sub-FHP Gearmotors (Bulletin 1830)

Range of sub-fractional HP AC and DC Gearmotors is reviewed. Both right-angle and parallel shaft models, 5 through 1112 in-lbs torque.

MODIFIED STOCK GEAR REDUCERS

LEESON
OHIO GEAR™

Quick shipment is standard on all LEESON IRONMAN BY OHIO GEAR™ stock and modified stock gear reducers. A wide range of mounting styles are offered and are listed on the accompanying chart. Start with one of the stock reducer styles shown—add an accessory—and create a new mounting style.

STYLE T OR U HORIZONTAL BASE

STYLE J VERTICAL INPUT SHAFT BASE

STYLE VL OR VH VERTICAL OUTPUT SHAFT BASE

MOTORIZED C FLANGE QUILL INPUT

(Style BMQ Shown)

MOTORIZED C FLANGE FLEXIBLE COUPLING INPUT

(Style BM Shown)

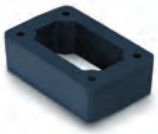
NON-FLANGED

(Style B Shown)

Type	Stock Reducer Style	T Base Worm Over	U Base Worm Over	J Base	VL Low Base	VH High Base
Single Reduction Solid Shaft	**BMQ**	**TMQ**	**UMQ ***	**JMQ**	**VLMQ**	**VHMQ**
Single Reduction Hollow Shaft	**HMQ**	**—**	**—**	**JHMQ**	**VLHMQ**	**VHHMQ**
Double Reduction Solid Shaft	**DMQ**	**DTMQ**	**DUMQ ***	**DJMQ**	**DVLMQ**	**DVHMQ**
Double Reduction Hollow Shaft	**DHMQ**	**—**	**—**	**DJHMQ**	**DVLHMQ**	**DVHHMQ**
Single Reduction Solid Shaft	**BM**	**TM**	**UM ***	**JM**	**VLM**	**VHM**
Single Reduction Hollow Shaft	**HM**	**—**	**—**	**JHM**	**VLHM**	**VHHM**
Double Reduction Solid Shaft	**DM**	**DTM**	**DUM ***	**DJM**	**DVLM**	**DVHM**
Double Reduction Hollow Shaft	**DHM**	**—**	**—**	**DJHM**	**DVLHM**	**DVHHM**
Single Reduction Solid Shaft	**B**	**T**	**U ***	**J**	**VL**	**VH**
Single Reduction Hollow Shaft	**H**	**—**	**—**	**JH**	**VLH**	**VHH**
Double Reduction Solid Shaft	**D**	**DT**	**DU ***	**DJ**	**DVL**	**DVH**
Double Reduction Hollow Shaft	**DH**	**—**	**—**	**DJH**	**DVLH**	**DVHH**

* Not a recommended mounting style. Consult LEESON for selection assistance.

For information on WASHGUARD® modifications and accessories, see page 153.

STYLE F OUTPUT FLANGE	STYLE BF OUTPUT FLANGE	STYLE R RISER BLOCK
		
F Output Flange	BF Output Flange	R Output Flange
FMQ	**BFMQ**	**RMQ**
FHMQ	**BFHMQ**	**—**
DFMQ	**DBFMQ**	**—**
DFHMQ	**DBFHMQ**	**—**
FM	**BFM**	**RM**
FHM	**BFHM**	**—**
DFM	**DBFM**	**—**
DFHM	**DBFHM**	**—**
F	**BF**	**R**
FH	**BFH**	**—**
DF	**DBF**	**—**
DFH	**DBFH**	**—**

Reaction Rod Kit for hollow shaft models and additional accessories and options shown on following page.

See page 169 for accessory weights.

Free Mod-Squad™ Service Or Assemble It Yourself!

MOD-SQUAD
REDUCERS MODIFIED FAST

Any of the modified stock gear reducers shown are available on a quick-shipment basis, factory assembled by the **LEESON Gear Mod-Squad**—at no charge for the labor! Just pay for the accessory item. To order, specify the stock reducer and the Gear Mod-Squad Service Number (see below).

Or **assemble it yourself** by ordering the appropriate stock reducer and accessory kit (see below).

Before ordering, check the dimensional information available in this catalog.

More LEESON IRONMAN BY OHIO GEAR™ accessories, options and assembly services are available. See next page.

Ordering Information

Style T or U Horizontal Base

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style T	Style U	Weight (lbs)
813	G185000	T813	U813	3
815	G185120	T815	U815	3
818	G185005	T818	U818	3
821	G185010	T821	U821	3
824	G185015	T824	U824	8
826	G185020	T826	U826	10
830	G185121	T830	U830	16
832	G185025	T832	U832	16
842	G185030	T842	U842	18
852	G185035	T852	U852	22
860	G185040	T860	U860	31

Style J Vertical Input Base

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style J	Weight (lbs)
813	G185001	J813	1
815	G185122	J815	2
818	G185006	J818	2
821	G185011	J821	3
824	G185016	J824	3
826	G185021	J826	4
830	G185123	J830	6
832	G185124	J832	6
842	G185125	J842	11
852	G185126	J852	18

Style VL Vertical Output Shaft Base

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style VL	Weight (lbs)
813	G185002	VL813	4
815	G185127	VL815	4
818	G185007	VL818	4
821	G185012	VL821	8
824	G185017	VL824	8
826	G185022	VL826	11
830	G185128	VL830	14
832	G185027	VL832	14
842	G185032	VL842	28
852	G185037	VL852	36
860	G185042	VL860	36

Style VH Vertical Output Shaft Base

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style VH	Weight (lbs)
813	G185002	VH813	4
815	G185127	VH815	4
818	G185007	VH818	4
821	G185012	VH821	8
824	G185017	VH824	8
826	G185022	VH826	11
830	G185128	VH830	14
832	G185027	VH832	14
842	G185032	VH842	28
852	G185037	VH852	36
860	G185042	VH860	36

Style F Output Flange - Cast Iron

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style F	Weight (lbs)
813	G185130	F813	1
815	G185131	F815	2
818	G185132	F818	3
821	G185133	F821	4
824▼	G185134	F824	5
826▼	G185135	F826	5
830▼	G185136	F830	16
832▼	G185137	F832	16
842▼	G185138	F842	12
852▼	G185139	F852	28
860▼	G185140	F860	12

▼ Flanges for sizes 824 - 860 with solid output shafts must be assembled at LEESON.

Style R Riser Block

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style R	Weight (lbs)
815	G185141	R815	7
818	G185142	R818	7
821	G185143	R821	9
824	G185144	R824	9
826	G185145	R826	17
830	G185146	R830	15
832	G185147	R832	31
842	G185148	R842	24
852	G185149	R852	15

MODIFIED STOCK GEAR REDUCERS

LEESON
OHIO GEAR™

BM STYLE INPUT FLANGE KITS**

Series		48CZ	56C	143-5TC	182-4TC	213-5TC	254-6TC
813	Catalog No.	G185161	G185090	--	--	--	--
	Weight (lbs)	7	7	--	--	--	--
815	Catalog No.	G185162	G185163	G185164	--	--	--
	Weight (lbs)	7	7	7	--	--	--
818	Catalog No.	G185165	G185091	G185092	--	--	--
	Weight (lbs)	7	7	7	--	--	--
821	Catalog No.	G185166	G185093	G185094	--	--	--
	Weight (lbs)	7	7	7	--	--	--
824	Catalog No.	--	G185095	G185096	G185097	--	--
	Weight (lbs)	--	8	8	11	--	--
826	Catalog No.	--	G185098	G185099	G185100	--	--
	Weight (lbs)	--	8	8	11	--	--
830	Catalog No.	--	G185167	G185168	G185169	--	--
	Weight (lbs)	--	11	11	11	--	--
832	Catalog No.	--	G185101	G185102	G185103	G185170	--
	Weight (lbs)	--	11	11	11	11	--
842	Catalog No.	--	G185171	G185104	G185105	G185106	G185172
	Weight (lbs)	--	14	14	16	16	30
852	Catalog No.	--	--	G185173	G185107	G185108	G185109
	Weight (lbs)	--	--	16	18	18	30
860	Catalog No.	--	--	--	G185174	G185110	G185111
	Weight (lbs)	--	--	--	22	22	32

** All kits include flexible coupling.

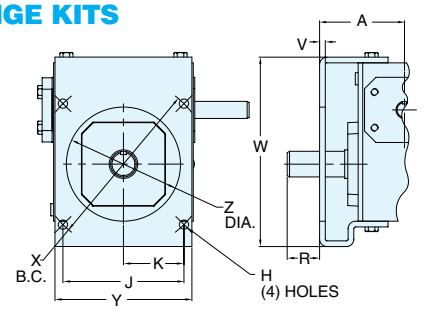
DOUBLE REDUCTION ADAPTOR KITS

Series	Accessory Kit Only Catalog #	Primary Unit Size	Secondary Unit Quill Size	Weight (lbs.)
813 - 821	G185150	813	56C	3
824	G185151	813	56C	3

REACTION ROD KITS

Series	Accessory Kit Only Catalog #	Weight (lbs.)
813 - 842	G185152	5
852 - 860	G185153	5

BF STYLE OUTPUT FLANGE KITS



Style BF Output Flange - Steel

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style BF	Weight (lbs)
813	G185004	BF813	6
818	G185009	BF818	6
821	G185014	BF821	10
824	G185019	BF824	10
826	G185024	BF826	13

Style BF Output Flange Kits

Series	A	H	J	K	R	V	W	X	Y	Z
813	3.00	0.34	3.54	1.77	1.00	0.19	5.55	5.00	4.25	3.62
818	3.50	0.34	4.16	2.08	0.81	0.19	6.66	5.88	4.81	4.06
821	3.75	0.41	4.60	2.30	0.93	0.19	7.47	6.50	5.75	4.50
824	3.72	0.41	5.30	2.65	1.37	0.25	8.30	7.50	6.00	5.00
826	4.06	0.41	5.66	2.83	1.57	0.25	9.25	8.00	7.18	6.00

STOCK WASHGUARD® GEAR REDUCER ACCESSORIES

WASHGUARD® • STYLE T OR U

Style T or U Horizontal Base

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style T	Mod-Squad™ Service Number Style U	Weight (lbs)
813	G185045	WT813	WU813	3
815	G185180	WT815	WU815	3
818	G185046	WT818	WU818	3
821	G185047	WT821	WU821	3
824	G185048	WT824	WU824	8
826	G185049	WT826	WU826	10
830	G185181	WT830	WU830	16
832	G185182	WT832	WU832	16

WASHGUARD® • STYLE J

Style J Vertical Input Base

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style J	Weight (lbs)
813	G185054	WJ813	1
815	G185183	WJ815	2
818	G185055	WJ818	2
821	G185056	WJ821	3
824	G185057	WJ824	3
826	G185058	WJ826	4
830	G185184	WJ830	6
832	G185185	WJ832	6

WASHGUARD® • STYLE VL AND VH

Style VL & VH Vertical Output Base*

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style VL	Mod-Squad™ Service Number Style VH	Weight (lbs)
813	G185063	WVL813	WVH813	4
815	G185186	WVL815	WVH815	4
818	G185064	WVL818	WVH818	4
821	G185065	WVL821	WVH821	8
824	G185066	WVL824	WVH824	8
826	G185067	WVL826	WVH826	11
830	G185187	WVL830	WVH830	14
832	G185188	WVL832	WVH832	14

* Style VL and VH mountings use the same base with a different assembly position.

WASHGUARD® • STYLE F

Style BF Output Flange - Steel

Series	Accessory Kit Only Catalog No.	Mod-Squad™ Service Number Style BF	Weight (lbs)
813	G185081	WBF813	6
818	G185082	WBF818	6
821	G185083	WBF821	10
824	G185084	WBF824	10
826	G185085	WBF826	13

C FACE MOTORS • SINGLE PHASE

LESS BASE • CAPACITOR START • GENERAL PURPOSE

LEESON

OHIO GEAR™

DRIP-PROOF • C FACE LESS BASE • SINGLE PHASE

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	"C" Dim. (Inches)
1/4	1725	…	…	…	…	…	…	…
	1725	S56C	**100023**	17	115/208-230	None	2.7	9.24
	1725	S56C	**101521**	17	115/208-230	Auto.	2.7	9.24
1/3	1725	…	…	…	…	…	…	…
	1725	S56C	**100024**	17	115/208-230	None	3.3	9.24
	1725	S56C	**100018**	18	115/208-230	Man.	3.3	9.24
	1725	S56C	**101522**	17	115/208-230	Auto.	3.3	9.24
1/2	1725	…	…	…	…	…	…	…
	1725	S56C	**100025**	19	115/208-230	None	4.4	9.99
	1725	S56C	**100019**	21	115/208-230	Man.	4.4	9.99
	1725	S56C	**100020**	20	115/208-230	Auto.	4.4	9.99
3/4	1725	S56C	**100026**	24	115/208-230	None	5.4	10.99
	1725	S56C	**100021**	24	115/208-230	Man.	5.4	10.99
	1725	S56C	**101523**	26	115/208-230	Auto.	5.4	10.99
1	1725	56C	**110220**	30	115/208-230	None	6.4	10.88
	1725	56C	**110036**	27	115/208-230	Man.	6.4	10.88
	1725	143TC	**121002**	31	115/208-230	None	6.4	11.28
1½	1725	56C	**110388**☆	38	115/208-230	None	8.6	11.84
	1725	56C	**110037**☆	39	115/208-230	Man.	8.6	11.84
	1725	…	…	…	…	…	…	…
2	1725	…	…	…	…	…	…	…
	1725	145TC	**120073**☆	49	115/230	None	10.5	13.28
	1725	…	…	…	…	…	…	…
3	1740	184TC	**131544**	73	115/208-230	None	16.9	14.19
5	1740	184TC	**131539**☆	81	230	None	21.0	14.69

TEFC • C FACE LESS BASE • SINGLE PHASE

NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	"C" Dim. (Inches)
48CZ➤	**101765**	18	115/208-230	None	2.7	9.43
56C	**110405**●✣	22	115/208-230	None	2.4	9.94
56C	**114639**	18	115/208-230	None	2.6	10.81
48CZ➤	**102663**	22	115/208-230	None	3.3	10.06
S56C	**101766**	22	115/208-230	None	3.3	10.31
56C	**110076**●✣	23	115/208-230	None	2.9	9.94
56C	**110038**●✣	25	115/208-230	Man.	2.9	9.94
48CZ➤	**102665**	24	115/208-230	None	4.4	10.81
56C	**110056**✣	21	115/208-230	None	4.4	10.81
56C	**110039**✣	22	115/208-230	Man.	4.4	10.81
56C	**114476**	24	115/208-230	Auto.	4.4	10.81
56C	**110057**✣	25	115/208-230	None	5.4	11.31
56C	**110040**✣	26	115/208-230	Man.	5.4	11.31
56C	**110308**✣	28	115/208-230	Auto.	5.4	11.31
56C	**110058**✣	33	115/208-230	None	6.4	11.81
56C	**110041**✣	29	115/208-230	Man.	6.4	11.81
143TC	**121001**	32	115/208-230	None	6.4	12.25
56C	**110420**☆	37	115/208-230	None	8.6	12.81
56C	**110042**☆	40	115/208-230	Man.	8.6	12.81
145TC	**120017**☆	40	115/208-230	None	8.6	13.75
56C	**112136**☆	41	115/230	None	9.2	13.31
145TC	**120060**☆	45	115/230	Man.	10.0	14.25
182TC	**131516**	64	115/208-230	None	12.4	14.47
184TC	**131545**	82	115/208-230	None	16.8	16.47
184TC	**131540**☆	104	230	None	23.0	17.47

Motors in this column have NEMA Service Factors except as noted by ✣, which have 1.15 Service Factors.

LEESON

EXPLOSION-PROOF MOTORS

SINGLE & THREE PHASE

SINGLE PHASE • C FACE LESS BASE

CLASS I, GROUPS C & D —
CLASS II, GROUPS F & G • W/CONDUIT BOX

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/3	1725	56C	**111075**●	41	115/208-230	Auto.	2.9	70.0	12.37
1/2	1725	56C	**111085**	45	115/208-230	Auto.	4.0	65.0	13.96
3/4	1725	56C	**111086**	50	115/208-230	Auto.	5.4	70.0	14.46
1	1725	56C	**110852**	53	115/208-230	Auto.	6.4	75.0	14.46

☆ Capacitor start/capacitor run design for reduced amperage, others are capacitor start/induction run.
● These motors are totally enclosed, non-ventilated — Others are fan cooled.
▲ These motors are satisfactory for operation on 50 Hz power supply at full rated horsepower.
➤ Shaft extension has keyway and flat 180° apart for ease of mounting.
Useable shaft is 1 1/2" long by 1/2" diameter, 1/8" keyway.

THREE PHASE • C FACE LESS BASE

CLASS I, GROUPS C & D—
CLASS II, GROUPS F & G • W/CONDUIT BOX

HP	RPM 60 Hz▲	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/3	1725	56C	**111931**▲●	29	208-230/460	Auto.	1.7	76.0	10.87
1/2	1725	56C	**111930**▲●	34	208-230/460	Auto.	1.7	75.0	11.37
3/4	1725	56C	**111935**▲	36	208-230/460	Auto.	2.6	75.0	12.46
1	1725	56C	**111926**▲	46	208-230/460	Auto.	3.4	78.0	13.46
1½	1725	56C	**111941**	46	208-230/460	Auto.	4.4	80.0	13.96
2	1725	145TC	**121178**	50	208-230/460	Auto.	6.0	84.0	15.53
3	1740	182TC	**158003** Ⓖ	91	230/460	T-Stat	8.8	80.0	15.62
5	1740	184TC	**158005** Ⓖ	10	230/460	T-Stat	13.4	82.5	16.12

Ⓖ **Explosion-proof motors are Class I, Group D—Class II, Groups F & G.**

SEE CATALOG 1050 FOR HAZARDOUS LOCATION APPLICATION NOTES.

LEESON

OHIO GEAR™

C FACE MOTORS • THREE PHASE

LESS BASE • GENERAL PURPOSE

IRONMAN BY OHIO GEAR

DRIP-PROOF • C FACE LESS BASE • THREE PHASE

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/6	1725	…	…	…	…	…	…	…
1/4	1725	…	…	…	…	…	…	…
	1725	…	…	…	…	…	…	…
	1725	…	…	…	…	…	…	…
	1725	…	…	…	…	…	…	…
1/3	1725	…	…	…	…	…	…	…
	1725	S56C	**100048**	17	208-230/460	1.6	64.3	9.49
	1725	…	…	…	…	…	…	…
1/2	1725	…	…	…	…	…	…	…
	1725	…	…	…	…	…	…	…
	1725	S56C	**100049**	21	208-230/460	2.0	68.0	9.99
	1725	…	…	…	…	…	…	…
3/4	1725	S56C	**100050**	24	208-230/460	2.8	75.0	10.49
1	1725	56C	**110043**	22	208-230/460	4.2	78.5	10.38
	1725	143TC	**120172**	26	208-230/460	4.2	78.5	11.28
1½	1725	56C	**110044**	27	208-230/460	5.6	78.5	10.88
	1725	145TC	**120081**	34	208-230/460	5.6	78.5	11.78
2	1725	56C	**115553**	32	208-230/460	6.2	78.5	11.19
	1725	145TC	**120035**	33	208-230/460	6.2	78.5	11.19
3	1725	…	…	…	…	…	…	…
	1725	145TC	**121405**	45	208-230/460	8.6	82.5	13.12
	1740	182TC	**131489**	65	230/460	8.0	80.0	11.69
5	1725	184TC	**131490**	55	208-230/460	14.2	84.0	12.69
7½	1740	184TC	**131739**	108	230/460	20.0	87.0	14.70
	1740	…	…	…	…	…	…	…
	1750	S213TC	**131527**	88	230/460	20.0	87.0	15.69
	1760	213TC	**140580**	115	208-230/460	20.0	88.5	15.25
10	1740	215TC	**140108†**	132	208-230/460	28.0	89.5	16.75
	1750	…	…	…	…	…	…	…
15	1760	…	…	…	…	…	…	…
20	1760	…	…	…	…	…	…	…

TEFC • C FACE LESS BASE • THREE PHASE

NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
48CZ➤	**102662**	15	208-230/460	1.3	66.0	9.03
48CZ➤	**101966** ●	18	208-230/460	1.2	65.0	9.03
48CZ➤	**101981**	17	208-230/460	1.6	66.0	9.44
S56C	**101648** ●	17	208-230/460	1.9	78.0	9.56
S56C	**101767**	19	208-230/460	1.4	58.0	9.69
48CZ➤	**102664**	20	208-230/460	1.6	64.3	10.31
S56C	**101769**	20	208-230/460	1.6	64.8	9.69
56C	**110045** ●	19	208-230/460	1.3	72.0	9.94
48CZ➤	**100486** ●	24	208-230/460	1.9	75.0	11.02
48CZ➤	**102666**	24	208-230/460	1.9	75.0	11.06
56C	**110046** ●	23	208-230/460	1.8	78.5	10.44
56C	**110458**	19	208-230/460	2.0	74.0	10.81
56C	**110047**	22	208-230/460	2.8	77.0	10.81
56C	**110048**	24	208-230/460	3.8	77.0	11.31
143TC	**120024**	26	208-230/460	3.8	77.0	11.75
56C	**110125**	29	208-230/460	5.0	78.5	11.81
145TC	**120037**	32	208-230/460	5.0	80.0	12.75
56C	**110451**	34	208-230/460	6.2	81.5	12.81
145TC	**120038**	35	208-230/460	6.2	81.5	12.75
56C	**113890** ♣	43	208-230/460	8.6	82.5	13.81
145TC	**121035** ♣	44	230/460	8.6	82.5	14.25
182TC	**131491**	52	230/460	9.0	82.5	13.97
184TC	**131492**	64	230/460	13.2	82.5	14.48
184TC	**131606**	66	208-230/460	19.6	87.0	16.47
213TC	**151346**	162	208-230/460	18.4	87.9	18.61
S213TC	**131528**	102	230/460	9.8	87.0	16.96
……	…	…	…	…	…	
215TC	**140109** †	141	208-230/460	26.0	89.5	18.71
215TC	**151348**	185	208-230/460	24.6	88.4	16.61
254TC	**151350**	284	208-230/460	37.0	90.0	23.80
256TC	**151352**	367	208-230/460	48.0	91.2	25.50

➤ Shaft extension has keyway and flat 180° apart for ease of mounting. Useable shaft is 1 1/2" long by 1/2" diameter, 1/8" keyway.

● These motors are totally enclosed, non-ventilated — Others are fan cooled.

† Class F insulated.

♣ These totally enclosed three phase motors have 1.0 service factors.

SHADED FRAME INDICATES CAST IRON CONSTRUCTION

WATTSAVER® PREMIUM EFFICIENCY MOTORS

GENERAL PURPOSE • THREE PHASE

LEESON®

OHIO GEAR™

WATTSAVER®

Inverter-Duty Premium Efficiency Motor

NEMA Premium™

The WATTSAVER® line of premium efficiency motors is now *inverter capable*. LEESON's unique IRIS™ voltage-spike-resistant insulation system is standard at no extra cost. WATTSAVER® motors carry a three-year warranty in general purpose and inverter fed applications. These motors meet or exceed most utility rebate programs and the EPACT federally mandated efficiency levels. The efficiency ratings have been verified to IEEE 112B test standards by LEESON's NVLAP-Certified lab.

THREE PHASE • DRIP-PROOF • C FACE LESS BASE 208-230/460V

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Meets NEMA Premium	F.L. Amps 230V	3/4 Load Eff.	% F.L. Eff.	"C" Dim. (Inches)
1/3	1725	S56C	**102695**	22	N/A	1.5	73.5	77.0	10.81
1/2	1725	S56C	**102200**	25	N/A	2.1	78.4	79.0	11.31
3/4	1725	56C	**114934**	29	N/A	2.4	80.4	81.5	10.86
1	1725	143TC	**121064▲**	32	✓	3.4	84.7	85.5	12.12
1½	1725	145TC	**121063▲**	36	✓	5.6	86.1	86.5	13.12
2	1725	145TC	**121071**	41	✓	5.8	86.7	86.5	13.62
3	1760	182TC	**131518**	75	…	8.2	89.2	87.5	13.69
5	1760	184TC	**131517**	96	…	12.8	89.4	88.5	14.69

All WATTSAVER® motors have normally closed thermostats for over-temperature alert.

THREE PHASE • TEFC • C FACE LESS BASE 208-230/460V

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Meets NEMA Premium	F.L. Amps 230V	3/4 Load Eff.	% F.L. Eff.	"C" Dim. (Inches)
1/3	1725	S56C	**102696**	22	N/A	1.5	73.5	77.0	10.81
1/2	1725	S56C	**101780▲**	25	N/A	2.0	78.5	79.0	11.31
3/4	1725	56C	**114213▲**	27	N/A	2.7	80.2	81.5	11.31
1	1725	56C	**114638▲**	34	N/A	3.4	84.7	85.5	12.81
	1725	143TC	**121067▲**	36	✓	3.4	84.7	85.5	13.25
1½	1725	145TC	**121066▲**	41	✓	5.6	86.1	86.5	13.75
2	1725	145TC	**121065**	45	✓	5.8	86.7	86.5	14.26
3	1760	182TC	**131503**	72	…	8.2	89.2	88.5	14.47
5	1760	184TC	**131501**	90	…	13.0	89.4	88.5	15.97
7½	1760	213TC	**140486†**	125	…	20.4	89.4	89.5	17.71
10	1760	215TC	**140484†**	179	…	26.0	89.8	89.5	18.71

All WATTSAVER® motors have normally closed thermostats for over-temperature alert.

LEESON®

50 HERTZ MOTORS

THREE PHASE

General Specifications:

Totally enclosed fan cooled, 12-lead motors designed specifically for 50 Hz service. These motors are intended for equipment built in North America and destined for use in 50 Hz service areas of the world.

Features:

These NEMA frame motors are designed to North American performance standards, but for 50 Hz service. Suitable for 220/380 volt, 50 Hz, or 440 volt, 50 Hz, three phase power. Torques exceed NEMA performance standards for Design B motors and produce the full rated horsepower at 50 Hz speeds.

Construction meets IEC, IP54 degree of protection standards and utilizes external fan cooling (IEC cooling method IC41). Gasketed conduit box is in the North American standardized F1 location, with leads.

CE CONFORMITE EUROPEENE

THREE PHASE • TEFC • C FACE LESS BASE • IP54

KW/HP	RPM 50 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 380 V.	% F.L. Eff.	"C" Dim. (Inches)
0.18/¼	1425	S56C	**102184**	18	220/380/440	1.00	56.0	9.81
0.25/⅓	1425	S56C	**102689**	19	220/380/440	1.10	65.0	9.81
	1425	56C	**114889**	18	220/380/440	1.10	68.0	10.31
0.37/½	1425	S56C	**102694**	20	220/380/440	1.15	73.0	9.94
	1425	56C	**114891**	20	220/380/440	1.15	73.0	10.81
	950	56C	**114892**	28	220/380/440	1.50	68.0	11.31
0.55/¾	1425	56C	**114894**	27	220/380/440	1.85	74.0	11.31
0.75/1	1425	56C	**114896**	28	220/380/440	2.00	77.0	11.31
	1425	143TC	**121272**	31	220/380/440	2.00	77.0	11.75
	950	145TC	**121273**	39	220/380/440	2.65	73.0	13.25
1.1/1½	1440	145TC	**121275**	37	220/380/440	3.30	75.5	12.75
1.5/2	1440	145TC	**121277**	40	220/380/440	3.65	81.5	13.75
2.2/3	1440	182TC	**131506**	63	220/380/440	4.70	84.0	13.97
3.7/5	1440	184TC	**131508**	82	220/380/440	8.10	85.0	15.47

▲ These motors are satisfactory for operation on 50 hertz power supply at full rated horsepower.
† Class F insulated.

LEESON BRAKEMOTORS

Fail-safe positive, stop and hold brakemotors. Brakes are spring set. Load is stopped automatically when power is turned off. LEESON brakemotors feature a power off manual release for convenience, and for use in case of a power failure. The manual release resets automatically. The standard brake is manufactured by Stearns. The brake coil leads are brought into the conduit box of the motor for easy connection and may be connected to operate when power to the motor is shut off, or to be actuated independent of power to the motor. Three phase motors have brake coils rated 230/460 VAC, 60 Hz. Single phase brake coils are 115/230 VAC, 60 Hz.

THREE PHASE • DRIP-PROOF • C FACE LESS BASE

HP	RPM 60 Hz	NEMA Frame	Brake Rating (ft-lbs)	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/2	1725	56C	3	**114156**	28	208-230/460	2.0	74.0	13.56
3/4	1725	56C	6	**114157**	38	208-230/460	2.8	77.0	14.06
1	1725	56C	6	**114166**	40	208-230/460	3.4	78.5	14.06
1½	1725	145TC	10	**120372**	43	208-230/460	5.6	78.5	15.50
2	1725	145TC	10	**120373**	47	208-230/460	6.2	78.5	16.00
3	1740	182TC	15	**131624**	56	208-230/460	10.0	80.0	16.40
5	1740	184TC	25	**131625**	76	208-230/460	14.2	84.0	17.35

THREE PHASE • TEFC • C FACE LESS BASE

HP	RPM 60 Hz	NEMA Frame	Brake Rating (ft-lbs)	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/3	1725	56C	3	**114158●**	26	208-230/460	1.3	72.0	13.56
1/2	1725	56C	3	**114159**	26	208-230/460	2.0	74.0	15.06
3/4	1725	56C	6	**114160**	34	208-230/460	2.8	77.0	15.06
1	1725	56C	6	**114161**	31	208-230/460	3.6	77.0	15.56
1½	1725	145TC	10	**120331**	40	208-230/460	5.0	78.5	17.00
2	1725	145TC	10	**120332**	51	208-230/460	6.0	84.0	18.00
3	1740	182TC	15	**131610**	69	230/460	9.0	84.0	18.73
5	1740	184TC	25	**131611**	92	230/460	13.2	86.0	19.18
7½	1740	S213TC	35	**131612**	149	230/460	19.6	87.0	25.29
10	1760	215TC	50	**140637**	136	208-230/460	26.0	89.5	27.99

● These motors are totally enclosed, non-ventilated.

BRAKEKITS™ AND COUPLER BRAKES

LEESON

LEESON BRAKEKITS™

Kit of components to convert 56 through 256T frame stock TEFC motors to fail-safe brakemotors. Kit mounts on fan end of motor. Kits for 56-184T steel frame motors include totally enclosed Stearns AC brake, replacement cast fan cover, shaft extension, fan and hardware. Kits for 213T-256T cast iron frame motors **do not include brake**, but are designed for Stearns 87,000 series brake.

Two ½" NPT holes with 18" leads are provided for connections. The BRAKEKIT™ adds 5⅛" to the overall length of 56 and 143-5T frame, and 5⅞" to the overall length of 182-184T frame.

BRAKEKITS™

Brake Rating (ft-lbs)	Mounts to NEMA Frame	Max. HP @ 1725rpm	Cat. No. 115-208/230 V Single Phase	Cat. No. 208-230/460 V Three Phase	Cat. No. 575 V Three Phase	App. Wt. (lbs.)
3	56/143-5T	1	**175659**	**175139**	**175177**	10
6	56/143-5T	2	**175660**	**175140**	**175178**	10
10	56/143-5T	3	**175662**	**175141**	**175179**	10
15	182-4T	3	- -	**175696**	**175698**	12
25	182-4T	5	- -	**175697**	**175699**	12

- 56/143-5T frame Brakekits cannot be used on S56 frame motors.
- Use the 182-4T frame Brakekits on motors having catalog numbers with a "G" prefix or that are 131454 or higher.
- 182-4T frame Brakekits can also be used on single-phase 4-pole (1725RPM) motors, but can only be connected for 208-230V. All brake coils are single phase.
- 182-4T frame Brakekits cannot be used with single or three-phase 2-pole (3450RPM) motors.

BRAKE SELECTION

Motor HP	Brakemotor RPM Torque Rating of Brake (Lb-Ft) 3450	1725	1140
1/3	3	3	3
1/2	3	3	3
3/4	3	6	6
1	3	6	6
1½	6	10	10
2	6	10	15
3	10	15	25
5	15	25	—
7.5	25	35	50
10	25	50	75
15	35	75	105
25	50	105	—

In this table, brake torque ratings are no less than 140% of the motor full load torque. Match HP & frame size of motor with appropriately rated BRAKEKIT.™

DOUBLE NEMA C FACE

Mounts directly to the face and shaft of NEMA 56 face motors and provides a NEMA 56C face and shaft for the load.

The 6 foot-pound brake mounts to NEMA 56C face motors or to NEMA 143-5TC face motors using the optional hub (included). Output face and shaft of the brake is NEMA 56C.

A ½" NPT hole with 15" leads is provided for connection. Totally enclosed construction. Overall length less the output shaft is 5⅛".

COUPLER BRAKES

For Both Single and Three Phase Motors

Cat. No. 115/208-230V Single Phase	Cat. No. 208-230/460V Three Phase	Cat. No. 575V Three Phase	Brake Rating (ft-lbs)	Max. HP @ 1725 rpm	Mounts to NEMA Frame	Coupler Brake Output Shaft and Face	App. Wt. (lbs.)
175131	**175970**	**175153**	3	1	56C	⅝", 56C	13
175132	**175971**	**175154**	6	2	56C/143-5TC	⅝", 56C	14

AC & DC METRIC (IEC) MOTORS

RIGID BASE WITH FLANGE

LEESON

OHIO GEAR™

B3/B5 FLANGE-MOUNTED METRIC MOTORS • 230/460V

Metric-dimensioned, AC motors meeting North American performance standards, including 1.15 service factor and EPACT efficiencies. Motors have both B5 flange mounting and B3 base.

Typically used for replacement on machine tools, textile machinery and other equipment with metric dimensions but requiring the heavy-duty torque and performance characteristics of motors designed for use in North America.

IP55 weatherproof enclosures, 60/50 Hz interchangeability (60Hz 230/460V & 50Hz 200/400V), dual stamped nameplates, CE mark, and F3 conduit box location. Kits are available for field conversion from B3 to B3/B5 or B3/B14.

Motors are available in one of two frame constructions: aluminum or cast iron. Aluminum frame models are designated with a 192000 series catalog number; cast iron models are 193000 series.

THREE PHASE • IP55 • 1.15 S.F.

HP-KW	RPM 60 Hz	IEC Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/4-0.18	1700	D63D	**192015**	11	230/460	1.0	68.0	8.54
1/3-0.25	1700	D71D	**192025**	13	230/460	1.4	68.0	9.45
1/2-0.37	1695	D71D	**192035**	14	230/460	1.8	74.0	9.45
3/4-0.55	1690	D80D	**192045**	18	230/460	2.5	74.0	11.10
1-0.75	1725	D80D	**192055**	26	230/460	3.2	80.0	11.10
1 1/2-1.1	1740	D90SD	**192065**	37	230/460	4.6	85.5	12.60
2-1.5	1710	D90LD	**192075**	38	230/460	5.8	84.0	12.60

Note: Aluminum motors have removable feet for round-body applications.

12-lead Delta windings (160MD frame and larger) for across-the-line or wye-delta starts.

LEESON IEC METRIC MOTOR

MEETS OR EXCEEDS LEESON EPACT ELECTRIC EFFICIENCY MANDATES

DC METRIC (IEC) FRAME MOTORS IP54 • SCR RATED

General Specifications:

These metric dimensioned motors are built to IEC 34-1 electrical and mechanical standards.

The IEC 63 and smaller frames are stocked with an integral B5 flange. An optional B3 rigid base kit is available.

Electrical & Mechanical Features:

A terminal board is provided for connections. All fasteners are metric. Electrical and mechanical features are the same as listed for the NEMA frame motors on the opposite page. Tachometer mounting kits are available—please contact LEESON for data.

TOTALLY ENCLOSED • SCR RATED 180 VOLTS✣ WITH B5 FLANGE

KW/HP	Full Load RPM	IEC Frame	Catalog Number	App. Wgt. (lbs.)	F.L. Amps DC	"C" Dim. Inches (mm)
0.06/1/12	1800	56	**M1130146●**	8	0.5	6.24 (158.6)
0.09/1/8	1800	56	**M1130147●**	10	0.7	7.55 (191.7)
0.12/1/6	1800	63	**M1130148●**	7	0.9	8.30 (210.8)
0.18/1/4	1800	63	**M1130149**	13	1.3	9.50 (241.3)

● These motors are totally enclosed, non-ventilated. Other ratings utilize IC41 cooling—external cooling fan on motor shaft.

NEMA FRAME MOTORS • SCR RATED

General Specifications:

High voltage permanent magnet DC motors are typically used with an SCR (thyristor) controller in applications requiring adjustable speed and constant torque throughout the speed range. They are also widely used in applications requiring dynamic braking or adjustable speed/reversing capabilities.

Mechanical Features:

Low profile space-saving design. Unique brush holder design provides easy access to brushes and integral constant pressure brush/spring assembly for servicing. Large over-sized brushes assure longer brush life. Heavy-duty, stamped steel, bolt-on base (removable). NEMA C face mounting at no additional cost. Rugged die cast aluminum endshields with cast iron bearing inserts. Permanently lubricated sealed ball bearings. May be converted NEMA 48 base and/or C face using modification kits noted below.

Electrical Features:

Input power of 115 or 230 volts rectified AC when used with an appropriate SCR control. Linear speed/torque characteristics over entire speed range. High starting torque for heavy load applications. Capable of dynamic braking for faster stops. Reversible rotation with simple two-lead connection. For further information on Direct Current Motors, request Bulletin 1600.

PWM RATED PM DC MOTORS

The DC motors listed above have been designed for use on unfiltered SCR (Thyristor) type rectified AC input. These motors may also be used with PWM (pulse width modulated) type DC adjustable speed drives at a higher HP rating. Contct LEESON for re-rating data.

TEFC • SCR RATED 90 & 180 VOLTS
NEMA 56C • C FACE WITH REMOVABLE BASE∑

HP	Full Load RPM	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	Control Volts AC Input	F.L. Amps DC	"C" Dim. (Inches)
1/4	1750	SS56C	**098002**	19	90	115	2.5	10.81
	1750	SS56C	**098003**	22	180	230	1.4	11.31
1/3	1750	SS56C	**098004**	23	90	115	3.5	11.31
	1750	SS56C	**098005**	23	180	230	1.7	11.31
1/2	1750	SS56C	**098000**	26	90	115	5.0	11.81
	1750	S56C	**108014**	29	90	115	5.0	12.81
	1750	SS56C	**098008**	25	180	230	2.5	11.81
	1750	S56C	**108015**	30	180	230	2.5	12.81
3/4	1750	SS56C	**098032**	36	90	115	7.6	13.81
	1750	S56C	**108018**	38	90	115	7.6	13.81
	1750	SS56C	**098069**	36	180	230	3.8	13.81
	1750	S56C	**108019**	35	180	230	3.8	13.81
1	1750	S56C	**108022**	47	90	115	10.0	16.31
	1750	S56C	**108023**	39	180	230	5.0	14.81
1½	1750	S56C	**108092**	53	180	230	7.6	16.88
	1750	S56/145TC	**108262■**	54	180	230	7.6	17.38
	1750	145TC	**128000**	70	180	230	7.5	18.34
2	1750	145TC	**128010**	83	180	230	9.5	19.34
	1750	182/145TC	**128001◀**	84	180	230	9.5	19.34
3	1750	182/145TC	**108502◀**	88	180	230	14.0	21.75

◀ NEMA 145TC face mounting with removable NEMA 182T rigid base.

■ NEMA 145TC frame shaft 7/8 x 2-1/4" and NEMA 56 removable base.

NEMA FRAME LOW VOLTAGE MOTORS

General Specifications:

Low voltage permanent magnet DC motors are suitable for installations having battery or solar powered operations, or generator supplied low voltage DC.

Mechanical Features:

Unique brush holder design provides easy access to brushes and integral, constant pressure brush/spring assembly for servicing. Larger over-sized brushes assure longer brush life. Heavy-duty, stamped steel, bolt-on base (removable). NEMA C face mounting flange at no additional cost. High strength rolled steel frame. Rugged die cast aluminum endshields with steel bearing inserts. Permanently lubricated sealed ball bearings.

Electrical Features:

High starting torques for heavy load applications. Linear speed/torque characteristics over entire speed range. Capable of dynamic braking for faster stops. Reversible rotation and simple two-lead connection. Convenient wiring access.

LOW VOLTAGE (12 & 24V) • TENV / TEFC
NEMA C FACE WITH REMOVABLE BASE∑

HP	Full Load RPM	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	F.L. Amps DC	"C" Dim. (Inches)
1/4	1800	S56C	**108045♣**	21	12	21.0	10.44
1/3	1800	S56C	**108046♣**	24	12	27.0	11.44
	1800	S56C	**108050♣**	22	24	13.5	10.94
1/2	1800	S56C	**108047♣**	29	12	39.0	12.44
	1800	S56C	**108051♣**	29	24	20.0	11.94
3/4	1800	S56C	**108048◆****	30	12	58.0	13.81
	1800	S56C	**108052****	30	24	29.0	12.81
1	1800	S56C	**108322◆****	39	12	80.0	13.81
	1800	S56C	**108053◆****	37	24	39.0	13.81

♣ Built-in conduit box located at 12:00.
◆ Studs at 12:00.
∑ If base is removed, do not reinstall bolts without using washers to compensate for thickness of base.
** These motors are totally enclosed fan cooled.

WASHGUARD® MOTORS

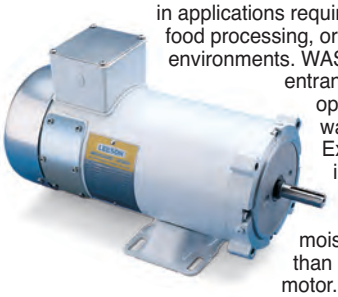
WHITE EPOXY • SINGLE & THREE PHASE

LEESON®

OHIO GEAR™

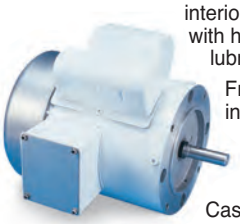
NEMA FRAME • WASHGUARD®

LEESON WASHGUARD® motors are designed for extended life in applications requiring regular washdown as in food processing, or otherwise wet, high humidity environments. WASHGUARD® motors retard the entrance of water during cleaning operations and release any water that does enter the motor. Extra protection for the motor's interior prevents rust and corrosion build-up and drains release trapped moisture to insure a longer life than possible with a standard motor.



Mechanical Protection Features:

High quality, corrosion resistant *303 stainless steel* shaft plus lubricated spring-loaded contact seals and patented, "V" ring Forsheda seal deflect water, protect bearings and the motor's interior. Double sealed, oversized bearings with high temperature moisture resistant lubricant are used.



Frame, base, endshields, armature and interior components protected by enamel and polyester compounds of outstanding adhesion and resistance to moisture, acids, alkalies and oil.

Cast conduit box with threaded entrance, drain holes and tough, high temperature Nitrile gaskets keep water out and resist deflection under high pressure washdowns Conduit box cover and fan cover, when used, are type 304 stainless steel.

Four drains in *each* endshield at 3,6,9, and 12 o'clock purge water, and can be repositioned for maximum effectiveness regardless of the motor's mounting. Machined fits are sealed, and nylon gaskets are used to seal bolt heads. Stainless steel data plate.

Chemically inert static free fan is positively positioned on the shaft by opposing flats, shoulder and snap ring arrangement and protected by heavy gauge, stainless steel fan guards. Finished in USDA approved tough white epoxy for superior corrosion resistance and protection against harsh caustic cleaning solutions.

PROTECTED WITH RUST-OLEUM® COATINGS

WASHGUARD® • IEC FRAME • TENV IP55 B5 FLANGE WITH REMOVABLE B3 BASE ▲ SCR RATED 180 VOLTS

Rated HP	Output kW	Full Load RPM	IEC Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	F.L. Amps DC	"C" Dim. (Inches)
1/2	.37	1750	71	**098040**	22	180	2.5	10.69
3/4	.55	1750	80	**108407**	52	180	3.5	16.02

† Class F insulated.

● These motors are totally enclosed, non ventilated – others are fan cooled.

▲ If base is removed, do not reinstall bolts without using washers to compensate for thickness of base.

WASHGUARD® • NEMA C FACE • REMOVABLE BASE TENV & TEFC • SCR RATED 90 & 180 VOLTS

HP	Full Load RPM	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Arm. Volts DC	Control Volts AC Input	F.L. Amps DC	"C" Dim. (Inches)
1/4	1750	S56C	**108423●**	23	90	115	2.7	10.69
1/3	1750	S56C	**108424●**	26	90	115	3.5	11.69
1/2	1750	S56C	**108226●**	38	90	115	4.9	13.69
	1750	S56C	**108227●**	43	180	230	2.4	13.69
3/4	1750	S56C	**108228●**	53	90	115	7.0	15.69
	1750	S56C	**108229●**	50	180	230	3.5	15.69
1	1750	S56C	**108230**	45	90	115	10.0	15.81
	1750	S56C	**108231**	42	180	230	5.0	14.81
1½	1750	S56C	**108232**	50	180	230	7.6	16.81

SINGLE PHASE • TEFC • C FACE LESS BASE

Featuring Electronic Solid State Encapsulated Switch

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	"C" Dim. (Inches)
1/3	3450	56C	**114310**	25	115/208-230	None	2.6	10.69
	1725	56C	**114311**	27	115/208-230	None	3.2	10.69
1/2	3450	56C	**114312**	25	115/208-230	None	3.6	10.69
	1725	56C	**114313**	29	115/208-230	None	4.4	11.19
3/4	3450	56C	**114314**	31	115/208-230	None	5.0	11.69
	1725	56C	**114315**	31	115/208-230	None	5.4	11.69
1	3450	56C	**114316**	29	115/208-230	None	6.0	12.19
	1725	56C	**114317**	34	115/208-230	None	6.4	12.19
1½	3450	56C	**114318**	36	115/208-230	None	8.5	12.69
	1725	56C	**114319**	43	115/208-230	None	9.5	13.69

THREE PHASE • TENV and TEFC C FACE LESS BASE

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/4	1725	56C	**113649●**	19	208-230/460	1.1	68.0	9.56
1/3	1725	56C	**113954●**	19	208-230/460	1.3	72.0	9.56
1/2	1725	56C	**113473●**	22	208-230/460	1.8	78.5	10.06
3/4	3450	56C	**113022●**	23	208-230/460	2.4	75.5	10.06
	1725	56C	**113019●**	28	208-230/460	2.5	80.0	10.56
1	3450	56C	**113023●**	35	208-230/460	2.6	78.5	11.56
	1725	56C	**113020●**	32	208-230/460	3.2	80.0	11.56
	1725	143TC	**120760●**	35	208-230/460	3.2	80.0	11.75
1½	3450	56C	**113024●**	42	208-230/460	3.8	80.0	12.56
	1725	56C	**113021●**	44	208-230/460	4.2	84.0	13.06
	1725	145TC	**120761●**	47	208-230/460	4.2	84.0	13.25
2	3450	56C	**113593●**	47	208-230/460	5.0	82.5	13.06
	3450	145TC	**121040●**	45	208-230/460	5.0	82.5	13.25
	1725	56C	**114616**	48	208-230/460	6.2	81.5	12.69
	1725	145TC	**120762**	39	208-230/460	6.2	81.5	12.75
3	3450	56C	**115976**	39	208-230/460	8.0	80.0	10.81
	3450	145TC	**120987**	39	208-230/460	8.0	80.0	13.25
	1740	182TC	**131596**	61	230/460	9.0	82.5	14.47
5	3450	184TC	**131595**	72	208-230/460	12.4	85.5	14.47
	1740	184TC	**131597**	43	230/460	13.2	82.5	14.47
7½	3450	S213TC	**131594**	85	208-230/460	18.4	86.5	15.47
	1750	213TC	**140467†**	139	208-230/460	20.4	89.5	17.71
10	1750	215TC	**140465†**	180	208-230/460	26.0	89.5	18.71

LEESON®

OHIO GEAR™

WASHGUARD® II MOTORS

STAINLESS FRAME • THREE PHASE

Super Duck

LEESON Severe Duty, *stainless frame,* WASHGUARD® II motors are designed for superior extended service in severe environments. Typical applications include food processing areas requiring frequent sanitation procedures using high pressure cleaning with concentrated caustic solutions, areas of high humidity and in chemical environments.

Mechanical Protection Features
These motors have an *entirely paint free exterior* with 300 series stainless steel motor body, conduit box lid, shaft extension, hardware, fasteners and an etched motor data plate.

To enhance chemical and corrosion resistance, all surfaces of the endbells and conduit box are processed using a U.S. Department of Agriculture approved technique. This proprietary process has been tested and qualified for more than 2,500 hours of salt spray endurance for external surfaces, and 1,000 hours for internal surfaces. This process has proven successful in food washdown applications and has shown excellent corrosion resistance.

Shaft seals, slingers and one-way stainless steel drains retard entrance of contaminants and water into the motor. Multiple, repositional drains provided for all angle mounting, release any water that does enter the motor from hose downs or condensation. Chemically resistant, tough nitrile gaskets and a threaded entrance for power connection also restrict entrance to the motor's interior. Nylon gaskets are used to seal bolt heads.

Bearings used are double sealed and prelubricated with moisture resistant Exxon POLYREX® EM high temperature lubricant.

Electrical Performance and Protection Features
Efficiencies meet EPACT mandates for *covered* motors when tested without shaft seals. High temperature, moisture resistant IRIS insulation system assures long life on inverter service. Windings are immersed and cured in polyester insulating compound.

Standards and Approvals
UL component recognized, file number E57948, guide number PRGY2. Energy efficiency ratings are verified by an independent testing laboratory.

CSA Energy Efficiency Verification Program, report number EEV 78720-1.

Construction is CSA Certified for safety report number LR33543.

WASHGUARD® II motors are certified to the Baking Industry Sanitation Standard #29 and listed under BISSC authorization number 769.

STAINLESS FRAME • TENV➢ • C FACE LESS BASE

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/2	1725	56C	**114394**	30	208-230/460	1.6	78.5	11.06
3/4	1725	56C	**114395**	34	208-230/460	2.3	80.0	11.56
1	1725	56C	**114437**	44	208-230/460	3.0	81.5	12.06
	1725	143TC	**121109**	40	208-230/460	3.0	81.5	12.13
1½	1725	56C	**114581➢**	45	208-230/460	4.4	84.0	12.69
	1725	145TC	**121350➢**	40	208-230/460	4.4	84.0	12.75
2	1725	56C	**114582➢**	51	208-230/460	6.0	84.0	14.19
	1725	145TC	**121351➢**	51	208-230/460	6.0	84.0	14.25

➢ All ratings TENV except 1½ & 2 HP, which is TEFC with stainless steel fan cover and chemically inert fan.

CHEMICAL RESISTANCE RATING CHART

CHEMICAL	CONCENTRATION	COMPONENT-RESISTANCE	
		STAINLESS STEEL PARTS	ENDBELLS & CONDUIT BOX
WATER:			
De-Ionized Boiling	100%	Excellent	Excellent
Salt (Immersed)	30%	Excellent	Excellent
Salt (Spray)	5%	Excellent	Excellent
Tap - 250°F/120°C @ 10,000 PSI	100%	Excellent	Excellent
ACIDS:			
Hydrochloric	35%	Poor	Very Good
Sulfuric	25%	Poor	Excellent
Nitric	35%	Excellent	Good
Picric	Saturated Solution	Excellent	Very Good
BASE:			
Caustic	100%	Excellent	Excellent
Caustic	12.5 pH	Excellent	Excellent
Caustic - 125°F/50°C	9.5 pH	Excellent	Excellent
SOLVENTS:	--	Excellent	Excellent

WASHGUARD® ALL-STAINLESS MOTORS

ALL-STAINLESS • THREE PHASE

LEESON®

OHIO GEAR™

PREMIUM STAINLESS STEEL DUCK

For maximum service in the most critically clean or corrosive environments, nothing beats LEESON's new WASHGUARD® All-Stainless Motors.

Specifically designed to meet the demanding sanitation requirements of the pharmaceutical and food processing industries, these motors are also ideal in severe chemical-processing applications involving nitric acid and caustic lye. In fact, WASHGUARD® All-Stainless Motors *include IEEE 841 severe-duty features right out of the box!*

Mechanical Protection Features:

Exterior components are entirely of 300 series stainless steel, including frame, base, endshields, conduit box, box cover and hardware. Plus, the full-fact etched stainless steel nameplate is blind riveted to the conduit box eliminating rivet holes in the frame as a source of entry for moisture. Nothing on the motor's exterior is painted or coated in any way.

Endshields are o-ring sealed to the frame. Double-lip shaft seals, o-rings, and gaskets are made from chemically resistant Viton® material. Hydrophobic breathers in the opposite shaft endbell and conduit box equalize pressure without allowing moisture to enter the motor. Double-sealed bearings are pre-lubricated with moisture-resistant high-temperature grease.

Electrical Performance and Protection Features

WASHGUARD® efficiencies meet EPACT mandates for non-exempt motors when tested without shaft seals. For extra moisture resistance, windings are immersed and cured in polyester insulating compound. And LEESON's exclusive IRIS™ Inverter-Rated Insulation System provided extra protection and long life, especially in inverter-fed applications.

Standards and Approvals

UL component recognized, file number E57948, guide number PRGY2. Energy efficiency ratings are verified by an independent testing laboratory.

CSA Energy Efficiency Verification Program, report number EEV 78720-1.

Construction is CSA Certified for safety report number LR33543 and listed under BISSC authorization number 769.

ALL-STAINLESS • TENV/TEFC • C FACE LESS BASE

HP	RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/2	1750	56C	**116166●**	22	208-230/460	1.6	78.5	11.21
3/4	1750	56C	**116168●**	37	208-230/460	2.3	80.0	11.71
1	1750	56C	**116170●**	38	208-230/460	3.0	81.5	12.21
	1750	143TC	**121523●**	39	208-230/460	3.0	81.5	12.28
1½	1750	145TC	**121525**	46	208-230/460	4.4	84.0	13.69
2	1750	145TC	**121527**	47	208-230/460	6.0	87.5	14.19
3	1750	182TC	**131923**	67	208-230/460	8.2	87.5	14.87
5	1750	184TC	**131924**	79	208-230/460	13.0	87.5	15.37

●These motors are totally enclosed, non-ventilated — Others are fan cooled.

CHEMICAL RESISTANCE RATING CHART

CHEMICAL	CONCENTRATION	ALL STAINLESS COMPONENTS
WATER:		
De-Ionized Boiling	100%	Excellent
Salt (Immersed)	30%	Excellent
Salt (Spray)	5%	Excellent
Tap - 250°F/120°C @ 10,000 PSI	100%	Excellent
ACIDS:		
Hydrochloric	35%	Poor
Sulfuric	25%	Poor
Nitric	35%	Excellent
Picric	Saturated Solution	Excellent
BASE:		
Caustic	100%	Excellent
Caustic	12.5 pH	Excellent
Caustic - 125°F/50°C	9.5 pH	Excellent
SOLVENTS:	--	Excellent

MICRO SERIES INVERTER DRIVES

Full feature, ultra-friendly operation. Programs and reads-out in plain English.

- Intelligent Power Module-IGBT's with a 16 bit Intel microprocessor.
- User choice programming with:
  - ✓ Choice of "Quick Start" factory presets.
  - ✓ Built-In English programmable options via the key touch-pad.
- Output Frequency: 0-120 Hz.
- Overload Current Capacity: 150% for one minute, based on nominal output of the control.
- Speed reference signal. Choice of potentiometer, 0-10VDC or 4-20mA inputs.
- Analog output signal, 0-10VDC, speed or load.
- Two auxiliary contacts: One form C relay and one open collector output.
- Preset speeds: Four.
- Slip compensation.
- Adjustable carrier frequency.
- Adjustable acceleration and deceleration times.
- Forward/Reverse.
- DC braking–time and voltage adjustable.
- Password protected.
- Constant torque–with adjustable current limit.
- 150% overload capacity for one minute based on nominal output rating of the control.
- Rugged, heavy-gauge steel enclosures with barrier type terminal strips.
- Underwriters Laboratories Listed.

NEMA 1

Speedmaster® Micro Series compact inverters offer "big drive" features for adapting standard or premium efficiency three phase motors to adjustable speed operation. Utilizing the latest micro-processor and advanced IGBT power conversion devices, these high performance controls program and read-out in plain English, eliminating the frustration and time involved in looking-up confusing coded symbols. Complete, rugged steel enclosures for NEMA 1 (IP31) or NEMA 4/12 (IP65) service do not require additional enclosure protection as with many plastic-housed compact drives. Built-in thermal overload protection reduces additional costs. Heavy duty wiring terminals accessible via three conduit openings on the bottom of the housing for power in/out and input/output signals speeds installation and reduces installation costs.

NEMA 1 (IP31) • THREE PHASE INPUT/OUTPUT

	HP	Output Amps	Input Voltage☆	Catalog Number	App. Wgt. (lbs.)	Dimension Key
200-240 Volts	1/2	2.2	200-240	174914	6	B
	1	4.0	200-240	174915	6	C
	1 1/2	5.2	200-240	174916	6	C
	2	6.8	200-240	174917	9	E
	3	9.6	200-240	174918	9	E
	5	15.2	200-240	174919	11	F
	7 1/2	25.0	200-240	174545	13	M
	10	28.0	200-240	174551	15	L
	15	42.0	200-240	174557	19	N
	20	54.0	200-240	174560	21	P
	25	68.0	200-240	174569	38	T
	30	80.0	200-240	174571	44	T
400-480 Volts	1	2.0	400-480	174920	6	B
	2	3.4	400-480	174921	7	D
	3	4.8	400-480	174922	9	E
	5	7.6	400-480	174923	9	E
	7 1/2	11.0	400-480	174924	11	I
	10	14.0	400-480	174552	13	M
	15	21.0	400-480	174558	15	L
	20	27.0	400-480	174561	17	N
	25	34.0	400-480	174563	21	P
	30	40.0	400-480	174565	21	P

☆ User programmable for 50Hz and other voltage inputs

Standard at no extra cost on all LEESON stock NEMA three phase motors, 1 HP and larger, is the exclusive Inverter Rated Insulation System (IRIS™), providing superior protection against voltage spikes induced by variable frequency drives.

WASHGUARD® NEMA 4/12 (IP65) THREE PHASE INPUT/OUTPUT

FOOD-SAFE epoxy finish. No external cooling fan required. Fully gasketed, water and dust-tight enclosure.

WASHGUARD® NEMA 4/12

WASHGUARD® NEMA 4/12 (IP65) THREE PHASE INPUT/OUTPUT

	HP	Output Amps	Input Voltage☆	Catalog Number	App. Wgt. (lbs.)	Dimension Key
200-240 Volts	1/2	2.2	200-240	174935	8	G
	1	4.0	200-240	174936	8	G
	2	6.8	200-240	174937	10	H
	3	9.6	200-240	174938	11	J
	5	15.2	200-240	174730	11	K
	7 1/2	22.0	200-240	174734	27	X
	10	28.0	200-240	174737	32	U
	15	43.0	200-240	174740	40	T
	20	54.0	200-240	174743*	42	T
400-480 Volts	1	2.0	400-480	174939	8	G
	2	3.4	400-480	174940	10	H
	3	4.8	400-480	174941	10	H
	5	7.6	400-480	174942	11	J
	7 1/2	11.0	400-480	174548	11	K
	10	14.0	400-480	174554	11	Q
	15	21.0	400-480	174749	32	U
	20	27.0	400-480	174752	36	T
	25	34.0	400-480	174755*	42	T

☆ User programmable for 50Hz and other voltage inputs
* Enclosure is NEMA 12 only

MICRO SERIES INVERTER DRIVES

Single Phase Input with 230V three phase output. NEMA 1 enclosure. These Speedmaster® Micro Series inverters have the same features as units shown on the previous page. All can be programmed in plain English, eliminating the difficulties of using coded symbols.

NEMA 1 SINGLE PHASE

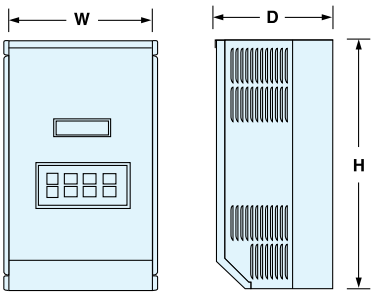
NEMA 1 (IP31) • SINGLE PHASE INPUT 230V THREE PHASE OUTPUT

(Use with three phase 230V motor)

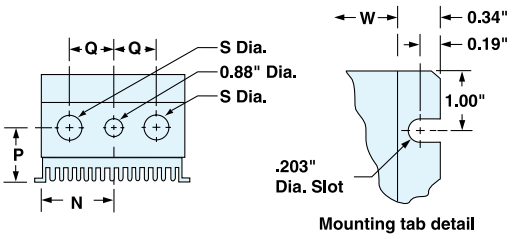
HP	Output Amps 230 VAC	Input Voltage	Catalog Number	App. Wgt. (lbs.)	Dimension Key
1/4	1.4	115/230	174930	5	A
1	4.0	115/230	174931	7	D
1 1/2	5.2	115/230	174932	7	D
2	6.8	200-230	174933	9	E
3	9.6	200-230	174934	9	E

CONTACT LEESON FOR INFORMATION ON REMOTE KEYPAD OPTION.

NEMA 1 ONLY

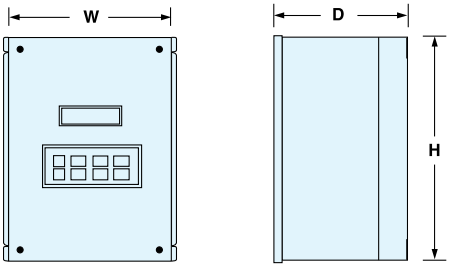


NEMA 1 & NEMA 4/12



Mounting tab detail

NEMA 4/12 WASHGUARD® ONLY



MICRO SERIES INVERTER DIMENSIONS (Inches) • NEMA 1 & NEMA 4/12

Dimension Key	H	W	D	N	P	Q	S
A	7.50	4.70	3.33	2.35	1.60	1.37	.88
B	7.50	4.70	3.63	2.35	1.90	1.37	.88
C	7.50	4.70	4.33	2.35	2.60	1.37	.88
D	7.50	6.12	4.22	3.77	2.40	1.37	.88
E	7.50	6.12	5.12	3.77	3.30	1.37	.88
F	7.88	7.86	5.94	5.13	3.95	1.50	1.13
G	7.88	6.12	4.35	3.06	2.70	1.37	1.38
H	7.88	7.86	4.90	4.80	3.25	1.37	1.38
I	9.38	7.86	6.25	5.13	3.95	1.50	1.13
J	7.88	7.86	5.90	4.80	4.25	1.37	1.38
K	9.75	10.26	7.20	3.93	4.19	2.00	1.38
L	11.25	7.86	6.84	3.93	4.19	2.00	1.38
M	9.38	7.86	6.84	3.93	4.19	2.00	1.13
N	12.75	7.86	6.84	3.93	4.19	2.00	1.38
O	12.75	7.86	7.40	3.93	4.19	2.00	1.38
P	12.75	10.26	7.74	5.13	5.00	2.50	1.38
Q	11.75	10.26	8.35	5.13	5.75	2.00	1.13
R	9.38	7.86	7.40	3.93	4.19	2.00	1.13
S	12.75	10.26	8.25	5.13	5.00	2.50	1.38
T	15.75	10.26	8.35	5.13	5.00	2.50	1.38
U	13.75	10.26	8.35	5.13	5.00	2.50	1.38
V	15.75	10.26	7.74	5.13	5.00	2.50	1.38
W	19.75	10.26	8.55	5.13	5.75	2.50	1.75
X	11.75	10.26	8.35	5.13	5.75	2.00	1.13

SM PLUS SUB-MICRO INVERTER DRIVES

SM PLUS

BIG performance from an ultra-compact design. Provides 18 isolated I/O terminals plus RS485 Modbus® serial communication. Other features include:

- Removable electronic programming module allows off-line set-up and program replication.
- Input line voltage calibration—optimizes over and under voltage trip levels
- Current limit to 180% with frequency foldback
- Adjustable carrier frequency (4 to 10 kHz)
- Adjustable V/Hz
- Output frequency to 240 Hz
- Seven preset speeds
- Automatic restart after fault
- Control via drive face, terminal strip or optional remote keypad
- Coast or ramp to stop
- Independent Accel and Decel adjustment
- Forward only or forward and reverse direction
- Adjustable DC injection braking
- Speed reference: Keypad, 0-10 VDC, or 4-20 mA
- Speed reference calibration
- Speed and load indicating output signal selection: 0-10 VDC or 4-20mA
- Output signal calibration
- I^2t motor thermal overload protection; meets UL requirements for motor protection in single motor applications
- Fixed boost for high starting torque
- Accel boost for high torque accelerating at any speed
- Slip compensation
- Three-digit LED display
- Password protection
- Fault history: Stores eight previous trips
- Terminal status indication
- Default parameter reset
- IP20 enclosure

DIMENSIONS ON PAGE 164

SINGLE PHASE INPUT/THREE PHASE OUTPUT

	HP	Output Amps 230 VAC	Input ☆ Voltage	Catalog Number	App. Wgt.(lbs.)	Dimension Key
115/230 Volts	1/4	1.4	115/230	174450[d]	2	A1
	1/2	2.2	115/230	174451[d]	3	A1
	1	2.0	115/230	174492[d]	4	B1
	1 1/2	6.0	115/230	174445[d]	5	B1

d To be discontinued when present stock is depleted. See S-M series drives for similar ratings.

SINGLE OR THREE PHASE INPUT/THREE PHASE OUTPUT

	HP	Output Amps	Input Voltage ☆	Catalog Number	App. Wgt.(lbs.)	Dimension Key
200-230 Volts	1/4	1.4	200-230	174452	2	A1
	1/2	2.2	200-230	174453	2	A1
	1	4.2	200-230	174454	3	A2
	1 1/2	6.0	200-230	174493	4	B1
	2	6.8	200-230	174494	5	B2
	3	9.6	200-230	174495	5	B2
	5	15.2	200-230	174444	8	C1

THREE PHASE INPUT/OUTPUT

	HP	Output Amps	Input Voltage ☆	Catalog Number	App. Wgt.(lbs.)	Dimension Key
200-230 Volts	1	4.2	200-230	174455	3	A2
	1 1/2	6.0	200-230	174456	3	A3
	2	6.8	200-230	174457	4	A3
	3	9.6	200-230	174458	4	A3
	5	15.2	200-230	174446	4	B2
	7 1/2	22.0	200-230	174438	8	C1
	10	28.0	200-230	174439	8	C1
	15	42.0	200-230	174429	13	D1
	20	54.0	200-230	174430	14	D1
460-480 Volts	1/2	1.1	460-480	174459	2	A1
	1	2.1	460-480	174460	3	A2
	1 1/2	3.0	460-480	174461	3	A3
	2	3.4	460-480	174462	4	A3
	3	4.8	460-480	174463	4	A3
	5	7.6	460-480	174447	5	B2
	7 1/2	11.0	460-480	174440	8	C1
	10	14.0	460-480	174441	8	C1
	15	21.0	460-480	174431	13	D1
	20	27.0	460-480	174432	14	D1
	25	34.0	460-480	174433	14	D1

☆ User programmable for 50Hz and other voltage inputs

SPECIFICATIONS:

Storage Temperature	-20˚ to 70˚ C
Ambient Operating Temperature	0˚ to 50˚ C
Ambient Humidity	<95% (non-condensing)
Maximum Altitude	3300 ft (1000m) above sea level
Input Line Voltages	115/230 VAC, 200-230 VAC, 460-480 VAC, and 550-575 VAC
Input Voltage Tolerance	+10%, -15%
Input Frequency Tolerance	48 to 62 Hz
Output Wave Form	Sine Coded PWM
Output Frequency	0-240 Hz
Carrier Frequency	4 kHz to 10 kHz
Enclosure	IP20
Service Factor	1.0
Efficiency	up to 98%
Power Factor (displacement)	>0.96
Overload Current Capacity	150% for 60 seconds 180% for 20 seconds
Speed Reference Follower	0-10 VDC, 4-20 mA
Control Voltage	15 VDC
Analog Outputs	0-10 VDC or 2-10 VDC: Proportional to frequency or load
Digital Outputs	Open-collector: 40 mA at 30 VDC
Power Supply for Aux. Relays	40 mA at 12 VDC

AC ADJUSTABLE SPEED DRIVES

SM SERIES SUB-MICRO INVERTERS

LEESON

OHIO GEAR™

SM SERIES SUB-MICRO INVERTER DRIVES

For applications requiring a simpler drive without the advanced features of the SM-Plus drive. Provides 11 isolated I/O terminals with one Form A relay output. Other features include:

SM SERIES

- Removable electronic programming module allows off-line set-up and program replication.
- Input line voltage calibration—optimizes over and under voltage trip levels
- Current limit to 180% with frequency foldback
- Adjustable carrier frequency (4 to 10 kHz)
- Adjustable V/Hz
- Output frequency to 240 Hz
- Seven preset speeds
- Automatic restart after fault
- Control via drive face, terminal strip or optional remote keypad
- Coast or ramp to stop
- Independent Accel and Decel adjustment
- Forward only or forward and reverse direction
- Adjustable DC injection braking
- Speed reference: Keypad, 0-10 VDC, or 4-20 mA
- Speed reference calibration
- Speed and load indicating output signal selection: 0-10 VDC or 4-20mA
- Output signal calibration
- I^2t motor thermal overload protection; meets UL requirements for motor protection in single motor applications
- Fixed boost for high starting torque
- Accel boost for high torque accelerating at any speed
- Slip compensation
- Three-digit LED display
- Password protection
- Fault history: Stores eight previous trips
- Terminal status indication
- Default parameter reset
- IP20 enclosure with finger safe terminals

SINGLE PHASE INPUT/THREE PHASE OUTPUT

	HP	Output Amps 230 VAC	Input Voltage	Catalog Number	App. Wgt.(lbs.)	Dimension Key
110-120 Volts	1/3	1.7	110-120	174263	2	A5
	1/2	2.4	110-120	174264	2	A5
	1	4.2	110-120	174265	3	B5
	1 1/2	6.0	110-120	174266	3	B5

SINGLE PHASE INPUT/THREE PHASE OUTPUT

	HP	Output Amps	Input Voltage	Catalog Number	App. Wgt.(lbs.)	Dimension Key
208-240 Volts	1/3	1.7	208-240	174267	2	A5
	1/2	2.4	208-240	174268	2	A5
	1	4.2	208-240	174270	3	A6
	1 1/2	6.0	208-240	174271	4	B5
	2	7.0	208-240	174272	5	B5
	3	9.6	208-240	174273	5	B6

THREE PHASE INPUT/THREE PHASE OUTPUT

	HP	Output Amps	Input Voltage	Catalog Number	App. Wgt.(lbs.)	Dimension Key
208-240 Volts	1/2	2.4	208-240	174274	2	A5
	1	4.2	208-240	174276	2	A6
	1 1/2	6.0	208-240	174277	3	A7
	2	7.0	208-240	174278	3	A7
	3	9.6	208-240	174279	3	B6
	5	15.2	208-240	174288	5	B6

THREE PHASE INPUT/THREE PHASE OUTPUT

	HP	Output Amps	Input Voltage	Catalog Number	App. Wgt.(lbs.)	Dimension Key
400-480 Volts	1/2	1.1	400-480	174281	2	A1
	1	2.1	400-480	174282	3	A2
	1 1/2	3.0	400-480	174283	3	A3
	2	3.4	400-480	174284	4	A3
	3	4.8	400-480	174286	4	B2
	5	7.8	400-480	174287	5	B2

DIMENSIONS: SM AND SM PLUS INVERTERS

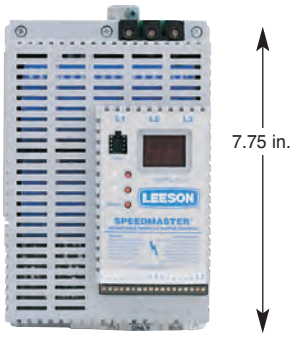
"A" Chassis

Depth: A1: 3.94 in.
A2: 4.74 in.
A3: 5.74 in.
A5: 3.26 in.
A6: 3.63 in.
A7: 5.56 in.

"B" Chassis

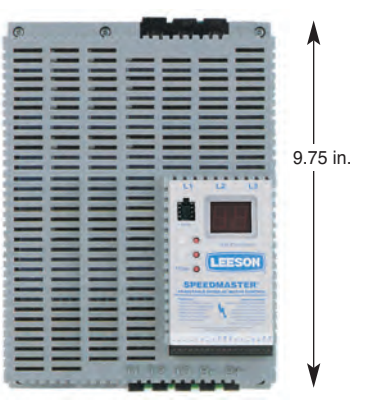
Depth: B1: 5.24 in.
B2: 6.74 in.
B5: 4.88 in.
B6: 5.53 in.

"C" Chassis



Depth: C1: 7.18 in.

"D" Chassis



Depth: D1: 8.00 in.

Dimensions shown for reference only. Contact LEESON for detailed drawing.

NEMA 4/12 NEMA 1
CHASSIS

NEMA 4/12
TOTALLY ENCLOSED

174102 Non-Reversing 174107 Reversing

LEESON Speedmaster® DC controls are general purpose drives designed for use with permanent magnet type direct current motors. NEMA 1 enclosed drives are suitable for most industrial applications, with the NEMA 4X enclosures best suited for washdown or outdoor installations or for extremely dusty applications. Chassis only units are available for building into equipment, machinery or existing enclosures. Most controls have a dual voltage switch allowing the control to be used on 115 or 230 volt, single phase, 50/60 Hertz service. However, the proper voltage motor should be selected for use with the power supply input, i.e., 90 volt DC motors for 115 volt input or 180 volt motors for 230 volt input service. Installation and adjustment instructions are included.

SCR/Thyristor drives are available in unidirectional and electro-mechanical type reversing styles for NEMA frame ratings and sub-fractional HP sizes.

Regenerative, four quadrant controls in NEMA 4X or chassis style available for applications requiring more precise motion control. These controls will produce both motoring and braking torque regulation for NEMA frame 1/4 HP through 2 HP motors.

Pulse Width Modulated (PWM) controls are available in NEMA 1 and chassis style units for subfractional HP frame motors from 1/40 through 1/4 HP. Due to their improved form factor, these PWM controls will result in quieter operation, lower operating temperatures, longer brush life, and greater motor overload capacity than for the same motor on an SCR type control.

FOR NEMA FRAME MOTORS & GEARMOTORS

SCR CONTROLS • ENCLOSED • SINGLE PHASE 50/60 HZ

Description	Catalog Number	Output Current Amps	HP Range 115V	HP Range 230V	App. Wgt. (lbs.)
NEMA 1 General Purpose					
—Non-Reversing	**174307**	10	1/8 to 1Ⓗ	1/4 to 2 Ⓗ	5
—Reversing with dynamic braking	**174308**	10	1/8 to 1Ⓗ	1/4 to 2 Ⓗ	5
—Heat Sink	**174316**	—	—	—	1
NEMA 4X Washdown—Dust-Tight					
—Non-Reversing, Steel Enclosure	**174100**[d]	10	1/4 to 1	1/4 to 2	7
—Non-Reversing, Plastic Enclosure	**174102**	10	1/4 to 1	1/4 to 2	6
	174902[d]	10	1/4 to 1	1/4 to 2	2
—Reversing, Steel with dyn. braking	**174105**[d]	10	1/4 to 1	1/4 to 2	8
—Reversing, Plastic Enclosure*	**174107**	10	1/4 to 1	1/4 to 2	7
	174903[d]	10	1/4 to 1	1/4 to 2	2
NEMA 4					
—Non-Reversing 3HP	**174709**	15	—	3	8

SCR CONTROLS • OPEN CHASSIS

Description	Catalog Number	Output Current Amps	HP Range 115V	HP Range 230V	App. Wgt. (lbs.)
Chassis with Speed Pot-Non Reversing	**174311**	10	1/8 to 1Ⓙ	1/4 to 2Ⓙ	1
Chassis Heat Sink Ⓙ	**174314**	—	—	—	1

REGENERATIVE SCR DRIVES • FOUR QUADRANT • FULL WAVE

Description	Catalog Number	Output Current Amps	HP Range 115V	HP Range 230V	App. Wgt. (lbs.)
NEMA 4X Washdown ✓	**175720**	10	1/4 to 1	1/2 to 2	8
Open Chassis with Speed Pot ✓	**175721**	10	1/4 to 1Ⓚ	1/2 to 2Ⓚ	2
Chassis Heat Sink Ⓚ	**175722**	—	—	—	2

✓ Regenerative drives are reversible and have regenerative braking.

* Drive does not have dynamic braking. Motor shaft must be at zero speed before reversing.
Ⓗ Heat sink #174316 is required for NEMA 1 type 3/4 and 1HP 115V and 1 1/2 and 2HP 230V
Ⓙ Chassis Heat Sink #174314 required for 3/4 and 1HP 115V and 1 1/2 and 2HP 230V
Ⓚ Chassis Heat sink #175722 required for 1HP and above.
d To be discontinued when present stock is depleted.

SINGLE REDUCTION • APPROXIMATE WEIGHTS∆ (LBS.)

Reducer Style	Reducer Size 813	815	818	821	824	826	830	832	842	852	860
Solid Output Shaft											
BMQ	17	22	24	30	46	59	80	83	146	247	344
BM	21	27	29	34	47	60	91	94	154	254	361
B	14	20	22	27	38	51	76	79	136	232	321
TMQ & UMQ	19	24	26	33	54	69	96	99	156	269	364
TM & UM	24	29	32	37	60	70	107	110	164	276	371
T & U	17	22	25	30	46	61	92	95	146	254	341
JMQ	18	24	26	33	49	63	86	89	157	265	-----
JM	22	29	31	37	50	64	97	100	165	272	-----
J	15	22	24	30	41	55	82	85	177	250	-----
VHMQ & VLMQ	20	26	27	48	54	70	94	97	174	282	371
VHM & VLM	25	31	33	42	55	71	105	108	182	289	378
VH & VL	18	24	26	35	46	62	90	93	164	267	348
FMQ	19	24	26	34	56	69	96	99	152	265	356
FM	24	29	32	38	62	71	107	110	166	272	363
F	17	22	25	31	48	61	92	95	148	250	333
BFMQ	23	-----	30	40	56	72	-----	-----	-----	-----	-----
BFM	27	-----	35	44	57	73	-----	-----	-----	-----	-----
BF	20	-----	28	37	48	64	-----	-----	-----	-----	-----
CMQ	19	-----	26	-----	56	-----	-----	-----	-----	-----	-----
CM	24	-----	32	-----	62	-----	-----	-----	-----	-----	-----
C	17	-----	26	-----	56	-----	-----	-----	-----	-----	-----
RMQ	-----	29	31	39	53	76	93	114	166	261	-----
RM	-----	34	36	43	54	77	104	125	174	268	-----
R	-----	27	29	36	46	68	89	110	156	246	-----
Hollow Output Shaft											
HMQ	17	22	25	33	47	57	80	83	146	247	344
HM	21	27	30	37	52	62	91	94	154	254	361
H	14	20	23	28	44	54	76	79	136	222	321
FHMQ	18	24	27	34	52	62	96	99	158	265	356
FHM	22	29	33	40	57	67	107	110	166	272	363
FH	15	22	26	32	49	59	92	95	148	250	333
BFHMQ	23	-----	31	-----	43	57	70	-----	-----	-----	-----
BFHM	27	-----	36	-----	47	62	75	-----	-----	-----	-----
BFH	20	-----	29	-----	38	54	67	-----	-----	-----	-----

DOUBLE REDUCTION • WORM/WORM • APPROXIMATE WEIGHTS∆ (LBS.)

Reducer Style	Reducer Size 813	815	818	821	824	826	830	832	842	852	860
Solid Output Shaft											
DMQ	26	31	34	39	55	68	93	103	158	291	393
DM	30	35	38	43	59	72	97	108	162	292	404
D	25	30	33	38	52	65	90	101	155	283	389
DFMQ	29	34	37	43	65	78	109	119	178	309	416
DFM	33	38	41	47	69	82	113	124	182	310	427
DF	28	33	36	42	62	75	106	117	175	301	412
DJMQ	27	34	36	42	58	78	99	109	207	309	416
DJM	31	38	40	46	62	82	103	114	211	310	427
DJ	26	33	35	41	55	75	96	107	204	301	412
DTMQ & DUMQ	29	34	37	42	63	78	109	119	176	313	424
DTM & DUM	33	38	41	46	67	82	113	124	180	314	435
DT & DU	28	33	36	41	60	75	106	117	173	305	420
DBFMQ	32	---	40	49	65	81	---	---	---	---	---
DBFM	36	---	46	53	69	85	---	---	---	---	---
DBF	31	---	39	48	62	78	---	---	---	---	---
DVHMQ & DVLMQ	30	36	38	47	63	79	107	120	194	326	431
DVHM & DVLM	34	40	42	51	67	83	111	122	198	327	442
DVH & DVL	29	35	37	46	60	76	104	115	191	318	427
Hollow Output Shaft											
DHMQ	26	31	34	39	55	68	93	103	158	291	393
DHM	30	35	38	43	59	72	97	108	162	292	404
DH	25	30	33	38	52	65	90	101	155	283	389
DFHMQ	27	34	38	44	66	76	109	119	178	309	416
DFHM	31	38	42	48	70	80	113	124	182	310	427
DFH	26	33	37	43	63	73	106	117	175	301	412
DBFHMQ	32	---	40	49	65	81	---	---	---	---	---
DBFHM	36	---	46	53	69	85	---	---	---	---	---
DBFH	31	---	39	48	62	78	---	---	---	---	---

∆ Weights include oil.

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size										
	813	815	818	821	824	826	830	832	842	852	860
T/U	3	3	3	3	8	10	16	16	18	22	31
J	1	2	2	3	3	4	6	6	11	18	--
VL/VH	4	4	4	8	8	11	14	14	28	36	36
F (Cast Iron)	1	2	3	4	5	5	16	16	12	28	12
BF (Steel)	2	--	4	4	7	9	--	--	--	--	--
R	--	7	7	9	9	17	15	31	24	15	--

HOLLOW SHAFT BORE SIZES (Inches)*

Fraction Size	Decimal Size	Output Bore Code	813	815	818	821	824	826	830	832	842	852	860	Keyway**
5/8	0.625	10	■	■	■									3/16 x 3/32
11/16	0.688	11			■									3/16 x 3/32
3/4	0.750	12			■									3/16 x 3/32
7/8	0.875	14			■									3/16 x 3/32
1	1.000	16			■	■	■	■						1/4 x 1/8
1-1/8	1.125	18				■	■	■						1/4 x 1/8
1-3/16	1.188	19				■	■	■	■	■				1/4 x 1/8
1-1/4	1.250	20				■	■	■	■	■				1/4 x 1/8
1-7/16	1.438	23				■	■	■	■	■	■			3/8 x 3/16
1-1/2	1.500	24							■	■	■			3/8 x 3/16
1-5/8	1.625	26							■	■	■			3/8 x 3/16
1-11/16	1.688	27							■	■	■			3/8 x 3/16
1-3/4	1.750	28							■	■	■			3/8 x 3/16
1-7/8	1.875	30									■			1/2 x 1/4
1-15/16	1.938	31							■	■	■			1/2 x 1/4
2	2.000	32									■	■	■	1/2 x 1/4
2-3/16	2.188	35									■	■	■	1/2 x 1/4
2-1/4	2.250	36										■	■	1/2 x 1/4
2-7/16	2.438	39										■	■	5/8 x 5/16
2-1/2	2.500	40										■	■	5/8 x 5/16
2-11/16	2.688	43										■	■	5/8 x 5/16
2-15/16	2.938	47										■	■	3/4 x 3/8
3	3.000	48										■	■	3/4 x 3/8
3-3/16	3.188	51										■	■	3/4 x 3/8
3-7/16	3.438	55										■	■	7/8 x 7/16

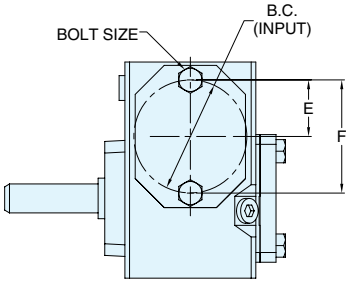
■ Stock Bore Sizes.

* Other bore sizes are available. Contact LEESON for sizes and availability.

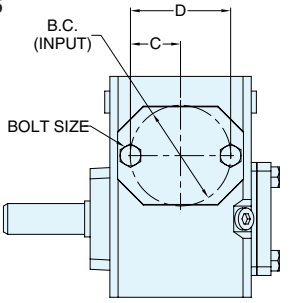
** Dimensions refer to customer driven shaft.

NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above.

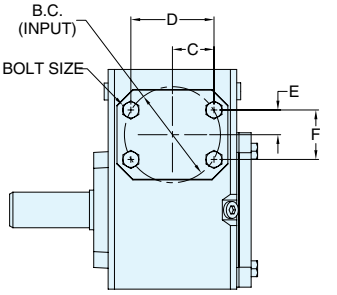
BOLT CIRCLE DIMENSIONS



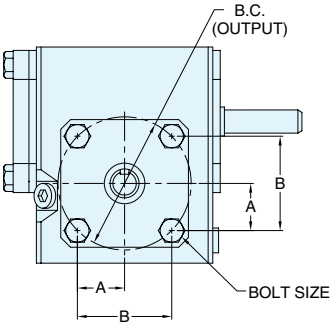
Size 813



Sizes 815-821



Sizes 824-860



INPUT COVER DIMENSIONS

Unit	C	D	E	F	INPUT B.C.	Bolt Size
813	1.219	2.438	N/A	N/A	2.438	5/16-18
815	1.219	2.438	N/A	N/A	2.438	5/16-18
818	1.219	2.438	N/A	N/A	2.438	5/16-18
821	1.219	2.438	N/A	N/A	2.438	5/16-18
824	1.313	2.625	.781	1.562	N/A	5/16-18
826	1.313	2.625	.781	1.562	N/A	5/16-18
830	1.313	2.625	.781	1.562	N/A	5/16-18
832	1.313	2.625	.781	1.562	N/A	5/16-18
842	1.600	3.200	1.050	2.100	N/A	7/16-14
852	1.600	3.200	1.050	2.100	N/A	7/16-14
860	1.370	2.740	1.370	2.740	3.875	7/16-14

OUTPUT COVER DIMENSIONS

Unit	A	B	OUTPUT B.C.	Bolt Size
813	1.016	2.033	2.875	5/16-18
815	1.016	2.033	2.875	5/16-18
818	1.480	2.961	4.188	5/16-18
821	1.480	2.961	4.188	5/16-18
824	1.856	3.712	5.250	5/16-18
826	1.856	3.712	5.250	5/16-18
830	2.298	4.596	6.500	3/8-16
832	2.298	4.596	6.500	3/8-16
842	2.939	5.877	8.312	7/16-14
852	3.359	6.717	9.500	7/16-14
860	Consult Factory			1/2-13

LUBRICATION

The reducer is properly filled at the factory with sufficient lubricant per customer specified mounting position.
If position is not specified by customer, reducer will be filled to level in mounting position 1 (worm over)
Reducer ordered with a "MOD" will be filled based on the factory assumed mounting position, mounting position should be specified with order to assure proper lubrication.

Factory Assumed Mounting Orientation	Applicable Unit Styles*	
Worm Over	B, T, F, H, FH, C D, DT, DF, DH, DFH DX, DXT, DXH, DXFH	Single Reduction Double Reduction Worm-Worm Double Reduction Helical-Worm
Worm Under	U DU	Single Reduction Double Reduction Worm-Worm
Vertical Output	VL, VH DVL, DVH DXVL, DXVH	Single Reduction Double Reduction Worm-Worm Double Reduction Helical-Worm
Vertical Input	J DJ DXJ	Single Reduction Double Reduction Worm-Worm Double Reduction Helical-Worm

* INCLUDES MOTORIZED COUPLING AND QUILL INPUT VERSIONS OF ALL STYLES LISTED

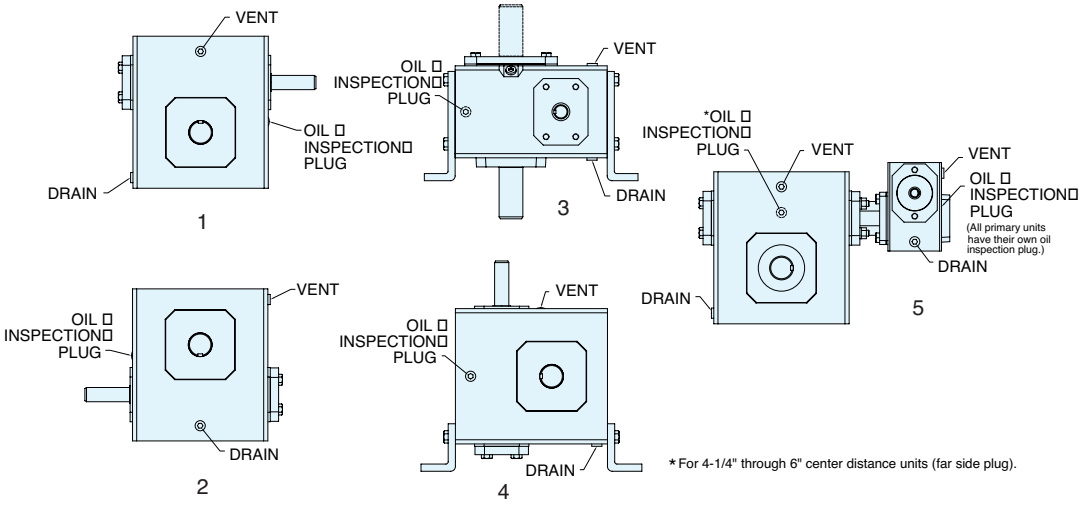
All standard IRONMAN BY OHIO GEAR™ Worm Reducers are factory filled with MOBIL SHC-634 lubricant, a synthesized hydrocarbon formulated for long life and wide temperature range (-25°F to +220°F).
Change oil only when performing maintenance that requires gearbox disassembly.

If oil must be replaced, use only MOBIL SHC-634

Do not confuse MOBIL SHC-634 with MOBILGEAR 634. MOBILGEAR 634 is an EP type gear oil NOT suitable for use in the IRONMAN BY OHIO GEAR™ worm gear reducers.

SPECIAL LUBRICATION REQUIREMENTS - Size 830 & Larger
Please specify mounting position *with order* if any of the following applies:
1- Reducer is mounted with input or output shafts vertical
2- Input speed is sustained less than 900 RPM
3- Reducer is mounted in inclined position
NOTE: The reducer may require modifications to assure proper lubrication in these applications.

STANDARD MOUNTING POSITIONS & PLUG LOCATIONS

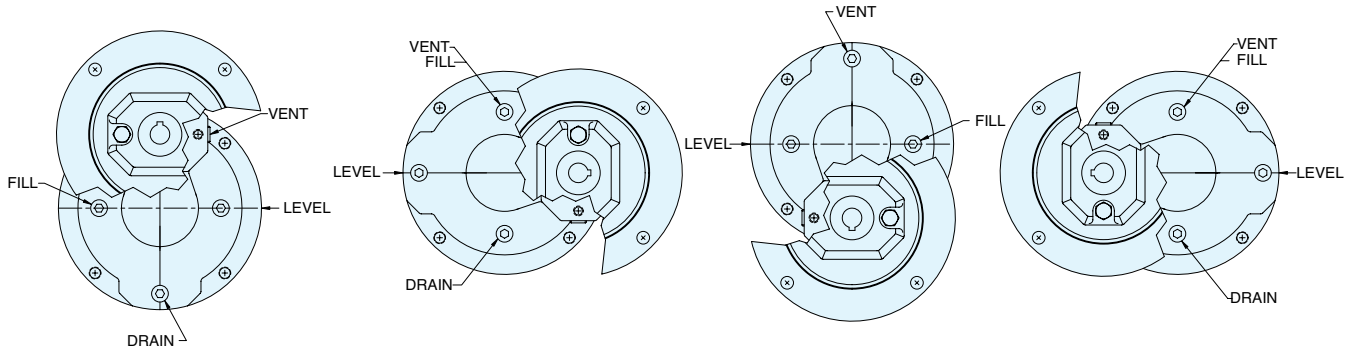


OIL CAPACITIES (ounces)

Mounting Position	UNIT SIZE 813	815	818	821	824	826	830	832	842	852	860
1-Worm Over	4	12	12	20	24	40	56	72	112	188	312
2-Worm Under	8	16	20	28	40	60	84	108	152	304	328
3-Vertical Output	4	16	16	28	32	48	68	88	128	248	320
4-Vertical Input	4	16	16	24	32	48	72	92	128	248	325
5-Worm Over on Secondary Unit of Double Reduction	—	—	—	N/A	N/A	N/A	N/A	192	308	320	485

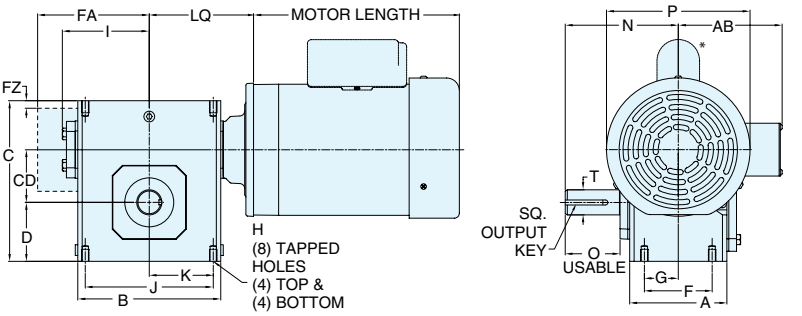
16 OZ.	=	1 PINT
2 PINTS	=	1 QUART
4 QUARTS	=	1 GALLON
1 GALLON	=	128 OZ.

RATIO MULTIPLIER VENT PLUG LOCATION



- Units are factory filled for Position 1 (input over mounting position). Verify proper oil level for other mountings.
- The "Input Under" mounting position is not recommended due to the increased probability of leakage from the high speed shaft seals.
- Special provisions are required for vertical shaft mountings. Consult factory for details.

GEAR+MOTOR™ DIMENSIONS



MQ & BM STYLE GEARMOTOR DIMENSIONS (Inches)

Series	A	B	C	D	CD	F	FA	FZ	G	H Tap	H Depth	I	J	K	N	O	T	Output Key
813	2.82	3.80	4.66	1.72	1.33	2.00	N/A	N/A	1.00	5/16-18	0.50	2.61	3.25	1.63	4.00	2.16	0.625	3/16 X 1.50
815	3.44	4.88	5.38	1.91	1.54	2.75	N/A	N/A	1.38	5/16-18	0.63	3.14	4.19	2.09	4.31	2.11	0.750	3/16 X 1.50
818	3.56	5.06	5.75	2.06	1.75	2.75	N/A	N/A	1.38	5/16-18	0.63	3.24	4.19	2.09	4.31	2.05	0.875	3/16 X 1.38
821	3.81	5.80	6.38	2.28	2.06	2.88	N/A	N/A	1.44	3/8-16	0.60	3.61	5.00	2.50	4.68	2.29	1.000	1/4 X 1.44
824	4.06	6.12	6.94	2.50	2.38	2.88	N/A	N/A	1.44	3/8-16	0.69	3.77	5.00	2.50	5.14	2.66	1.125	1/4 X 1.75
826	4.84	7.12	8.00	2.94	2.63	3.38	N/A	N/A	1.69	3/8-16	0.69	4.34	6.38	3.19	5.63	2.73	1.125	1/4 X 1.75
830	5.25	8.12	8.88	3.25	3.00	4.00	N/A	N/A	2.00	7/16-14	0.88	4.84	7.00	3.50	6.75	3.60	1.250	1/4 X 2.25
832	5.75	8.50	9.38	3.50	3.25	4.00	N/A	N/A	2.00	7/16-14	0.88	5.02	7.50	3.75	7.06	3.66	1.375	5/16 X 2.50
842	6.13	10.25	11.38	4.44	4.25	5.00	N/A	N/A	2.50	5/8-11	1.00	6.10	8.50	4.25	8.12	4.50	1.875	1/2 X 3.06
852	7.19	13.00	14.00	5.12	5.25	5.81	N/A	N/A	2.91	5/8-11	1.25	7.50	11.00	5.50	9.06	4.78	2.000	1/2 X 3.50
860	8.13	14.25	16.50	6.50	6.00	6.38	11.13	0.33	3.19	5/8-11	1.00	N/A	12.75	6.38	10.00	4.65	2.500	5/8 X 4.00

* Capacitor housing, single phase only, 2-1/4" high

MOTOR LENGTH – See page 182 for motor length dimensions of individual ratings.

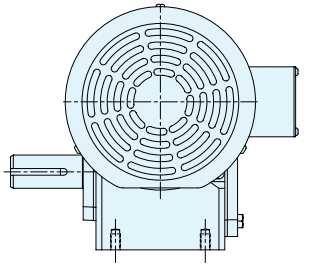
MOTOR MOUNTING DIMENSIONS

Series	LQ BMQ 48CZ	LQ BMQ 56C/140TC	LQ BMQ 180TC	LQ BMQ 210TC	LQ BM 48CZ	LQ BM 56C/140TC	LQ BM 180TC	LQ BM 210TC	P 48CZ	P 56C/140TC	P 180TC	P 210TC	AB 48CZ	AB 56C/140TC	AB 180TC	AB 210TC
813	3.46	3.46	N/A	N/A	5.63	6.07	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
815	3.99	3.99	N/A	N/A	6.16	6.60	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
818	4.09	4.09	N/A	N/A	6.26	6.70	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
821	4.46	4.46	N/A	N/A	6.63	7.07	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
824	N/A	4.63	5.06	N/A	N/A	7.76	8.76	8.76	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
826	N/A	5.19	5.62	N/A	N/A	8.32	9.32	9.32	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
830	N/A	5.69	6.12	6.56	N/A	8.82	9.82	9.82	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
832	N/A	5.88	6.31	6.75	N/A	9.01	10.01	10.01	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
842	N/A	6.45	7.21	7.21	N/A	11.81	12.90	12.90	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
852	N/A	7.85	8.61	8.61	N/A	13.21	14.30	14.30	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
860	N/A	10.45	9.33	9.33	N/A	N/A	15.88	15.88	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59

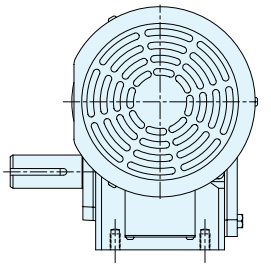
MOTOR MOUNTING POSITIONS

Conduit box position viewed from input side of reducer.

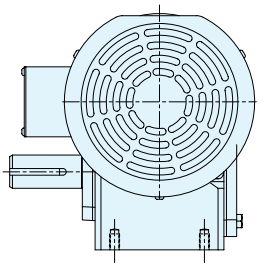
STANDARD MOUNTING POSITION



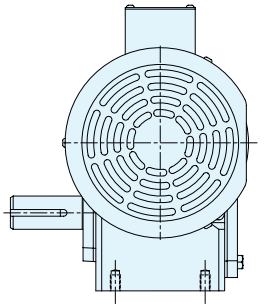
1 Conduit box horizontal on right side.



2 Conduit box vertical on bottom side.



3 Conduit box horizontal on left side.



4 Conduit box vertical on top side.

CONDENSED GLOSSARY OF MOTOR AND GEARING TERMS

Axial Movement - Often called "endplay." The endwise movement of motor or gear shafts. Usually expressed in thousandths of an inch.

Back Driving - Driving the output shaft of a reducer — using it to increase speed rather than reduce speed. Worm gear reducers are not suitable for service as speed increasers.

Backlash - Rotational movement of the output shaft clockwise and counter clockwise, while holding the input shaft stationary. Usually expressed in thousandths of an inch and measure at a specific radius at the output shaft.

Center Distance - A basic measurement or size reference for worm gear reducers, measured from the centerline of the worm to the centerline of the worm wheel.

Drip-Proof - Venting in end frame and/or main frame located to prevent drops of liquid from falling into motor within 15 angle from vertical. Designed for use in areas that are reasonably dry, clean, and well ventilated (usually indoors). If installed outdoors, it is recommended that the motor be protected with a cover that does not restrict the flow of air to the motor.

Efficiency - A ratio of the input power compared to the output, usually expressed as a percentage.

Explosion-Proof Motors - These motors meet Underwriters Laboratories and Canadian Standards Association standards for use in hazardous (explosive) locations, as indicated by the UL label affixed to the motor. Locations are considered hazardous because the atmosphere does or may contain gas, vapor, or dust in explosive quantities.

Flanged Reducer - Usually used to refer to a reducer having provisions for close coupling of a motor either via a hollow (quill) shaft or flexible coupling. Most often a NEMA C face motor is used.

Gear+Motor™ - LEESON's registered trademark for a separable gear and NEMA C face motor as opposed to an integral gearmotor. Integral gearmotors suffer from lack of application and availability constraints as well as having inherent service issues when one or the other component needs replacement.

Input Horsepower - The power applied to the input shaft of a reducer. The input horsepower rating of a reducer is the maximum horsepower the reducer can safely handle.

Mechanical Rating - The maximum power or torque a reducer can transmit. LEESON reducers typically have a safety margin equal to 200% or more of its mechanical rating allowing momentary overloads during start-up or other transient overload conditions.

Motor Selection - See the technical section of LEESON's Stock Motor Catalog 1050, request LEESON's book, Practical Motor Basics or contact LEESON's District Office for expert assistance.

Mounting Position - The relationship of the input and output shafts of a reducer relative to horizontal.

Output Horsepower - The amount of horsepower available at the output shaft of the reducer. Output horsepower is always less than the input horsepower due to the efficiency of the reducer.

Overhung Load - A force applied at right angles to a shaft beyond the shaft's outermost bearing. This shaft-bending load must be supported by the bearing. Overhung load ratings are listed for each reducer size and should not be exceeded.

Prime Mover - In industry, the prime mover is most often an electric motor. Occasionally engines, hydraulic or air motors are used. Special application considerations are called for when other than an electric motor is the prime mover.

Self-Locking - The inability of a reducer to be driven backwards by its load. As a matter of safety, no LEESON reducer should be considered self-locking.

Service Factor for Gearing - A method of adjusting a reducer's load carrying characteristics to reflect the application's load characteristics. AGMA (American Gear Manufacturer's Association) has established standardized service factor information.

Service Factor for Motors - Refers to a motor's ability to handle a load greater than the motor's rated HP on a continuous basis. Most LEESON motors have a continuous duty service factor of 1.15 or higher. This ability of the motor is intended to handle momentary or transient overloads or unusual service conditions and should not be utilized when sizing motors for continuous service. For assistance in motor selection please contact your LEESON's District Office.

Thermal Rating - The power or torque a reducer can transmit continuously. This rating is based upon the reducer's ability to dissipate the heat caused by friction.

Thrust Load - Force imposed on a shaft parallel to a shaft's axis. Thrust loads are often induced by the driven machine. Take care to be sure the thrust load rating of the reducer is sufficient that it's shafts and bearings can absorb the load without premature failure.

Totally Enclosed Non-Ventilated (TENV) - No vent openings, tightly enclosed to prevent the free exchange of air, but not airtight. Has no external cooling fan and relies on convection for cooling. Suitable for use where exposed to dirt or dampness, but not for hazardous (explosive) locations.

Totally Enclosed Fan Cooled (TEFC) - Same as the TENV except has external fan as an integral part of the motor, to provide cooling by blowing air around the outside frame of the motor.

WORM GEAR REDUCER SERVICE FACTORS

Proper determination of an application's service factor characteristics is critical for maximum reducer life and trouble free service. See the definition of service factor in the glossary.

All worm reducers and LEESON Gear+Motor motorized reducers are sized for applications having an AGMA defined service of 1.0, unless otherwise stated. (Alternately, 1.0 service factor is sometimes expressed as "Class I Service".) Reducers in such applications operate on a continuous duty basis, for 10 hours per day or less, and are free of recurrent shock loads. When operating characteristics are different than noted, the input horsepower and torque ratings listed must be divided by the service factor selected from the table below. This table applies to reducers with an electric or hydraulic motor input.

SPECIAL APPLICATION CONSIDERATIONS

CAUTION: Please contact LEESON for assistance in applications not listed or for applications with unusual characteristics. Including the following:

- Input speeds not listed in catalog
- Frequent starting or repetitive shock applications
- Selection of reducers for man lifts or people moving equipment
- High energy loads, including stalling
- Starting or momentary overloads exceeding 200% of gear reducer mechanical capacity (100% overload)

SERVICE FACTOR TABLE

Duration of Service (Hours per day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	—*	—*	1.00	1.25
Less than 3 Hours	1.00	1.00	1.25	1.50
3 - 10 Hours	1.00	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

* Unspecified service factors should be 1.00 or as agreed upon by the user and manufacturer.

When a single or multi-cylinder engine is the input power, the service factor selected from the table above should be increased by multiplying the value by the factor selected from the table below.

Service Factor Conversion Table for Engine Driven Applications.

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

On the next page, AGMA standardized service factor data is listed for a wide variety of applications operating 3 to 10 hours per day and for 10 hours or more per day.

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A.G.M.A. SERVICE FACTORS

Application	Service Factor 3-10 Hours	Over 10 Hours
AGITATORS		
Pure Liquids	1.00	1.25
Liquids & Solids	1.25	1.50
Liquids-Variable Density	1.25	1.50
APRON CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
APRON FEEDERS	1.25	1.50
ASSEMBLY CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
BARGE HAUL PULLERS	1.50	1.75
BARKING		
Drums (Coupling Connected)		1.75
Mechanical		1.75
BAR SCREENS (Sewage)	1.00	1.25
BELT CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
BELT FEEDERS	1.25	1.50
BLOWERS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Vane	1.00	1.25
BOLTING MACHINERY	1.00	1.25
BREWING & DISTILLING		
Bottling Machinery	1.00	1.25
Brew Kettles, Cont. Duty	1.00	1.25
Can Filling Machines	1.00	1.25
Cookers-Cont. Duty	1.00	1.25
Mash Tubs-Cont. Duty	1.00	1.25
Scale Hoppers-Frequent Starts	1.25	1.50
BUCKET		
Conveyors Uniform	1.00	1.25
Conveyors Heavy Duty	1.25	1.50
Elevators Cont.	1.00	1.25
Elevators Uniform	1.00	1.25
Elevators Heavy Duty	1.25	1.50
CALENDARS		
Rubber		1.50
Textile	1.25	1.50
CANE KNIVES		1.50
CAN FILLING MACHINES	1.00	1.25
CAR DUMPERS	1.50	1.75
CAR PULLERS	1.25	1.50
CENTRIFUGAL		
Blowers, Compressors, Discharge Elevator, Fans or Pumps	1.00	1.25
CHAIN CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
CLARIFIERS	1.00	1.25
CLASSIFIERS	1.25	1.50
CLAY WORKING INDUSTRY		
Brick Press	1.75	2.00
Briquette Machines	1.75	2.00
Clay Working Machinery	1.25	1.50
Plug Mills	1.25	1.50
COMPRESSORS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Reciprocating:		
Multi-Cylinder	1.25	1.50
Single Cylinder	1.50	1.75
CONCRETE MIXERS		
Continuous	1.25	1.50
Intermittent	1.25	1.50
CONVEYORS-Uniformly Loaded or Fed		
Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw	1.00	1.25
CONVEYORS-Severe Duty		
Live Roll		Contact Factory
Reciprocating, Shaker	1.50	1.75
COOLING TOWER FANS		Contact Factory
CRANES		
Dry Dock Cranes		Contact Factory
Main Hoist	1.00	1.25
Bridge and Trolley Travel		Contact Factory
CRUSHERS		
Ore or Stone	1.50	1.75
Sugar		1.50
DISC FEEDERS	1.00	1.25
DOUBLE ACTING PUMPS		
2 or more Cylinders	1.25	1.50
Single Cylinder		Contact Factory
DRAW BENCH (Metal Mills)		
Carriage & Main Drive	1.25	1.50
DREDGES		
Cable Reels, Conveyors	1.25	1.50
Cutter Head & Jig Drives	1.75	2.00
Maneuvering Winches, Pumps	1.25	1.50
Screen Drives	1.50	1.75
Stackers, Utility Winches	1.25	1.50
ELEVATORS		
Bucket-Uniform Load	1.00	1.25
Bucket-Heavy Duty	1.25	1.50
Bucket-Continuous	1.00	1.25
Centrifugal Discharge	1.00	1.25
Escalators		Not Approved
Freight		Not Approved
Gravity Discharge	1.00	1.25
Man Lifts, Passenger		Not Approved
EXTRUDERS (Plastic)		
Film Sheet, Coating, Rods, Pipe Tubing	1.25	1.25
Blow Molders, Pre-plasticizers		1.50
FANS		
Centrifugal	1.00	1.25
COOLING TOWERS		Contact Factory
Forced Draft		1.25
Induced Draft	1.25	1.50
Large (Mine, etc.)	1.25	1.50
Large Industrial	1.25	1.50
Light (Small Diameter)	1.00	1.25
FEEDERS		
Apron, Belt	1.25	1.50
Disc	1.00	1.25
Reciprocating	1.75	2.00
Screw	1.25	1.50
FLIGHT		
Conveyors, Uniform	1.00	1.25
Conveyors, Heavy	1.25	1.50
FOOD INDUSTRY		
Beet Slicers	1.25	1.50
Bottling, Can Filling Mach.	1.00	1.25
Cereal Cookers	1.00	1.25
Dough Mixers, Meat Grinders	1.25	1.50
HAMMER MILLS	1.50	1.75
HOISTS		
Heavy Duty	1.75	2.00
Medium Duty	1.25	1.50
Skip Hoist	1.25	1.50
INDUCED DRAFT FANS	1.25	1.50
LAUNDRY WASHERS AND TUMBLERS	1.25	1.50
LINE SHAFTS		
Driving Processing Equipment	1.25	1.50
Other Line Shafts, Light	1.00	1.25
LUMBER INDUSTRY		
Barkers-Spindle Feed	1.25	1.50
Barkers-Main Drive	1.75	1.75
Carriage Drive		Contact Factory
CONVEYORS		
Burner	1.25	1.50
Main or Heavy Duty	1.50	1.50
Main Log	1.75	2.00
Re-saw Merry-Go-Round	1.25	1.50
Slab	1.75	2.00
Transfer	1.25	1.50
Chains-Floor	1.50	1.50
Chains-Green	1.50	1.75
Cut-Off Saws-Chain & Drag	1.50	1.75
Debarking Drums	1.75	2.00
Feeds-Edger	1.25	1.50
Feeds-Gang	1.50	1.50
Feeds-Trimmer	1.25	1.50
Log Deck	1.50	1.50
Log Hauls-Incline Well Type	1.50	1.50
Log Turning Devices	1.50	1.50
Planer Feed	1.25	1.50
Planer Tilting Hoist	1.50	1.50
Rolls-Live-Off Bearing-Roll Cases	1.50	1.50
Sorting Table, Tipple Hoist	1.25	1.50
Transfers-Chain & Craneway	1.50	1.75
Tray Drives	1.25	1.50
Veneer Lathe Drives		Contact Factory
MACHINE TOOLS		
Auxiliary Drives	1.00	1.25
Bending Rolls	1.25	1.50
Main Drives	1.25	1.50
Notching Press (Belted)		Contact Factory
Plate Planers	1.50	1.75
Punch Press (Geared)	1.50	1.75
Tapping Machines	1.50	1.75
METAL MILLS		
Draw Bench Carriages & Main Drives	1.25	1.50
Pinch, Dryer and Scrubber Rolls Reversing		Contact Factory
Slitters	1.25	1.50
Table Conveyors Non-Reversing Group Drives	1.25	1.50
Individual Drives	1.50	1.75
Reversing Wire Drawing & Flattening Machines	1.25	1.50
Wire Winding Machines	1.25	1.50
MILLS, ROTARY		
Ball and Rod Mills with Spur Ring Gear		1.75
with Helical Ring Gear		1.50
Direct Connect		1.50
Cement Kilns, Dryers, Coolers, Pebble, Plain & Wedge Bar Mills		1.50
Tumbling Barrels	1.50	1.75
MIXERS (Also see Agitators)		
Concrete, Cont. & Int.	1.25	1.50
Constant Density	1.00	1.25
Variable Density	1.25	1.50
OIL INDUSTRY		
Chillers	1.25	1.50
Oil Well Pumping		Contact Factory
Paraffin Filter Press	1.25	1.50
Rotary Kilns	1.25	1.50
PAPER MILLS		Contact Factory
PASSENGER ELEVATORS		Contact Factory
PLATE PLANERS	1.50	1.75
PRINTING PRESSES		Contact Factory
PUMPS		
Centrifugal	1.00	1.25
Proportioning	1.25	1.50
Reciprocating		
Single Act, 3 or more Cyl.	1.25	1.50
Double Act, 2 or more Cyl.	1.25	1.50
Single Act, 1 or 2 Cyl		Contact Factory
Double Act, 1 Cyl.		Contact Factory
Rotary: Gear, Lobe, Vane	1.00	1.25
PUNCH PRESSES (Gear Driven)	1.50	1.75
RUBBER & PLASTIC INDUSTRIES		
Calendars		1.50
Crackers		1.75
Laboratory Equipment	1.25	1.50
Mills (2 on line)	1.50	
Mills (3 on line)	1.25	
Mixing Mills	1.50	1.50
Refiners		1.50
Sheeters		1.50
Tire Building & Machines		Contact Factory
Tire & Tube Press Openers		Contact Factory
Tubers & Strainers		1.50
Warming Mills		1.50
SCREENS		
Air Washing	1.00	1.25
Rotary-Sand or Gravel	1.25	1.50
Traveling Water Intake	1.00	1.25
SEWAGE DISPOSAL		
Bar Screens	1.00	1.25
Chemical Feeders	1.00	1.25
Collectors	1.00	1.25
Dewatering Screens	1.25	1.50
Scum Breakers	1.25	1.50
Slow or Rapid Mixers	1.25	1.50
Thickeners	1.25	1.50
Vacuum Filters	1.25	1.50
SKI TOWS & LIFTS		Not Approved
STOKERS	1.00	1.25
STONE CRUSHERS	1.50	1.75
SUGAR INDUSTRY		
Cane Knives, Crushers, Mills		1.50
TABLE CONVEYORS (Non-Reversing)		
Group Drives	1.25	1.50
Individual Drives	1.50	1.75
Reversing		Contact Factory
TEXTILE INDUSTRY		
Batchers, Calendars	1.25	1.50
Card Machines	1.25	1.50
Dry Cans, Dryers	1.25	1.50
Dyeing Machinery	1.25	1.50
Knitting Machinery		Contact Factory
Looms, Mangles, Nappers, Pads	1.25	1.50
Range Drives		Contact Factory
Slashers, Soapers, Spinners	1.25	1.50
Tenter Frames, Washers, Winders	1.25	1.50
TUMBLING BARRELS	1.50	1.75
VANE BLOWERS	1.00	1.25
WINDLASS		Contact Factory
WIRE		
Drawing Machines	1.25	1.50
Winding Machines	1.25	1.50

Torque and Horsepower

Torque as it is related to gear reducers is defined as a twisting motion resulting in rotational movement. Horsepower is a measure of the rate of doing work, and depends on speed of rotation and the radius of rotation.

$$HP = \frac{TQ \times Speed\ (RPM)}{63025} \qquad TQ = \frac{HP \times 63025}{RPM}$$

Efficiency

The efficiency of a Worm Gear Speed Reducer is dependent on input speed, lead angle of the worm, type of lubricant, ambient temperature and many other variables. The efficiency for speed reducer can be easily calculated as follows.

$$Efficiency = \frac{Output\ HP}{Input\ HP}$$

Overhung Load & Thrust Loads

An overhung load exists when a force is applied at right angles to a shaft beyond the shaft's outermost bearing. Pulleys, sheaves and sprockets will cause an overhung load when used as a power take-off. The amount of overhung load will vary, depending on the type of power take-off used and its mounting location on the shaft. The catalog Overhung Load ratings listed below are calculated at the centerline of the shaft.

Overhung load ratings are listed for each reducer size and should not be exceeded. If the basic reducer is selected using a service factor, that factor must also be used in the equations below.

Output Shaft OHL =

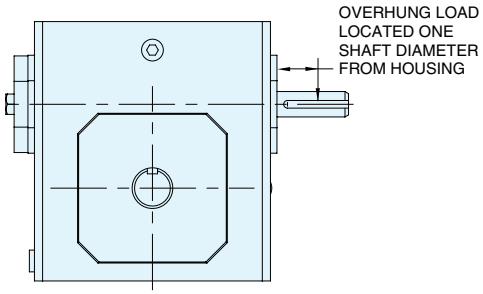
$$\frac{126000 \times Motor\ HP \times Output\ HP\ Rating \times Overhung\ Load\ Factor}{Pitch\ Diameter\ (of\ sprocket,\ pulley\ or\ sheave) \times Input\ HP\ Rating \times Output\ RPM}$$

Input Shaft OHL =

$$\frac{126000 \times Motor\ HP \times Overhung\ Load\ Factor}{Pitch\ Diameter\ (of\ sprocket,\ pulley\ or\ sheave) \times Input\ RPM}$$

Overhung Load Factors—

Sprocket	1.00
Gear Pinion	1.25
V-Belt Sheave or Pulley	1.50
Flat Belt	2.50



Maximum Overhung Load and Thrust Load Capacities (lbs.)

SINGLE REDUCTION

External Load Applied	Unit Size										
	813	815	818	821	824	826	830	832	842	852	860
Input Shaft OHL	75	75	75	75	125	125	150	150	175	300	450
Output Shaft OHL	400	500	475	475	1100	1025	1500	1450	2250	2750	3700
Output Shaft Thrust Load	825**	800**	800**	725**	1450	1425	1725	1600	1450	1675	3625

** Ratios 20:1 to 100:1 have a thrust load capacity of 1125 lbs.

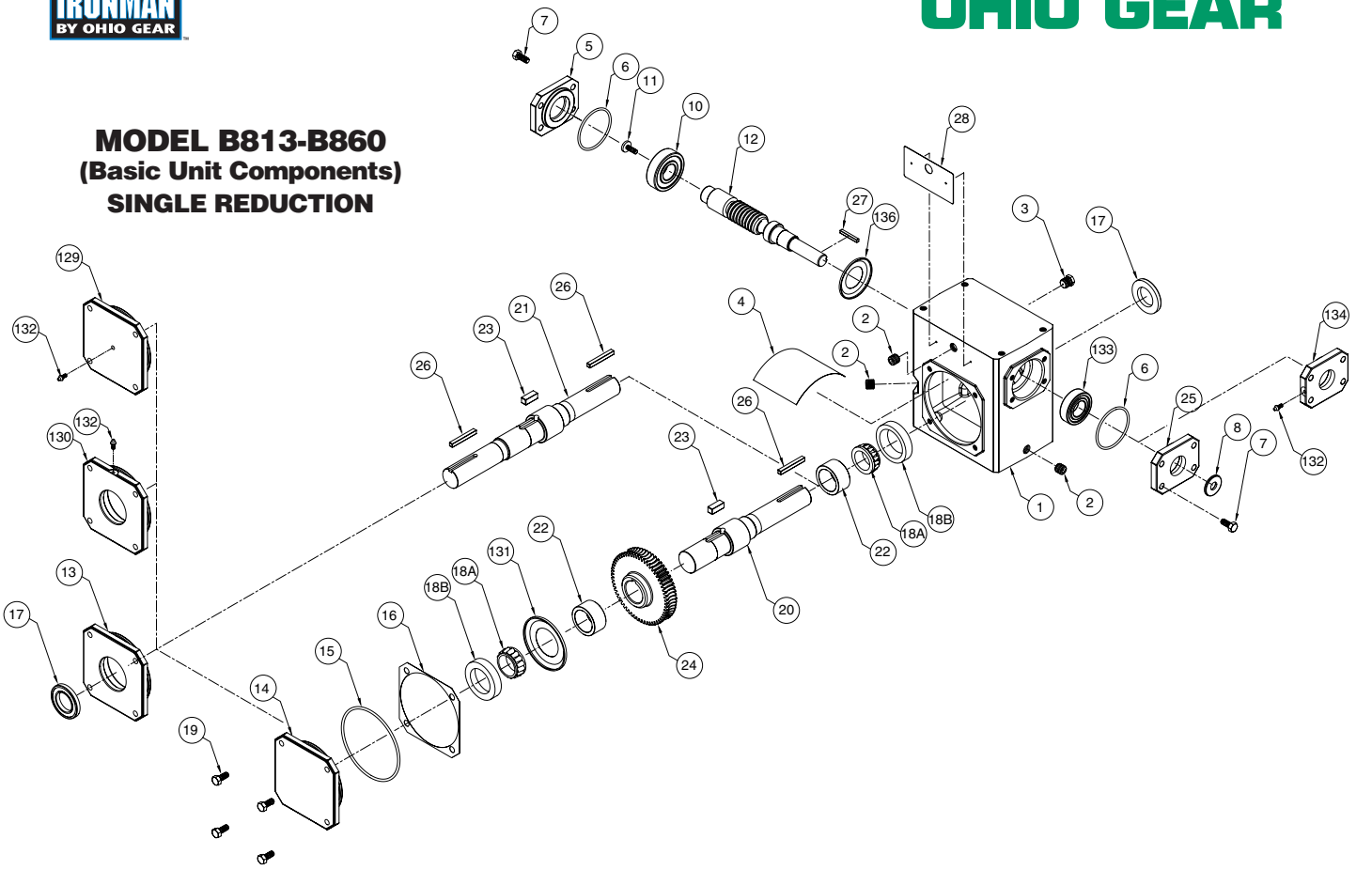
DOUBLE REDUCTION WORM/WORM

External Load Applied	Unit Size										
	813	815	818	821	824	826	830	832	842	852	860
Input Shaft OHL	75	75	75	75	75	75	75	75	75	125	150
Output Shaft OHL	400	500	475	475	1100	1025	1500	1450	2250	2750	3700
Output Shaft Thrust Load	1125	1125	1125	1125	1450	1425	1725	1600	1450	1675	3625

DOUBLE REDUCTION HELICAL/WORM

External Load Applied	Unit Size										
	813	815	818	821	824	826	830	832	842	852	860
Input Shaft OHL	75	75	75	75	75	75	75	75	150	150	150
Output Shaft OHL	400	500	475	475	1100	1025	1500	1450	2250	2750	3700
Output Shaft Thrust Load	1125	1125	1125	1125	1450	1425	1725	1600	1450	1675	3625

MODEL B813-B860
(Basic Unit Components)
SINGLE REDUCTION



BASIC SINGLE REDUCTION UNIT (B-STYLE)

ITEM # DESCRIPTION

1 HOUSING
2 PIPE PLUG
3 VENT PLUG
4 SPLASH GUARD
5 INPUT CAP
6 O-RING
7 HEX HEAD CAP SCREW
8 INPUT OIL SEAL
9 INPUT BEARING (cup and cone for 842 and larger units)
10 INPUT BEARING (cup and cone for 842 and larger units)
*11 RETAINING SCREW
12 INPUT WORM SHAFT
13 OUTPUT COVER - OPEN
14 OUTPUT COVER - CLOSED
15 O-RING
16 OUTPUT COVER SHIM (as required)
17 OUTPUT OIL SEAL
18 OUTPUT BEARING (18A. CONE, 18B. CUP)
19 HEX HEAD CAP SCREW
♣20 OUTPUT SHAFT - SINGLE
♣21 OUTPUT SHAFT - DOUBLE
22 GEAR SPACER
23 GEAR KEY (only used on size 826 and larger units)
♣24 OUTPUT GEAR
*25 INPUT COVER
26 KEY - OUTPUT EXTENSION
27 KEY - INPUT EXTENSION
28 NAMEPLATE

QUILL MOTOR FLANGE UNIT (BMQ-STYLE)

40 QUILL MOTOR FLANGE
41 INPUT OIL SEAL
42 HEX HEAD CAP SCREW (flange to housing)
43 RETAINING RING - SHAFT
*44 RETAINING RING - HOUSING
45 QUILL INPUT SHAFT
46 KEY - INPUT
47 HEX HEAD CAP SCREW (motor to flange)

HOLLOW OUTPUT SHAFT UNIT (H-STYLE)

51 OUTPUT COVER
52 OUTPUT OIL SEAL
53 OUTPUT BEARING (53A. CONE, 53B. CUP)
54 GEAR SPACER
♣55 OUTPUT SHAFT
56 SETSCREW
57 GEAR KEY (only used on size 826 and larger units)
♣58 OUTPUT GEAR
59 OUTPUT KEY

LONG MOTOR FLANGE AND COUPLING KIT (BM-STYLE)

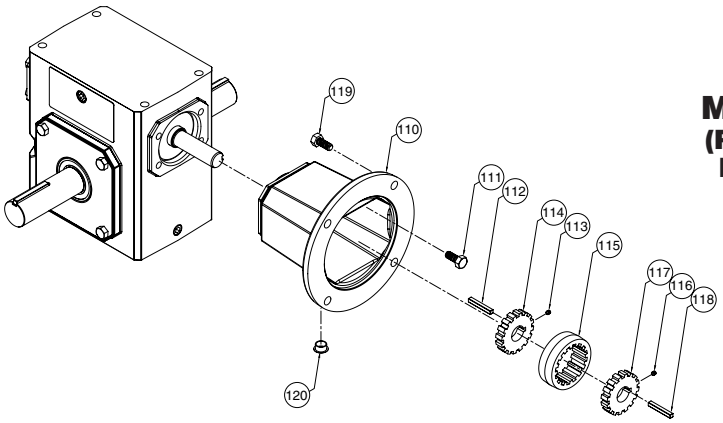
110 "C" FACE MOTOR FLANGE
111 HEX HEAD CAP SCREW (flange to housing)
112 COUPLING KEY - REDUCER SHAFT
113 SETSCREW - REDUCER SHAFT
114 COUPLING GEAR - REDUCER SHAFT
115 COUPLING SLEEVE
116 SETSCREW - MOTOR SHAFT
117 COUPLING GEAR - MOTOR SHAFT
118 COUPLING KEY - MOTOR SHAFT
119 HEX HEAD CAP SCREW
(motor to flange)
120 PLASTIC PLUG

VERTICAL SHAFT REQUIRED PARTS

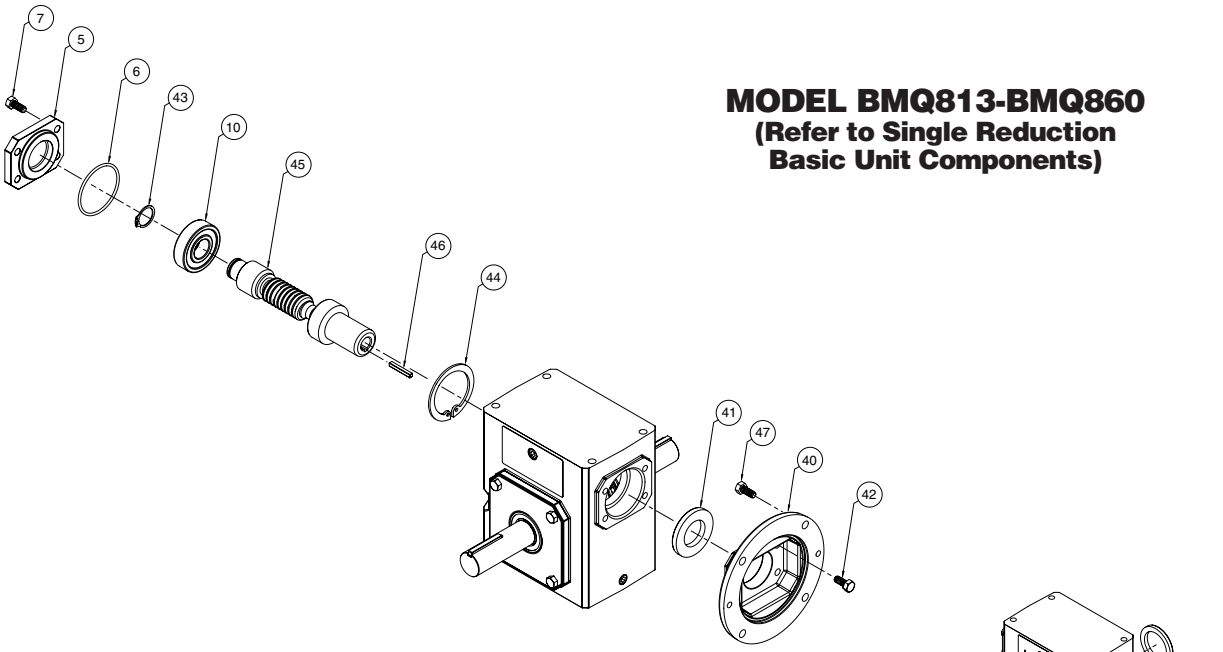
(supplied only when mounting position involves a vertical shaft)

*129 OUTPUT COVER - CLOSED
*130 OUTPUT COVER - OPEN
*131 OUTPUT BEARING GREASE RETAINER
132 GREASE FITTING
133 SEALED BALL BEARING (only used on size 818 thru 826 units)
♦134 INPUT COVER
♦136 INPUT BEARING GREASE RETAINER

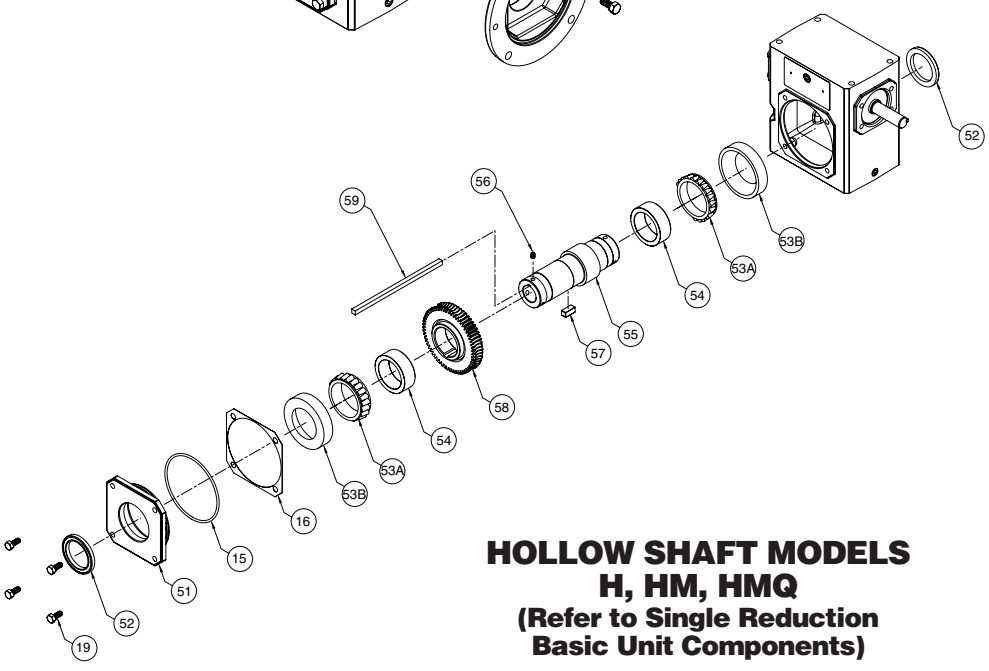
* ONLY USED ON SIZE 842 AND LARGER UNITS
♦ ONLY USED ON SIZE 830 AND LARGER UNITS
♣ SUPPLIED ONLY AS OUTPUT ASSEMBLY ON 813 THROUGH 824 UNITS



MODEL BM813-BM860
(Refer to Single Reduction Basic Unit Components)



MODEL BMQ813-BMQ860
(Refer to Single Reduction Basic Unit Components)



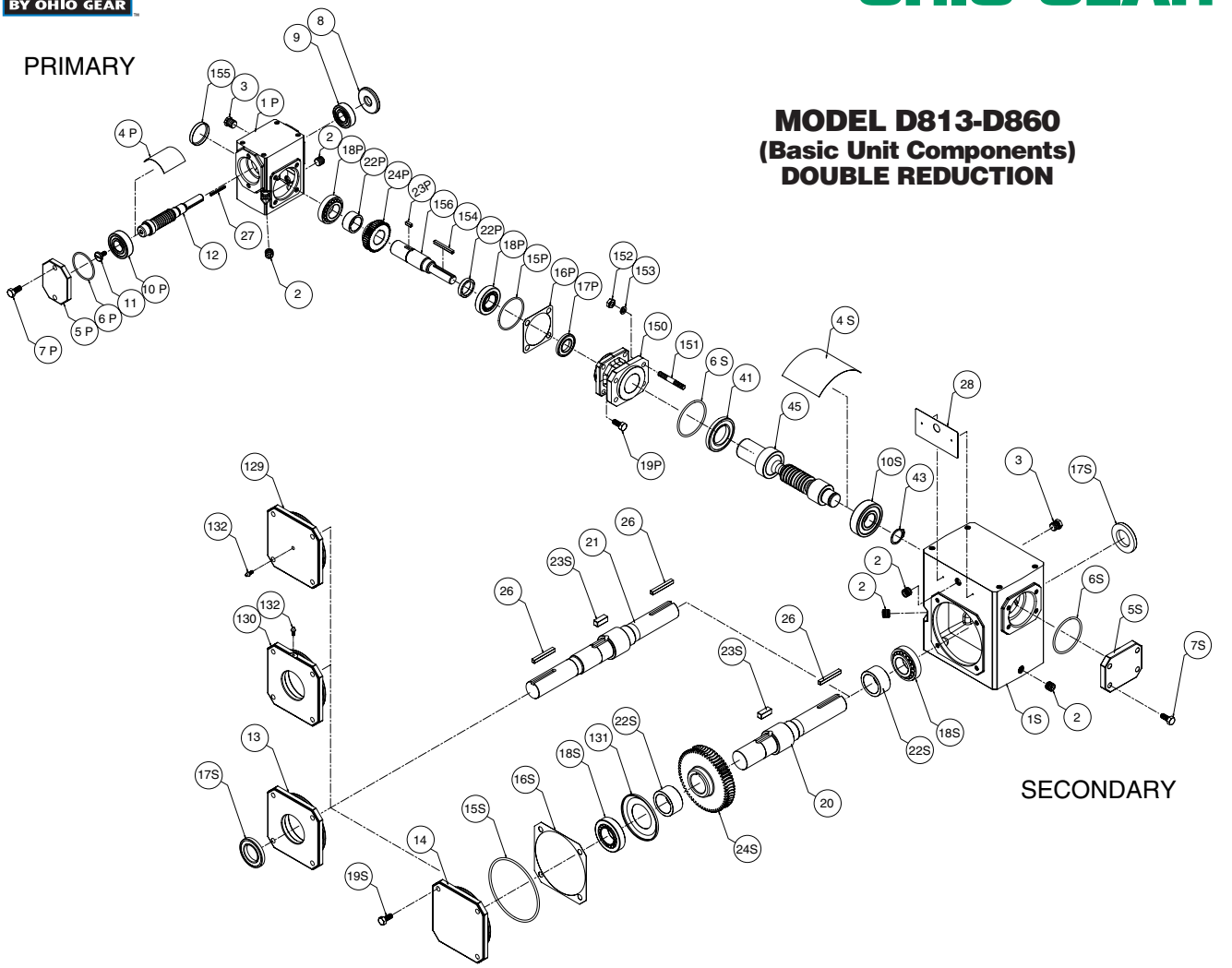
HOLLOW SHAFT MODELS H, HM, HMQ
(Refer to Single Reduction Basic Unit Components)

LEESON

OHIO GEAR™

PRIMARY

MODEL D813-D860
(Basic Unit Components)
DOUBLE REDUCTION



DOUBLE REDUCTION UNIT (D-STYLE)

ITEM #	DESCRIPTION
1	HOUSING
2	PIPE PLUG
3	VENT PLUG
4	SPLASH GUARD
5	INPUT CAP
6	O-RING
7	HEX HEAD CAP SCREW
8	INPUT OIL SEAL
9	INPUT BEARING (cup and cone for 842 and larger units)
10	INPUT BEARING (cup and cone for 842 and larger units)
11	RETAINING SCREW
12	INPUT WORM SHAFT
13	OUTPUT COVER - OPEN
14	OUTPUT COVER - CLOSED
15	O-RING
16	OUTPUT COVER SHIM (as required)
17	OUTPUT OIL SEAL
18	OUTPUT BEARING (18A. CONE, 18B. CUP)
19	HEX HEAD CAP SCREW
♣20	OUTPUT SHAFT - SINGLE
♣21	OUTPUT SHAFT - DOUBLE
22	GEAR SPACER
23	GEAR KEY (only used on size 826 and larger units)
♣24	OUTPUT GEAR
26	KEY - OUTPUT EXTENSION
27	KEY - INPUT EXTENSION
28	NAMEPLATE
41	INPUT OIL SEAL
43	RETAINING RING - SHAFT
45	QUILL INPUT SHAFT
150	DOUBLE REDUCTION ADAPTER
151	STUD
152	HEX NUT
153	LOCK WASHER
154	PRIMARY SOLID OUTPUT KEY
155	EXPANSION PLUG
156	PRIMARY SOLID OUTPUT SHAFT

QUILL MOTOR FLANGE UNIT (DMQ-STYLE)

40	QUILL MOTOR FLANGE
41	INPUT OIL SEAL
42	HEX HEAD CAP SCREW (flange to housing)
43	RETAINING RING - SHAFT
*44	RETAINING RING - HOUSING
45	QUILL INPUT SHAFT
46	KEY - INPUT
47	HEX HEAD CAP SCREW (motor to flange)

HOLLOW OUTPUT SHAFT UNIT (H-STYLE)

51	OUTPUT COVER
52	OUTPUT OIL SEAL
53	OUTPUT BEARING (53A. CONE, 53B. CUP)
54	GEAR SPACER
♣55	OUTPUT SHAFT
56	SETSCREW
57	GEAR KEY (only used on size 826 and larger units)
♣58	OUTPUT GEAR
59	OUTPUT KEY

LONG MOTOR FLANGE AND COUPLING KIT (BM-STYLE)

110	"C" FACE MOTOR FLANGE
42	HEX HEAD CAP SCREW (flange to housing)
112	COUPLING KEY - REDUCER SHAFT
113	SETSCREW - REDUCER SHAFT
114	COUPLING GEAR - REDUCER SHAFT
115	COUPLING SLEEVE
116	SETSCREW - MOTOR SHAFT
117	COUPLING GEAR - MOTOR SHAFT
118	COUPLING KEY - MOTOR SHAFT
47	HEX HEAD CAP SCREW (motor to flange)
120	PLASTIC PLUG

VERTICAL SHAFT REQUIRED PARTS
(supplied only when mounting position involves a vertical shaft)

*129	OUTPUT COVER - CLOSED
*130	OUTPUT COVER - OPEN
*131	OUTPUT BEARING GREASE RETAINER
132	GREASE FITTING
133	SEALED BALL BEARING (only used on size 818 thru 826 units)
♦134	INPUT COVER
♦136	INPUT BEARING GREASE RETAINER

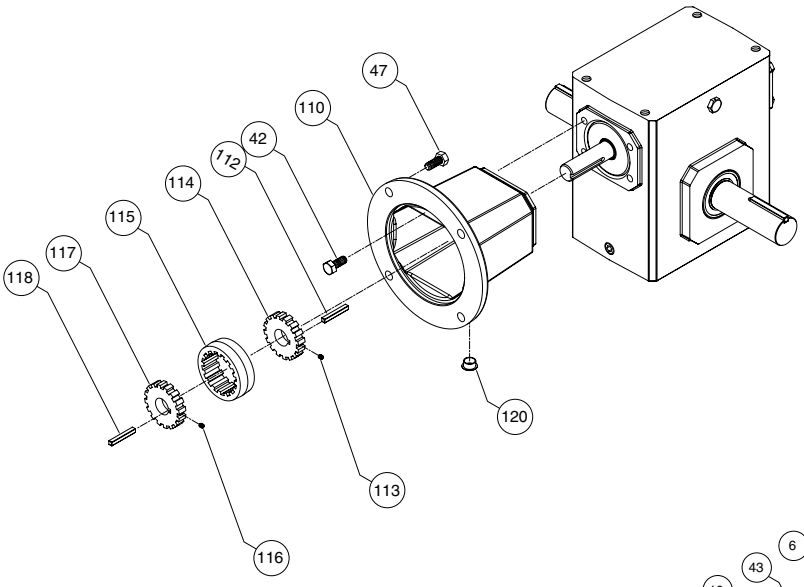
* ONLY USED ON SIZE 842 AND LARGER UNITS

♦ ONLY USED ON SIZE 830 AND LARGER UNITS

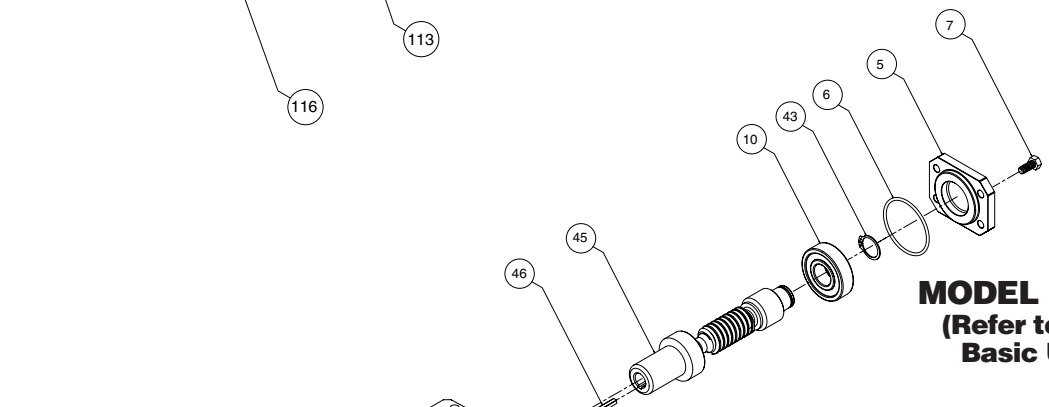
♣ SUPPLIED ONLY AS OUTPUT ASSEMBLY ON 813 THROUGH 824 UNITS

P - PRIMARY

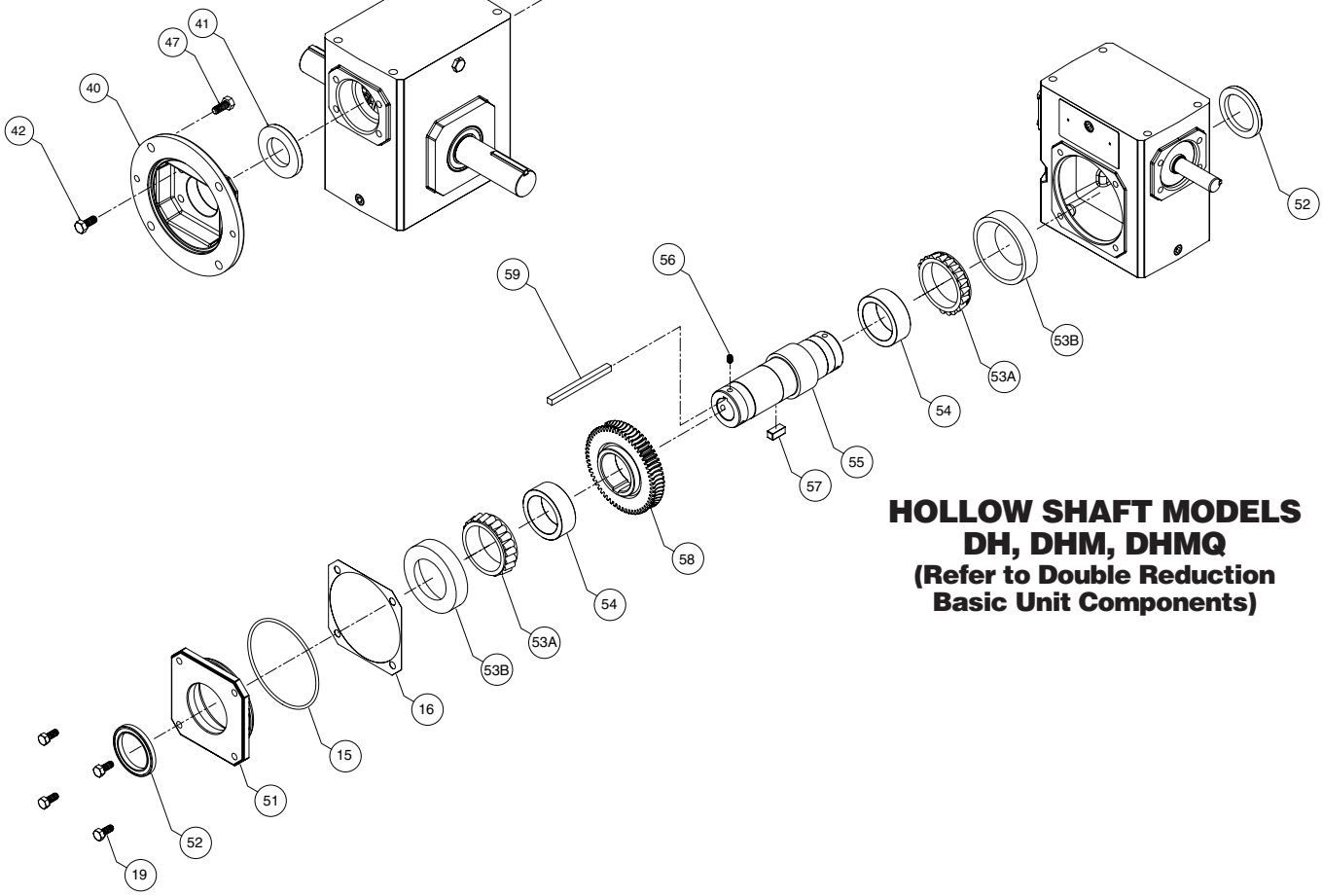
S - SECONDARY



MODEL DM813-DM860
(Refer to Double Reduction Basic Unit Components)



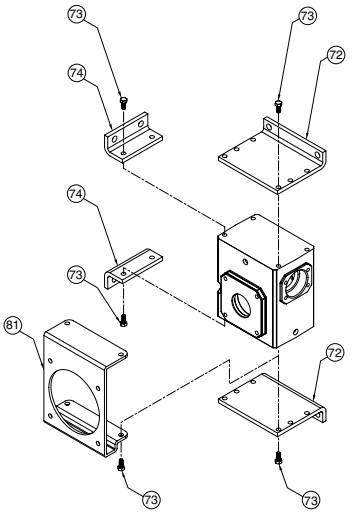
MODEL DMQ813-DMQ852
(Refer to Double Reduction Basic Unit Components)



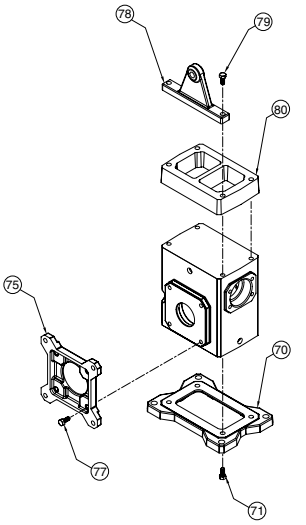
HOLLOW SHAFT MODELS DH, DHM, DHMQ
(Refer to Double Reduction Basic Unit Components)

LEESON
OHIO GEAR™

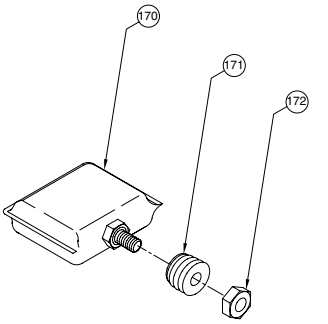
STEEL MOUNTING ACCESSORIES



CAST MOUNTING ACCESSORIES



ENVIROSEAL



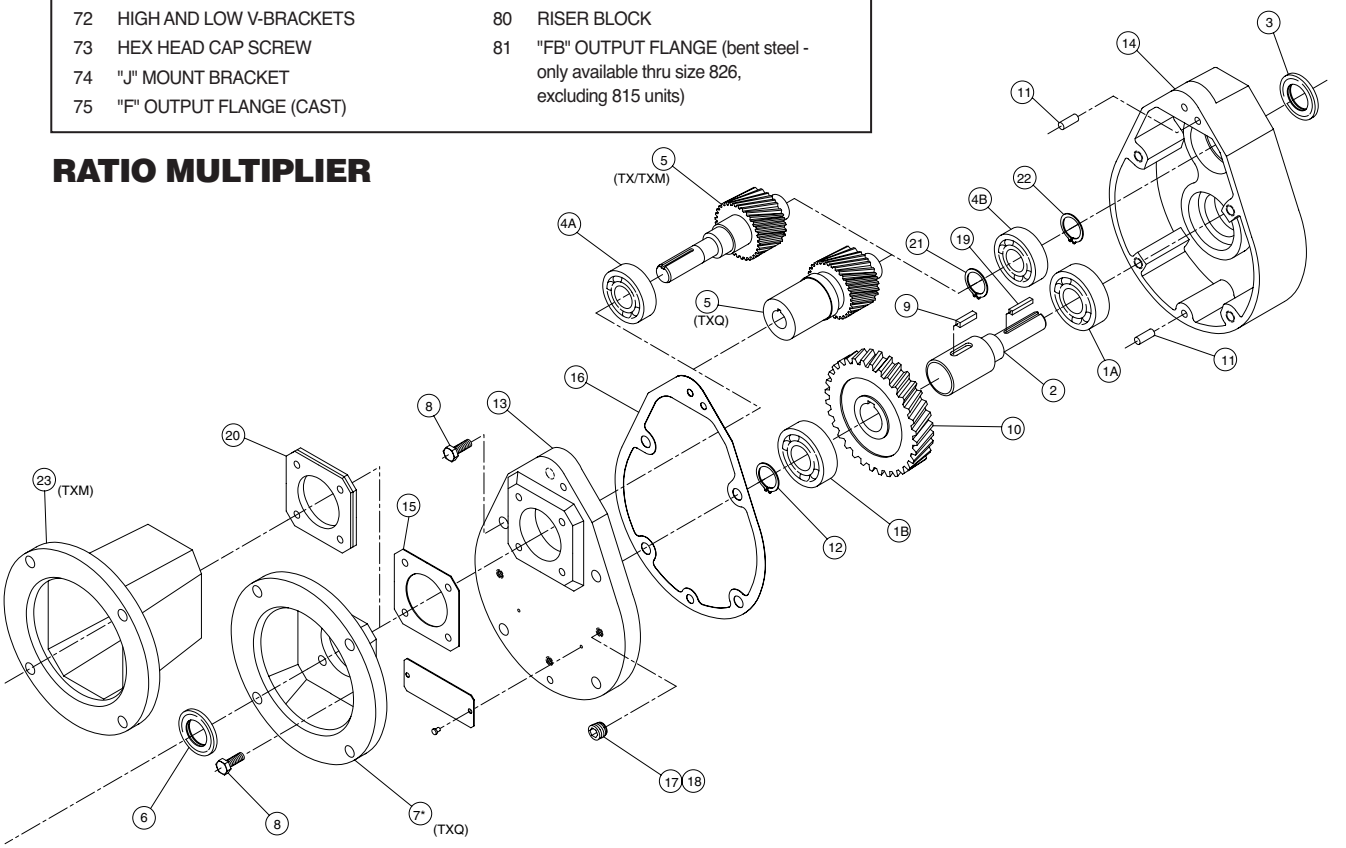
INTERNAL PRESSURE COMPENSATION CHAMBER ASSEMBLY

170	INTERNAL PRESSURE COMPENSATION CHAMBER
171	INTERNAL PRESSURE COMPENSATION CHAMBER STEM PLUG
172	INTERNAL PRESSURE COMPENSATION CHAMBER STEM NUT

MOUNTING BRACKET OPTIONS

70	HORIZONTAL MOUNTING BASE
71	CAP SCREW
72	HIGH AND LOW V-BRACKETS
73	HEX HEAD CAP SCREW
74	"J" MOUNT BRACKET
75	"F" OUTPUT FLANGE (CAST)
77	HEX HEAD CAP SCREW
78	TORQUE BRACKET
79	HEX HEAD CAP SCREW
80	RISER BLOCK
81	"FB" OUTPUT FLANGE (bent steel - only available thru size 826, excluding 815 units)

RATIO MULTIPLIER



DOUBLE REDUCTION UNIT (DMQ-STYLE)

ITEM # DESCRIPTION

1A	BEARING, OUTPUT - EXTENSION END
1B	BEARING, OUTPUT - INBOARD END
2	SHAFT, OUTPUT (state output frame size)
3	OIL SEAL, OUTPUT
4A	BEARING, INPUT - EXTENSION END (n/a for TXQ)
4B	BEARING, INPUT - INBOARD END
5	SHAFT, INPUT
6	OIL SEAL, INPUT
*7	FLANGE, MOTOR (TXQ only)
8	HEX HEAD CAP SCREW
9	KEY, GEAR
10	GEAR, OUTPUT
11	PIN, DOWEL
12	SPACER, LOW SPEED
13	COVER, HOUSING
14	HOUSING
15	GASKET, INPUT COVER
16	GASKET, HOUSING
17	PLUG, PIPE
18	PLUG, VENT
19	KEY, OUTPUT SHAFT
20	COVER, INPUT, SEAL RETAINER
21	RING, RETAINING, INTERNAL, INPUT SHAFT
22	RING, RETAINING, EXTERNAL, INPUT SHAFT
23	FLANGE, MOTOR (TXM only)

*MOTOR FLANGE REPLACES INPUT COVER ON "TXQ' MODEL

U.L., CSA, ISO AND OTHER STANDARDS & APPROVALS – MOTORS

UNDERWRITERS LABORATORIES INC.

1. All motor models listed with prefix "C" have U.L. component recognition (without thermal overload). File Number E57948, Guide Number PRGY2.
2. All units have U.L. recognized Class B, F or H insulation systems unless otherwise noted. File Number E55555, Guide Number OBJY2.
3. Single phase motors with a model number prefix of "A" or "M" (automatic or manual protectors) have U.L. recognized protector winding combinations and component recognition. File Number E57955, Guide Number XEWR2.
4. Three phase motors with a model number prefix of "A" or "M" (automatic or manual protectors) have U.L. recognized protector winding combinations plus have capability of providing U.L. recognized primary single phasing which is included in our U.L. file E57955, Guide Number XEWR2.
5. Explosion-Proof, single and three phase for 56, 143T and 145T frames: File Number E75276, Guide Number PTDR.

   Explosion-Proof motors 182T and larger: File Number E12044, Guide Number PTDR.

   Explosion-Proof motors DC motors 48 frame: File Number E75276, Guide Number PTDR..
6. Permanent Magnet DC motors except PZ and P300 gearmotors are recognized components under File Number E57948, Guide Number PRGY2.
7. PZ and P300 Permanent Magnet DC gearmotors: File number E49849 or E49747, Guide Number PRGY2.
8. Speedmaster SCR Drives, Component Recognition, File E132235, Guide Number NMMS2, except catalog numbers 174902 and 174903.
9. Speedmaster SCR Drives, catalog numbers 174902 and 174903. File Number E154901, Guide Number NMFT2.
10. Speedmaster AC Adjustable Speed Drives, File Number E161242. Canadian UL covered by File Number E161242 also, Guide Number NMMS.

CANADIAN STANDARDS ASSOCIATION

1. Motor construction for all single and three phase NEMA 42 through S254T frame, IEC/metric 63 through 90L frame, and all sub-fractional horsepower motors: Report Number L33543, Guide Number 260-0-0..
2. Motor construction for all steel or cast iron three phase NEMA 182T through 447T frame and IEC/metric 100L through 250M frame motors: Report Number LR62104.
3. Thermally protected single phase motors through 7 1/2 HP, Report Number LR33543.
4. All Farm Duty motors 1/3 HP through 7 1/2 HP, Report Number LR33543
5. Explosion proof single and three phase for 56, 143T and 145T frames: File Number LR47667.

   Explosion-Proof motors 182T and larger: File Number LR21839 and LR47504.

   Explosion-Proof DC motors 48 frame: File Number LR701080.
6. Permanent Magnet DC motors are listed under File Number LR33543.
7. Multi-Speed Motors, steel or cast iron, 182T through 447T frames are listed under file number LR33543.
8. Speedmaster SCR Drives, catalog numbers 174902 and 174903. File Number LR75790.

MOTOR EFFICIENCY VERIFICATION

Energy Efficiency Verification - Full load efficiency ratings of three phase, single speed, NEMA/EEMAC Design A or B squirrel cage induction motors, 1 through 200 HP, 230, 460 or 575 volts, 60 Hz, in totally enclosed and open, drip-proof enclosures for non-hazardous applications, CSA Report Number EEV 78720-1. Tested to CSA 390 (IEEE 112B) Standards. The Grafton testing facility is qualified for CSA energy efficiency performance testing of polyphase induction motors. The Grafton Testing Facility is NVLAB recognized for energy efficiency testing of electric motors to EPACT requirements of the Department of Energy.

ISO QUALITY CERTIFICATION

Grafton and Saukville, Wisconsin administrative, design and manufacturing facility, ISO 9001, Certificate Number RvC #93-102. EN29001, BS5750: Part 1 and ANSI/ASQC Q91-19.

Black River Falls, Wisconsin manufacturing facility, ISO 9002, Certificate Number RvC #93-090.

Mississauga (Toronto), Ontario, administrative, distribution facility, ISO 9002, Certificate Number QMI #003027.

Hanover, Ontario, manufacturing facility, ISO 9002, Certificate Number QMI #003028.

BAKING INDUSTRY SANITATION STANDARDS COMMITTEE

WASHGUARD® II, stainless steel washdown duty motors, NEMA frames 56, 143T, 145T, 182T and 184T are certified to Standard No. 29 for Electric Motors and Accessory Equipment, authorization number 769. The WBMQ Series of gear reducers are BISSC certified to Standard No. 29 for Electric Motors and Accessory Equipment, authorization number 941.

SAUDI ARABIAN STANDARDS ORGANIZATION

SCCP Ref. No.: R-100157

The CE Mark

CE is an acronym for the French phrase *"Conformite Europeene"* and is similar to the UL or CSA marks of North America. However, unlike UL or CSA which require independent laboratory testing, the CE mark can be applied by the motor manufacturer through "self certifying" that its products are designed to the appropriate standards. The European Union has issued 24 directives related to the **CE** mark. Three Directives apply to electric motors.

Low Voltage Directive (73/23/EEC) This directive applies to electrical equipment operating in the voltage range of 50-1000 volts AC or 75-1500 volts DC. Virtually all LEESON motors (except low voltage DC) are included in this directive.

Based on our testing to the applicable electrical and mechanical standards EN60034 and IEC 34, LEESON certifies conformity to this directive. All three phase 50 Hz stock motors comply with the nameplate designations, lead markings and connection diagrams required. A "Declaration of Conformity" accompanies these motors and a CE label is applied.

Machinery Directive (89/3392/EEC) This directive applies to machinery that may contain certain motors. This is an issue with equipment manufacturers and requires the use of a motor meeting the Low Voltage Directive and requires a "Declaration of Incorporation" document which means that only the motor complies with the requirements of the Low Voltage Directive. A CE label is applied to the motor but it remains the responsibility of the equipment manufacturer to obtain certification for the finished product.

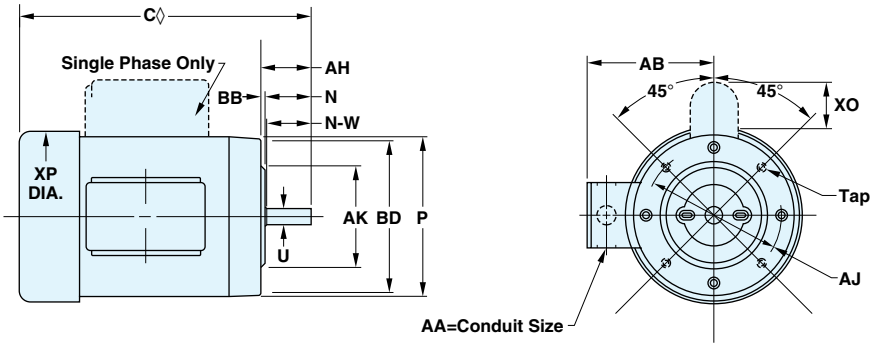
Electromagnetic Compatibility (EMC) Directive (89/336/EEC) This directive addresses the final product and is again a concern for the equipment manufacturer. Since this Directive addresses electromagnetic interference (EMI) concerns, it does not affect three phase AC motors because they do not produce EMI. DC motors, however, do produce EMI. How much of the "noise" is emitted outside the machine depends on a host of factors. LEESON's Engineering Department can assist OEM's in applying DC motors in machinery destined for Europe and requiring certification to the EMC Directive.

CE CONFORMITE EUROPEENE

MOTOR DIMENSIONS

AC & DC MOTORS • NEMA C FACE

CRITICAL MOUNTING DIMENSIONS



The condensed dimensions shown on these pages are for general reference only and are not for construction. The "C" and "AG" dimensions for each catalog item are included in this catalog. Certified drawings of all ratings are available for construction purposes.

NEMA SHAFT AND KEYWAY DIMENSIONS ■ (Inches)

NEMA SHAFT (U)	KEYWAY DIMENSIONS (R)	(S)	NEMA SHAFT (U)	KEYWAY DIMENSIONS (R)	(S)
5/8	33/64	3/16	2-3/8	2-1/64	5/8
7/8	49/64	3/16	2-1/2	2-3/16	5/8
1-1/8	63/64	1/4	2-7/8	2-29/64	3/4
1-3/8	1-13/64	5/16	3-3/8	2-7/8	7/8
1-5/8	1-13/32	3/8	3-7/8	3-5/16	1

■ S is keyway width.
U minus R is keyway depth.

NEMA DIMENSIONS (Inches)

Frame Size ▲	N	P	U	N-W	AA	AB	AH	AJ	AK	BB	BD	XO	XP	TAP	KEY
S56	1 15/16	5 19/32	5/8	1 7/8	1/2	4 7/8	2 1/16	5 7/8	4 1/2	1/8	6 1/2	2 1/4	5 7/8	3/8-16	3/16
56		6 19/32				5 5/16							7 5/32		
143T 145T	2 3/8	6 19/32	7/8	2 1/4	3/4	5 5/16	2 1/8	5 7/8	4 1/2	1/8	6 1/2	2 1/4	7 5/32	3/8-16	3/16
182T 184T	2 7/8	8 15/32	1 1/8	2 3/4	3/4	6 3/8	2 5/8	7 1/4	8 1/2	1/4	8 7/8	2 1/4	9 3/32	1/2-13	1/4
S213T	3 1/2	8 15/32	1 3/8	3 3/8	3/4	6 3/8	3 1/8	7 1/4	8 1/2	1/4	8 7/8	2 1/4	9 3/32	1/2-13	5/16
213T 215T	–	10 13/16			1	8 5/16					9		11 3/32		
254TC 256TC	–	13 1/4	1 5/8	4	1 1/4	11 5/8	3 3/4	7 1/4	8 1/2	1/4	9 5/8	–	12 7/8	1/2-13	3/8

▲ Blue shading denotes dimensions established by NEMA standard MG1, others are unique to LEESON, and will vary with each manufacturer.
◊ Motors on pages 154-162 for "C" dimension.

For information on **LEESON's** complete line of off-the-shelf motors, gearmotors and drives, request **Stock Catalog 1050**.

ELECTRICAL/MECHANICAL WARNINGS AND CAUTIONS

WARNING

IMPORTANT INFORMATION
PLEASE READ CAREFULLY

CAUTION

The following WARNING ***and*** CAUTION ***information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your LEESON Electric product:***

Read **ALL** instructions prior to operating reducer. Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

WARNING

- Written authorization from LEESON Electric is required to operate or use reducers in man lift or people moving devices.
- Check to make certain application does not exceed the allowable load capacities published in the current catalog.
- Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
- For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
- Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
- Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application of power.
- Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake.
- Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
- Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and no other associated attachments or motors.
- Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
- Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and/or shaft breakage from bending fatigue, if not sized properly.

CAUTION

- Test run unit to verify operation. If the unit tested is a prototype, that unit must be of current production.
- If the speed reducer cannot be located in a clear and dry area with access to adequate cooling air supply, then precautions must be taken to avoid the ingestion of contaminants such as water and the reduction in cooling ability due to exterior contaminants.
- Mounting bolts should be routinely checked to ensure that the unit is firmly anchored for proper operation.

In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

> The manufacturer makes no warranties or representations, express or implied, by operation of law or otherwise, as to the merchantability or fitness for a particular purpose of the goods sold hereunder. Buyer acknowledges that it alone has determined that the goods purchased hereunder will suitably meet the requirements of their intended use. In no event will the manufacturer be liable for consequential, incidental or other damages. Even if the repair or replacement remedy shall be deemed to have failed of its essential purpose under Section 2-719 of the Uniform Commercial Code, the manufacturer shall have no liability to Buyer for consequential damages.

Resellers/Buyers agree to also include this entire document including the warnings and cautions above in a conspicuous place and in a conspicuous manner in writing to instruct users on the safe usage of the product.

This information should be read together with all other printed information supplied by LEESON Electric.

MECHANICAL WARNINGS AND CAUTIONS

WARNING

IMPORTANT INFORMATION
PLEASE READ CAREFULLY

CAUTION

This catalog is not intended to provide operational instructions. Appropriate LEESON Electric instructions provided with the motor and precautions attached to the motor should be read carefully prior to installation, operation and/or maintenance of the equipment. Injury to personnel or motor failure may be caused by improper installation, maintenance or operation.

The following WARNING and CAUTION information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your LEESON Electric product:

WARNING

- Disconnect power and lock out driven equipment before working on a motor.
- Always keep hands and clothing away from moving parts.
- The lifting support on the motor is not to be used to lift the entire machine. Only the motor attached directly to the support may be safely lifted by the support.
- Install and ground per local and national codes.
- Discharge all capacitors before servicing a single phase motor.
- Misapplication of a motor in hazardous environment can cause fire or an explosion and result in serious injury. Only the end user, local authority having jurisdiction, and/or insurance underwriter are qualified to identify the appropriate class(es), group(s), division and temperature code LEESON Electric personnel cannot evaluate or recommend what motors may be suitable for use in hazardous environments. If a motor is name plated for hazardous locations, do not operate the motor without all of the grease and drain plugs installed.
- Never attempt to measure the temperature rise of a motor by touch. Temperature rise must be measured by thermometer, resistance, resistance, imbedded detector or thermocouple.
- Motors with automatic reset thermal protectors will automatically restart when the protector temperature drops sufficiently. Do not use motors with automatic reset thermal protectors in applications where automatic restart will be hazardous to personnel or equipment.
- Motors with manual reset thermal protectors may start unexpectedly after the protector trips when the surrounding air is at +20° Fahrenheit or lower. If the manual reset protector trips, disconnect motor from its power supply. After the protector cools (five minutes or more), it can be reset and power may be applied to the motor.
- Connect all protective device leads, marked P1, P2, etc., per instructions supplied with the motor.
- Operation of a motor at other than its nameplate rating may result in fire, damage to equipment or serious injury to personnel.
- For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.

CAUTION

- Consult qualified personnel with questions and all electrical repairs must be performed by trained and qualified personnel only.
- For motors nameplated as “belted duty only”, do not operate the motor without belts properly installed.
- Motors and/or driven equipment should not be operated faster than their rated speed.
- For inverter applications, follow the inverter manufacturer’s installation guidelines.
- Make sure the motor is properly secured and aligned before operation.

In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

> The manufacturer makes no warranty or representations, express or implied, by operation of law or otherwise, as to the merchantability or fitness for a particular purpose of the goods sold hereunder. Buyer acknowledges that it alone has determined that the goods purchased hereunder will suitably meet the requirements of their intended use. In no event will the manufacturer be liable for consequential, incidental or other damages. Even if the repair or replacement remedy shall be deemed to have failed of its essential purpose under Section 2-719 of the Uniform Commercial Code, the manufacturer shall have no liability to Buyer for consequential damages.

Resellers/Buyers agree to also include this entire document including the warnings and cautions above in a conspicuous place and in a conspicuous manner in writing to instruct users on the safe usage of the product.

This information should be read together with all other printed information supplied by LEESON Electric.

For more information contact: **LEESON Electric**, Subsidiary of REGAL-BELOIT CORPORATION, 2100 Washington Street, Grafton, WI 53024
Phone: 262-377-8810 or Fax: 262-377-3440

TERMS AND CONDITIONS OF SALES QUOTATIONS ARE MADE AND ORDERS ARE ACCEPTED BY SELLER ONLY TO THESE TERMS AND CONDITIONS:

1. AGREEMENT AND MODIFICATION OF SALES TERMS.

The agreement between LEESON Electric and Buyer ("Sales Contract") is with respect to the sale of goods described on the other side hereof (the "goods"). Any Terms and Conditions contained in any purchase order or other form of communication from LEESON Electric's customers, which are additional to or different from these Terms and Conditions, shall be deemed rejected by LEESON Electric unless expressly accepted in writing by LEESON Electric.

2. ACCEPTANCE OF ORDERS.

Acceptance by LEESON Electric of Buyer's purchase order(s) is expressly conditioned upon Buyer's assent to these Terms and Conditions. Buyer will be deemed to have assented to such Terms and Conditions unless LEESON Electric receives written notice of any objections within 10 days after Buyer's receipt of this form or in all events prior to any delivery or other performance by LEESON Electric of Buyer's order if less than 10 days.

3. QUOTATIONS.

Quotations by LEESON Electric shall be deemed to be offers by LEESON Electric to sell the goods described therein subject to these Terms and Conditions, and acceptance of such offers is expressly limited to acceptance by Buyer of all of these Terms and Conditions within 30 days from the date of the quotation or as specified. Purchase orders submitted by Buyer for the goods quoted by LEESON Electric shall be subject to and will be deemed to constitute acceptance of these Terms and Conditions. All purchase orders will be subject to approval by LEESON Electric.

4. TERMINATION OR MODIFICATION.

The Sales Contract may be modified or terminated only upon LEESON Electric's express written consent, which consent will at all times be conditioned on Buyer's agreement to pay LEESON Electric's modification or termination charge including, but not limited to expenses and costs plus a reasonable profit, except that any goods completed on or before LEESON Electric's acceptance of termination shall be accepted and paid in full by Buyer.

5. PRICES AND TERMS.

Fulfillment of Buyer's order is contingent upon the availability of materials. The price of the goods sold pursuant to the Sales Contract shall be based upon LEESON Electric's prices in effect at the time of shipment and any acceptance of the order will be on the basis of the freight rates in effect at the time of shipment. In the event of an increase or decrease in the applicable freight charges before the material is shipped, such changes in freight charges will be for the account of Buyer. Price advances, discounts, extras and terms and conditions are subject to changes without notice. Unless otherwise provided on the front side hereof, price is F.O.B. LEESON Electric's point of shipment, and terms of payment shall be net 30 days from date of invoice. LEESON Electric may assess finance and service charges of 1-1/2 percent per month (or the highest rate allowed by state law) on invoices not paid within stated payment terms. Open account credit status is offered at the discretion of the LEESON Electric. LEESON Electric may discontinue open account status or change credit limit as warranted, in its opinion, by the financial condition and/or credit history of the Buyer. LEESON Electric may require full or partial payment or payment guarantees in advance of shipment whenever, in its opinion, the financial condition and/or credit history of Buyer so warrants. In addition, LEESON Electric may, at any time, suspend performance of any order or require payment in cash, security or other adequate assurance satisfactory to LEESON Electric when, in LEESON Electric's opinion, the financial condition and/or credit history of Buyer warrants such action.

6. TAXES.

Prices do not include sales, use or other similar federal, state or local taxes. Buyer shall either have a tax-exemption certificate on file with the LEESON Electric or pay to LEESON Electric, in addition to the price of the goods, any and all applicable taxes, which may be invoiced separately at a later date.

7. DESIGN; EXTRA WORK; BUYER'S MATERIAL.

(a) If any order accepted by LEESON Electric contemplates the preparation of special designs by LEESON Electric, Buyer issuing such order will have a responsible representative specifically approve all designs prepared by LEESON Electric. (b) If Buyer requests extra work not included in the quotation or original order, Buyer will pay for the extra work at reasonable rates as determined by LEESON Electric. (c) In the event spoilage/damage occurs on orders where Buyer furnishes any material, LEESON Electric shall not be liable for replacement of or damage to such material.

8. RISK OF LOSS, TITLE, SECURITY INTEREST.

Delivery shall occur, and risk of loss shall pass to Buyer, upon delivery of the material to a carrier at the F.O.B. point of shipment. Transportation shall be at Buyer's sole risk and expense, and any claims for losses or damage in transit shall be against the carrier only. However, LEESON Electric retains title to all products until paid for in full in cash and Buyer agrees to perform all acts necessary to provide a fully perfected security interest in the goods in favor of LEESON Electric. LEESON Electric may, at its option, repossess the same, upon Buyer's default in payment hereunder, and charge Buyer with any deficiency.

9. DELIVERIES AND QUANTITIES.

(a) Delivery dates are not guaranteed but are estimated on the basis of immediate receipt by LEESON Electric of all information to be furnished by Buyer and the absence of delay, direct or indirect, resulting from or contributed to by circumstances beyond LEESON Electric's reasonable control. If the goods are non-catalog goods, LEESON Electric may ship overages or underages to the extent of 10 percent of quantity ordered, and Buyer shall pay for such quantity based upon the unit price of the goods. LEESON Electric shall not be required to maintain closer control of quantity, unless specifically agreed to by LEESON Electric in writing. Quantities of all items may be determined by weight. Any claims for shortage must be within 10 days from the date of receipt of the goods by Buyer, and in every case the weights found in any particular shipment, including tare, must be given and LEESON Electric advised as to the method used by Buyer in computing the count of parts. (b) In the event that Buyer is unable to accept delivery of the goods at time of shipment, LEESON Electric shall invoice Buyer for the full purchase price as if shipment had been made and: (i) if LEESON Electric is able to store such goods in its own facilities, Buyer will pay LEESON Electric the reasonable handling and storage charges for the period of such storage, and (ii) if LEESON Electric is unable to store such goods at its own facility, LEESON Electric reserves the right to arrange handling and storage in a suitable bonded warehouse for the Buyer at Buyer's expense. In cases where handling and storage become necessary, it shall be Buyer's responsibility to notify LEESON Electric when shipment is to be made. LEESON Electric will make necessary arrangements for shipment at Buyer's expense.

10. RETURNED GOODS.

Goods may not be returned. However, if LEESON Electric consents in writing or upon verbal authorization to the return of goods for any reason, Buyer, who also shall assume all risk of loss of such returned goods until actual receipt by LEESON Electric, must prepay transportation charges.

11. INSPECTION, ACCEPTANCE.

Buyer shall inspect the goods immediately upon the receipt thereof. All claims by Buyer (including claims for shortages), except only those provided for under the WARRANTY AND LIMITATIONS OF LIABILITY and PATENTS clauses below, must be asserted in writing by Buyer within a 10 day period or they are waived. If this contract involves partial performances, all such claims must be asserted within a 10-day period for each partial performance. Rejection may be only for defects substantially impairing the value of products or work. Buyer's remedy for lesser defects shall be those provided for under the Warranty and Liability clauses. THERE SHALL BE NO REVOCATION OF ACCEPTANCE. If Buyer wrong-fully rejects, revokes or delays acceptance of items or work tendered under this contract, or fails to make a payment due on or before delivery, or repudiates this contract, LEESON Electric shall, at its option, have a right to recover as damages, either the price as stated herein (upon recovery of the price, the items involved shall become the property of the Buyer) or the profit (including reasonable overhead) which the LEESON Electric would make from performance together with incidental damages and reasonable cost.

12. WARRANTIES AND LIMITATIONS OF LIABILITY.

(a) LEESON Electric warrants to the Buyer that its motors, gearmotors, DC controllers, and AC drives are free from defects in workmanship and materials when operated under normal conditions and in accordance with nameplate characteristic limits. This warranty shall be in effect for a period of 12 months from date of installation, but in no event be in effect for more than 24 months from data of manufacture, with the following exceptions: i) EPACT motors ("G" prefix), which are warranted for a period of 24 months from date of installation but for not more than 30 months from date of manufacture, ii) Wattsaver" Premium Efficiency three phase motors and Speedmaster Inverter-Duty motors are warranted for a period of 36 months from the date of installation but for not more than 42 months from the date of manufacture, & iii) Motor brakes provided as coupler brakes, brake kits, or as part of brakemotors are covered by the manufacturers (Stearns or Dings) warranties.

(b) LEESON Electric's sole obligation under the foregoing warranties is limited to either, at LEESON Electric's option, replacing or repairing defective goods (or defective parts thereof) within the warranty period. LEESON Electric shall not be liable under any circumstances, for consequential or incidental damages, including, but not limited to personal injury or labor costs. This warranty does not cover the cost of removal, installation, or re-testing of the new or repaired goods or parts, or any other direct or incidental expenses incurred in shipping the product to or from LEESON Electric. Replacement goods or parts are warranted for the remainder of the warranty period applicable to the goods originally supplied by LEESON Electric. All claims for allegedly defective goods must be made within 10 days after Buyer learns of such alleged defects. All claims not made in writing and received by LEESON Electric within such 10 day period shall be deemed waived. With prior approval from LEESON Electric, Buyer shall return a sample of the alleged defective part, freight prepaid, for LEESON Electric's inspection, and no other goods shall be returned to LEESON Electric's District Office/Warehouse, nearest factory, or Authorized Service Center without LEESON Electric's written consent. This warranty shall not extend to goods subjected to misuse, abuse, neglect, accident or improper installation or maintenance, incorrect lubrication, incorrect electrical connection, improper power supply, or goods which have been altered or repaired by anyone other than LEESON Electric or its authorized representative;

(c) Under no circumstances will LEESON Electric be responsible for any expense in connection with any repairs made by anyone other than LEESON Electric or an Authorized Service Center, unless such repairs have been specifically authorized in writing by the LEESON Electric Service and Warranty Department.

(d) In the case of motors, drives, gears and reducers manufactured or marketed by LEESON Electric, LEESON Electric warrants only that such products, when shipped, shall be capable of delivering the service rating as indicated in LEESON Electric's written documents, including quotations and catalogs or as noted on such products, providing such equipment is properly installed, connected, and maintained, correctly lubricated, operating under normal conditions with competent supervision, and within the load limits and voltage range for which it was sold, and provided further that the equipment is free from critical speed, torsional or other type vibration, no matter how induced;

(e) If any prototype or sample was provided to the Buyer, it was used merely to illustrate the general type and quality of goods and not to warrant that goods shipped would be of that type or quality;

(f) UNLESS AUTHORIZED IN WRITING BY A CORPORATE OFFICER OR VICE PRESIDENT, NO AGENT, EMPLOYEE OR REPRESENTATIVE OF LEESON ELECTRIC HAS ANY AUTHORITY TO BIND LEESON ELECTRIC TO ANY AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE GOODS SOLD UNDER THE SALES CONTRACT AND ANY SUCH AFFIRMATION, REPRESENTATION OR WARRANTY HAS NOT FORMED A PART OF THE BASIS OF THE BARGAIN AND SHALL BE UNENFORCEABLE;

(g) THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED;

(h) Products manufactured and work not performed by LEESON Electric are warranted only to the extent and in the manner that the same are warranted to LEESON Electric by LEESON Electric's vendors, and then only to the extent that LEESON Electric is reasonably able to enforce such warranty. In enforcing such warranty, it is understood LEESON Electric shall have no obligation to initiate litigation unless Buyer undertakes to pay all costs and expenses therefor, including but not limited to Attorney's fees, and indemnifies LEESON Electric against any liability to LEESON Electric's vendors arising out of such litigation;

(i) THE FOREGOING IS LEESON ELECTRIC'S ONLY OBLIGATION AND BUYER'S EXCLUSIVE REMEDY FOR BREACH OF WARRANTY. BUYER'S FAILURE TO SUBMIT A CLAIM AS PROVIDED ABOVE SHALL SPECIFICALLY WAIVE ALL CLAIMS FOR DAMAGES OR OTHER RELIEF INCLUDING BUT NOT LIMITED TO CLAIMS BASED ON LATENT DEFECTS. IN NO EVENT SHALL BUYER BE ENTITLED TO INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, NOR SHALL LEESON ELECTRIC'S LIABILITY EXCEED THE PURCHASE PRICE OF

THE GOODS. ANY ACTION ARISING HEREUNDER OR RELATED HERETO MUST BE COMMENCED WITHIN ONE (1) YEAR AFTER THE CAUSE OF ACTION OCCURS OR IT SHALL BE BARRED, NOTWITHSTANDING ANY STATUTORY PERIOD OF LIMITATIONS TO THE CONTRARY; and

(j) In the event of the resale of any of the goods, in whatever form, Buyer will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such resale: "THE MANUFACTURER MAKES NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS SOLD HEREUNDER. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE GOODS PURCHASED HEREUNDER WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. IN NO EVENT WILL MANUFACTURER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES."

13. REMEDIES AND LIMITATIONS OF LIABILITY.

In the event Buyer claims LEESON Electric has breached any of its obligations under the Sales Contract, whether of warranty or otherwise, LEESON Electric may request the return of goods and tender to Buyer, at LEESON Electric's option, a replacement shipment of goods. If LEESON Electric so requests the return of the goods, the goods will be redelivered to LEESON Electric in accordance with LEESON Electric's instructions and at Buyer's expense. Except as herein provided, LEESON Electric shall have no further obligation under the Sales Contract. The remedies contained in this paragraph and paragraph 12 hereof shall constitute the sole recourse of Buyer against LEESON Electric for breach of any of LEESON Electric's obligations under the Sales Contract, whether warranty or otherwise.

14. TECHNICAL ADVICE.

Any technical advice furnished or recommendations made by LEESON Electric or any representative of LEESON Electric concerning any use or application of any of the goods is believed to be reliable, but LEESON ELECTRIC MAKES NO WARRANTY, EXPRESSED OR IMPLIED, ON RESULTS TO BE OBTAINED. BUYER ASSUMES ALL RESPONSIBILITY FOR LOSS OR DAMAGE RESULTING FROM THE HANDLING OR USE OF ANY OF THE GOODS.

15. FORCE MAJEURE.

LEESON Electric shall not be liable for failure to perform its obligations under the Sales Contract in whole or in part caused by the occurrence of any contingencies beyond the reasonable control either of LEESON Electric or of suppliers of LEESON Electric. If any such contingency occurs, LEESON Electric may allocate goods and deliveries among LEESON Electric's customers.

16. ASSIGNMENT AND DELEGATION.

No right or interest in the Sales Contract shall be assigned by Buyer without LEESON Electric's prior written consent, and no delegation of any obligation owed, or to the performance of any obligation by Buyer shall be made without LEESON Electric's prior written consent. Any attempt at assignment or delegation shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.

17. PATTERNS AND TOOLING.

Unless otherwise agreed to in writing with Buyer, LEESON Electric shall retain title to and possession of all special tooling, patterns and dies whether paid for by Buyer or not, but such special tooling, patterns and dies that are specifically paid for by Buyer will be held by LEESON Electric exclusively for the manufacture of Buyer's goods for not more than 2 years after the date of Buyer's last order requiring their use. LEESON Electric will exercise reasonable care in handling and storing any tooling, patterns or dies specifically paid for by Buyer, but LEESON Electric shall not be liable for damage or loss thereof.

18. PATENTS. LEESON ELECTRIC MAKES NO REPRESENTATION OR WARRANTY WITH RESPECT TO THE PATENTABILITY OF THE GOODS OR THAT ANY OF THE GOODS WILL BE FREE FROM CLAIMS OF INFRINGEMENT.

Buyer agrees to indemnify and defend LEESON Electric in any such suit, action or proceeding for any claim resulting from actual or alleged infringement of any domestic or foreign letters patent for (i) any feature, construction or design incorporated at Buyer's request in any goods or to adapt such goods to the particular use of Buyer or Buyer's customers or (ii) any additions, changes or adaptations made by Buyer or Buyer's customers after delivery of the goods.

19. CONFIDENTIAL INFORMATION.

All drawings, diagrams, specifications, technical data and other materials furnished by LEESON Electric and identified by LEESON Electric as confidential are and shall remain the exclusive property of LEESON Electric and shall be returned to LEESON Electric upon request. Buyer agrees to treat such information and material as confidential and not to reproduce or disclose such information or materials without LEESON Electric's prior written consent. This paragraph does not apply to any information already known to and readily accessible in the trade or which may become so through no fault of Buyer.

20. CHANGES.

LEESON Electric may, at any time, without notice, make changes (whether in design, material, improvements or otherwise) in any catalog goods, and may discontinue the manufacture of any catalog goods, all in its sole discretion, without incurring any obligations of any kind as a result thereof, whether for failure to fill an order of Buyer or otherwise.

21. CANCELLATION.

The Buyer may not cancel purchase orders without the prior written consent of LEESON Electric. This consent will be conditioned on Buyer's agreement to pay LEESON Electric's cancellation charge. Purchase orders for goods that are substantially complete, as judged by LEESON Electric, may not be cancelled; and will be shipped and invoiced at the price on the order. For goods that are not substantially complete, the cancellation charge shall amount to all costs and expenses incurred by LEESON Electric and arising out of or in connection with Buyer's order, net of recoverability, but in no event less than 10% of the total invoice price of the equipment or more than the total invoice price.

22. INSTALLATION.

Installation of the goods shall be by Buyer unless otherwise specifically stated in the Sales Contract.

23. SEVERABILITY.

If any term or provision contained in the Sales Contract is declared or held invalid by a court of competent jurisdiction, such declaration or holding shall not affect the validity of any other term, clause or provision contained herein.

24. GOVERNING LAW AND LIMITATION.

(a) The formation and performance of the Sales Contract shall be deemed to have been made and governed by the Uniform Commercial Code as adopted in the state of LEESON Electric's principal place of business; (b) Buyer hereby agrees to the jurisdiction of any state or federal court located in the county of LEESON Electric's principal place of business. Buyer waives any objection based on forum non conveniens and any objection to venue of any action instituted hereunder, and consents to the granting of such legal or equitable relief as is deemed appropriate by a court of competent jurisdiction; and (c) LEESON Electric represents that the goods will be produced in compliance with the Fair Labor Standards Act of 1938, as amended.

One-Stop Motor & PT Solutions

LEESON is now your one-stop solution for a wide range of motor and power transmission needs. In addition to the IRONMAN BY OHIO GEAR™ line of cast iron worm gears featured in this catalog, stock products available for immediate shipment include:

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- **An expanding family of AC and DC electronic drives, including AC micro and sub-micro PWM models that set the standard for ease of set-up and programming.**

IRONMAN BY OHIO GEAR™ reducers have all the premium features needed for long life in industrial applications.

For complete information on any LEESON motor, gearmotor or drive products, please call 262/377-8810, or check our web site for the location of your nearest LEESON District Office.

FOR MORE INFORMATION CONTACT:

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