RP Series

Inline Helical Gear Units

RENOLD

Superior Gear Technology

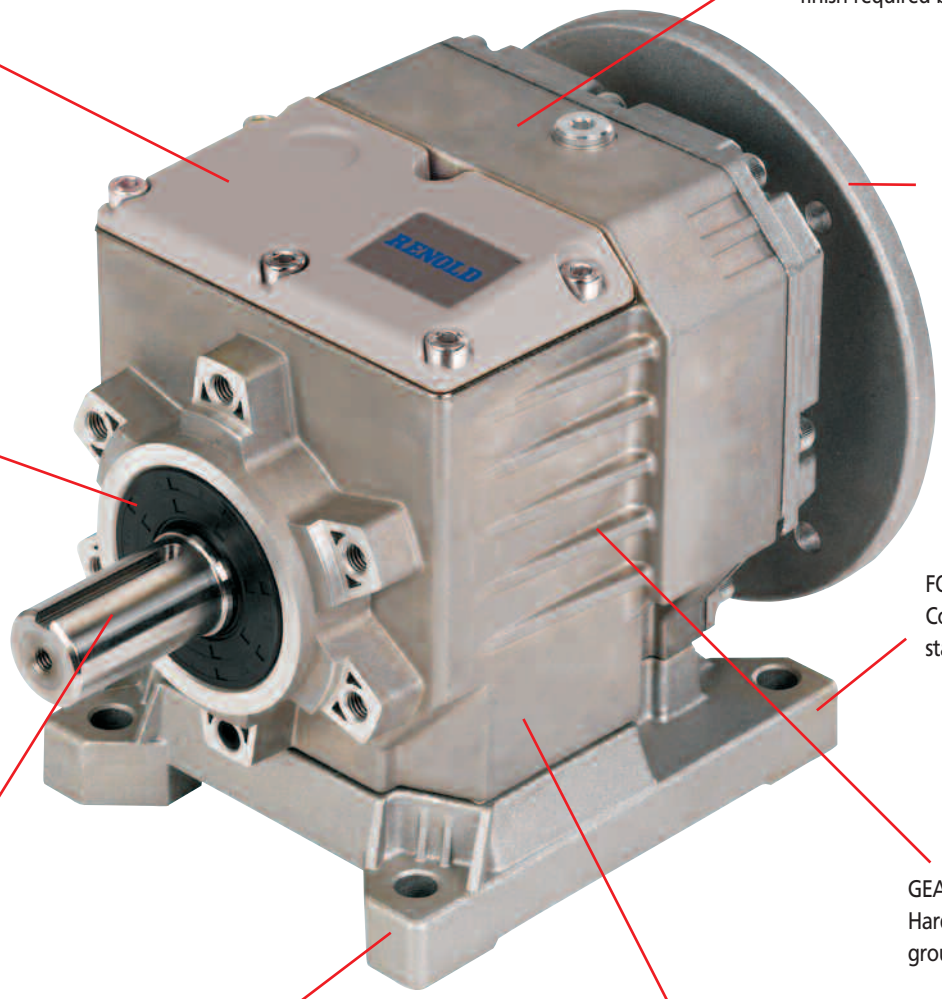
www.renold.com

RENOLD

RP Inline Geared Motors - Gear Units

REMOVABLE
INSPECTION COVER
Allows periodic inspection of gearing during routine maintenance

ALLOY HOUSING
is vacuum impregnated with Resinol RT (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint



FLANGE
Fully modular to IEC and Compact integrated motor. NEMA flange

OIL SEAL
Two oil seals on request.

FOOT PRINTS
Compatible to the main standard of the market.

OUTPUT SHAFT
With well proportioned bearings.

GEARS
Hardened and ground gears.

FEET
Removable feet.
With patented locking system.

SINGLE-PIECE ALUMINUM
ALLOY HOUSING
Combines light weight with high tensile strength.
Precision machined for alignment of bearings and gearing.

Applications:

- Conveyor Drives
- Mixer Drives
- Packaging Machinery
- Food Industry
- Sewage Treatment
- Textiles Industry
- Water Treatment

Contents

A.G.M.A Service Factors — Service Factors

The gearbox speed reducer ratings in this catalogue are for a 1.00 service factor or(Class I)* service. A 1.00 service factor applies when the use of the reducer is for continuous service free from recurrent shock loading and does not exceed 8 hours per day for Aluminum and 10 hours per day for Cast Iron. When operating conditions are different from those described above, the input horsepower and torque ratings shown in this catalogue must be divided by the appropriate service factor indicated in the table below. The catalogue ratings may be used without adjustments if the actual driven machine horsepower and torque requirements are multiplied by the appropriate service factor indicated in the table below.

*** Class I: (Minumum 0.8 Service Factor)** A gearmotor can operate with steady loads not exceeding the normal rating and 8-10 hours of running time per day.

A.G.M.A. GEAR REDUCER LOAD CLASSIFICATIONS

This chart is a guideline for the types of loads applied to the following.
Parallel (helical) reducers.

DURATION OF SERVICE (HOURS PER DAY)	LOAD CLASSIFICATION OF THE MACHINERY DESIGN			WHEN FREQUENT STOPS/STARTS ARE APPLIED IN EXCESS OF 10/HOUR		
	UNIFORM	MODERATE SHOCK	HEAVY SHOCK	UNIFORM	MODERATE SHOCK	HEAVY SHOCK
½ Hours or less	0.80	0.80	1.00	0.80	0.80	1.25
2 Hours Intermittently	1.00	1.00	1.25	1.0	1.25	1.50
10 Hours	1.00	1.25	1.50	1.25	1.50	1.75
24 Hours	1.25	1.50	1.75	1.50	1.75	2.00

ENGINE DRIVEN APPLICATIONS

For multiple cylinder engine drive applications, the service factors are greater then those shown above for electric drives. Service factors for multiple cylinder engine drives may be determined from the conversion table below.

LOADING	8 - 10 HOUR SERVICE		24 HOUR SERVICE	
	ELECTRIC MOTOR DRIVE	MULTIPLE CYLINDER ENGINE*	ELECTRIC MOTOR DRIVE	MULTIPLE CYLINDER ENGINE*
UNIFORM	1.00	1.25	1.25	1.50
MODERATE	1.25	1.50	1.50	1.75
HEAVY	1.75	2.00	1.75	2.00

* These service factors apply essentially to driven applications without extreme variations.

Normal starting or occasional peak loads, two or three times per day, up to 300% of catalogue rating at 1800 RPM are permissible. If either the frequency or the magnitude of these loads exceed the above limits, a higher service factor is required and the application should be referred to Renold.

Gearbox 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.

Depending upon gear geometry and operating conditions, gearbox reducers may or may not backdrive.
Special consideration should be given to high inertia loads connected to the reducer output shaft. Consult Renold for further details.

Reducers driven by brakemotors must be sized to accomodate motor driving, brake and inertia loads to prevent the breaking torque or inertia loads from exceeding the motor rating.

⚠ CAUTION For safety, purchaser or user should provide protective guards over shaft extensions and any couplings sheaves and belts, sprockets and chains, etc., mounted thereon.

A.G.M.A. Service Factors

SPEED REDUCER LOAD CLASSIFICATION

Application	Service Factor	
	8 to 10 Hour Service	24 Hour Service
NORMAL INDUSTRIAL USAGE		
Steady load not exceeding normal rating of motor or intermittent shock.	1.00	1.25
Moderate shock	1.25	1.50
Heavy shock	1.75	Refer to factory
AGITATORS		
Pure liquids	1.00	1.25
Liquids-Variable Densily	1.25	1.50
BLOWERS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
BREWING & DISTILLING		
Bottling Machinery	1.00	1.25
Brew Kettles, continuos duty	1.00	1.25
Cookers, continuos duty	1.00	1.25
Mash Tubs, continuos duty	1.00	1.25
Scale Hopper (Frequent Starting)	1.25	1.50
CAR DUMPERS	1.75	1.75
CAR PULLERS	1.25	1.50
CLARIFIERS	1.00	1.25
CLASSIFIERS	1.25	1.50
CLAY WORKING MACHINERY		
Brick Press	1.75	1.75
Briquette Machines	1.75	1.75
Clay Working Machinery	1.25	1.50
Plug Mill	1.25	1.50
COMPRESSORS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Reciprocating Multi-cylinders (within 3% cyclic variation)	1.25	1.50
Reciprocating, Single Cylinder	Refer to factory	Refer to factory
CONVEYORS (Uniformly loaded or Fed)		
Flighl, Oven, Screw	1.00	1.25
CONVEYORS (Heavy duty or dual drive not uniformly fed)		
Apron, Assembly, Belt,	1.25	1.50
Bucket, Flight,	1.25	1.50
Oven Screw,	1.25	1.50
Reciprocating, Shaker	1.75	1.75
CRANES & HOISTS		
Main Hoists - Medium duty	1.25	1.50
- Heavy duty	1.75	1.75
Skip hoists	Refer	Refer
Travel motion	to	to
Trolley motion	factory	factory
DREDGES		
Cable Reels, Conveyors	1.25	1.50
Cutter Head Drives	1.75	1.75
Jig Drives, Screen Drives	1.75	1.75
Stackers	1.25	1.50
Utilily Winches	1.25	1.50

Application	Service Factor	
	8 to 10 Hour Service	24 Hour Service
ELEVATORS (Conveyor type - same as conveyors)	Refer to factory	Refer to factory
FANS		
Centrifugal	1.00	1.25
Cooling rowers	Refer to factory	Refer to factory
Large (Mine, etc.)	1.25	1.50
Light small diameter	1.00	1.25
FOOD INDUSTRY		
Beet Slicers	1.25	1.50
Cereal Cookers	1.00	1.25
Dough Mixer	1.25	1.50
Meal Grinders	1.25	1.50
HOISTS - See Cranes		
LAUNDRY WASHERS	1.25	1.50
LAUNDRY TUMBLERS	1.25	1.50
MACHINE TOOLS		
Punch Press (Gear connected to load)	1.75	1.75
Notching press (Belt driven)	Refer to factory	Refer to factory
Plate planers	1.75	1.75
Other machine tools main drives	1.25	1.50
Auxiliary drives (Feed Traverse, etc.)	1.00	1.25
METAL MILLS		
Draw Bench Carriages & Main Drives	1.00	1.25
Forming Machines	1.75	1.75
Pinch, Dryer and Scrubber Rolls (Reversing)	Refer to factory	Refer to factory
Slitters	1.25	1.50
Small rolling mill, drives	1.75	1.75
Table Conveyors(Non reverse)	1.25	1.50
Table Conveyors(Reversing)	Refer to factory	Refer to factory
Wire Drawing & Flattening Machines	1.25	1.50
MILLS (Rotary Type)		
Ball, dryer cooler	-	1.50
Cement kilns, pebble rod	-	1.50
Kilns	1.25	1.50
Tumbling barrels	1.75	1.75
MIXERS		
Concrete Mixers - continuos	1.25	1.50
Concrete Mixers - intermittent	1.00	-
Constant density	1.00	1.25
Variable density	1.25	1.50
LINE SHAFTS		
Driving processing equipment	1.25	1.50
Other line shafts	1.00	1.25
PAPER MILL		
Bleacher presses	1.00	1.25
Conveyors, suction roll	1.00	1.25
Winders	1.00	1.25
Agitators (Mixers)	1.25	1.50
Dryer, felt stretcher	1.25	1.50
Stock chest calenders	1.25	1.50
Beater & Pulper	1.25	1.50
Jordans	1.25	1.75
Couch, cylinders	1.25	1.50

Application	Service Factor	
	8 to 10 Hour Service	24 Hour Service
RUBBER INDUSTRY		
Mixer	-	1.75
Rubber calender	-	1.75
Rubber mill	1.75	1.75
Tire building machines	Refer to	Refer to
Tire and tube press openers	Factory	Factory
Tubers or strainers	-	1.50
PUMPS		
Centrifugal	1.00	1.25
Gear and rotary	1.00	1.25
Constant density fluid Gear and rotary	2.00	2.00
Variable density fluid Proportioning pumps	1.25	1.50
Reciprocating with open discharge	1.00	2.00
Reciprocating multicylinder, double acting	1.25	1.50
Reciprocating	Refer to	Refer to
single cylinder	Factory	Factory
Reversing duty	Refer to Factory	Refer to Factory
SEWAGE DISPOSAL EQUIPMENT		
Inside service	1.00	1.25
SCREENS		
Rotary - Stone or gravel	1.25	1.50
Traveling Water Intake	1.00	1.25
OIL INDUSTRY		
Oil well pumping (Not over 150% peak torque)	1.75	1.75
Refineries	1.25	1.50
Chillers, rotary kiln	1.25	1.50
Paraffin filter press	1.25	1.50
TEXTILE INDUSTRY		
Batchers, calenders	1.25	1.50
Card Machines, dry cans	1.25	1.50
Dyeing Machinery, mangles	1.25	1.50
Nappers, soapers	1.25	1.50
Spinners tenter frames	1.25	1.50

The application service factors shown above are considered typical for most applications. Where loads are lighter than normal, where units are operated seasonally, or where unusual severe conditions exist, refer to Renold.
For application assistance refer to Renold.

Selection by Hp and Speed

Step 1: Find the desired HP and output speed from pages 07 to 19

1/3 HP NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Service Factor	Ratio	Nbr. Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges Standard	Available Motor Flanges On Request	Pages
105	187	1.33	10.86	1	311A	-	-	-	5/8	56C	-	...
105	187	1.33	10.86	1	411A	-	-	-	3/4	143-5TC	56C •	...

***If the application requires a service factor greater than 1.0,** select a higher horsepower rated reducer.
For example, if the required horsepower is 1 but the **service factor from the AGMA table is 2,** select a reducer rated for 2 HP (1HP times Service Factor of 2 = 2HP) and of the desired output speed. However, use a 1HP drive motor.*

Step 2: Select the reducer type: (Aluminum Green and Orange); Cast Iron (Red).

Output Speed (RPM)	Output Torque (lb-in)	Service Factor	Ratio	Nbr. Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges Standard	Available Motor Flanges On Request	Pages

Single Reduction

Light Duty Double Reduction

Double and Triple Reduction

Strong Cast Iron Double and Triple Reduction

** As an alternative to Step 1 and 2 make a quick selection directly from the Hp tables on pages 23 to 41.*

Step 3: Check others selection details.

Output Speed (RPM)	Output Torque (lb-in)	Service Factor	Ratio	Nbr. Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges Standard	Available Motor Flanges Optional	Pages
105	187	1.33	10.86	1	311A	-	-	-	5/8	56C	-	...
105	187	1.33	10.86	1	411A	-	-	-	3/4	143-5TC	56C •	...

Read the Torque

Note the Ratio

Note the Number (Stage) of reductions

Note the Output Shaft (Diameter)

Select the Motor Flange

Step 4: See additional Selection Check List on page 51.

See "How to Order" on pages 20 - 21 for product codes and options.

1/3 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nr° Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1115	20.25	18	**1.57**	1	**311A**	-	-	-	5/8	56C	-	23
616	11.66	32	**2.84**	1	**311A**	-	-	-	5/8	56C	-	23
532	11.67	37	**3.29**	1	**311A**	-	-	-	5/8	56C	-	23
509	11.30	39	**3.44**	2	-	**202A**	-	-	5/8	56C	-	27
452	8.16	44	**3.87**	1	**311A**	-	-	-	5/8	56C	-	23
409	9.08	49	**4.28**	2	-	**202A**	-	-	5/8	56C	-	27
379	8.16	53	**4.62**	1	**311A**	-	-	-	5/8	56C	-	23
321	7.13	62	**5.45**	2	-	**202A**	-	-	5/8	56C	-	27
281	6.24	71	**6.23**	2	-	**202A**	-	-	5/8	56C	-	27
278	5.84	72	**6.30**	1	**311A**	-	-	-	5/8	56C	-	23
213	3.65	94	**8.22**	1	**311A**	-	-	-	5/8	56C	-	23
243	5.40	82	**7.20**	2	-	**202A**	-	-	5/8	56C	-	27
226	5.02	88	**7.74**	2	-	**202A**	-	-	5/8	56C	-	27
178	4.74	112	**9.85**	2	-	**202A**	-	-	5/8	56C	-	27
161	2.02	124	**10.86**	1	**311A**	-	-	-	5/8	56C	-	23
153	4.08	130	**11.42**	2	-	**202A**	-	-	5/8	56C	-	27
139 *	2.41	142	**8.22**	1	**311A**	-	-	-	5/8	56C	-	23
134	3.58	148	**13.03**	2	-	**202A**	-	-	5/8	56C	-	27
116	3.09	172	**15.10**	2	-	**202A**	-	-	5/8	56C	-	27
108	2.88	184	**16.20**	2	-	**202A**	-	-	5/8	56C	-	27
105 *	1.33	187	**10.86**	1	**311A**	-	-	-	5/8	56C	-	23
93	2.48	214	**18.78**	2	-	**202A**	-	-	5/8	56C	-	27
83	2.21	241	**21.15**	2	-	**202A**	-	-	5/8	56C	-	27
80	2.14	249	**21.84**	2	-	**202A**	-	-	5/8	56C	-	27
67	1.77	300	**26.31**	2	-	**202A**	-	-	5/8	56C	-	27
61	1.88	329	**28.88**	2	-	**202A**	-	-	5/8	56C	-	27
49	1.52	409	**35.91**	2	-	**202A**	-	-	5/8	56C	-	27
46	1.44	429	**37.69**	2	-	**202A**	-	-	5/8	56C	-	27
37	1.16	534	**46.87**	2	-	**202A**	-	-	5/8	56C	-	27
35	1.09	567	**49.76**	2	-	**202A**	-	-	5/8	56C	-	27
28	1.21	705	**61.89**	2	-	**302A**	-	-	3/4	56C ●	143-5TC	29
23 *	0.99	858	**49.76**	2	-	**302A**	-	-	3/4	56C ●	143-5TC	29
23	1.31	839	**74.77**	3	-	-	**403A**	-	1	56C	-	31
23 *	1.44	874	**50.67**	2	-	-	-	**402C**	1	56C ●	143-5TC	39
20	1.13	973	**86.66**	3	-	-	**403A**	-	1	56C	-	31
18	1.29	1068	**96.85**	3	-	-	**403A**	-	1	56C	-	31
18 *	1.27	1068	**61.89**	2	-	-	-	**402C**	1	56C ●	143-5TC	39
17	1.36	1135	**102.89**	3	-	-	**403A**	-	1	56C	-	31
15	1.07	1305	**118.29**	3	-	-	-	**403C**	1	56C ●	143-5TC	39
14	0.99	1394	**126.40**	3	-	-	**403A**	-	1	56C	-	31
13	0.92	1497	**135.69**	3	-	-	**403A**	-	1	56C	-	31
13	1.10	1497	**135.69**	3	-	-	-	**403C**	1	56C ●	143-5TC	39
8	1.16	2407	**218.26**	3	-	-	**503A**	-	1.25	56C ●	143-5TC	35

* *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

1/3 HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
7.2	1.14	2667	**241.82**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
7.2	1.42	2667	**241.82**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
6.3	1.10	3073	**278.62**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
6	1.33	3227	**292.57**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
6	1.10	3073	**278.62**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41

* *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 48.*

1/2 HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1115	13.37	27	**1.57**	1	**311A**	-	-	-	5/8	56C	-	23
616	7.70	49	**2.84**	1	**311A**	-	-	-	5/8	56C	-	23
532	7.70	57	**3.29**	1	**311A**	-	-	-	5/8	56C	-	23
509	7.46	59	**3.44**	2	-	**202A**	-	-	5/8	56C	-	27
498	11.32	61	**3.52**	2	-	-	**402A**	-	1	56C●	143-5TC	31
452	5.38	67	**3.87**	1	**311A**	-	-	-	5/8	56C	-	23
409	5.99	74	**4.28**	2	-	**202A**	-	-	5/8	56C	-	27
401	10.26	75	**4.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
379	5.39	80	**4.62**	1	**311A**	-	-	-	5/8	56C	-	23
321	4.71	94	**5.45**	2	-	**202A**	-	-	5/8	56C	-	27
315	8.95	96	**5.56**	2	-	-	**402A**	-	1	56C●	143-5TC	31
281	4.12	107	**6.23**	2	-	**202A**	-	-	5/8	56C	-	27
278	3.85	109	**6.30**	1	**311A**	-	-	-	5/8	56C	-	23
275	7.43	110	**6.36**	2	-	-	**402A**	-	1	56C●	143-5TC	31
243	3.56	124	**7.20**	2	-	**202A**	-	-	5/8	56C	-	27
239	8.14	126	**7.33**	2	-	-	**402A**	-	1	56C●	143-5TC	31
226	3.31	134	**7.74**	2	-	**202A**	-	-	5/8	56C	-	27
222	7.57	136	**7.89**	2	-	-	**402A**	-	1	56C●	143-5TC	31
213	2.41	142	**8.22**	1	**311A**	-	-	-	5/8	56C	-	23
178	3.13	170	**9.85**	2	-	**202A**	-	-	5/8	56C	-	27
174	7.42	173	**10.06**	2	-	-	**402A**	-	1	56C●	143-5TC	31
161	1.33	187	**10.86**	1	**311A**	-	-	-	5/8	56C	-	23
153	2.70	197	**11.42**	2	-	**202A**	-	-	5/8	56C	-	27
150	7.43	201	**11.66**	2	-	-	**402A**	-	1	56C●	143-5TC	31
139*	1.60	213	**8.22**	1	**311A**	-	-	-	5/8	56C	-	23
134	2.36	225	**13.03**	2	-	**202A**	-	-	5/8	56C	-	27
132	6.00	229	**13.26**	2	-	-	**402A**	-	1	56C●	143-5TC	31
128	5.24	236	**13.68**	2	-	-	**402A**	-	1	56C●	143-5TC	31
116	2.04	260	**15.10**	2	-	**202A**	-	-	5/8	56C	-	27

* *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

1/2 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
114	5.18	265	**15.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
108	1.90	279	**16.20**	2	-	**202A**	-	-	5/8	56C	-	27
106	3.87	284	**16.20**	2	-	-	**402A**	-	1	56C●	143-5TC	31
97	4.41	311	**18.04**	2	-	-	**402A**	-	1	56C●	143-5TC	31
93	1.64	324	**18.78**	2	-	**202A**	-	-	5/8	56C	-	27
92	3.34	330	**18.80**	2	-	-	**402A**	-	1	56C●	143-5TC	31
83	1.46	365	**21.15**	2	-	**202A**	-	-	5/8	56C	-	27
81	3.70	372	**21.54**	2	-	-	**402A**	-	1	56C●	143-5TC	31
80	1.41	377	**21.84**	2	-	**202A**	-	-	5/8	56C	-	27
79	3.73	385	**22.29**	2	-	-	**402A**	-	1	56C●	143-5TC	31
67	1.17	454	**26.31**	2	-	**202A**	-	-	5/8	56C	-	27
65	2.38	462	**26.30**	2	-	-	**402A**	-	1	56C●	143-5TC	31
61	1.24	498	**28.88**	2	-	**202A**	-	-	5/8	56C	-	27
60	2.71	507	**29.40**	2	-	-	**402A**	-	1	56C●	143-5TC	31
49	1.00	619	**35.91**	2	-	**202A**	-	-	5/8	56C	-	27
49	1.38	619	**35.91**	2	-	**302A**	-	-	3/4	56C	-	29
48	1.74	630	**35.91**	2	-	-	**402A**	-	1	56C●	143-5TC	31
46	0.95	650	**37.69**	2	-	**202A**	-	-	5/8	56C	-	27
46	2.08	662	**38.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
46	1.32	650	**37.69**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
37	1.05	808	**46.87**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
37	1.34	823	**46.86**	2	-	-	**402A**	-	1	56C●	143-5TC	31
35	0.99	858	**49.76**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
35	1.30	874	**50.67**	2	-	-	**402A**	-	1	56C●	143-5TC	31
35	1.44	874	**50.67**	2	-	-	-	**402C**	1	56C●	143-5TC	39
32	1.21	907	**53.36**	3	-	-	**403A**	-	1	56C	-	31
29	1.34	1023	**61.22**	3	-	-	**403A**	-	1	56C	-	31
28	1.01	1086	**61.88**	2	-	-	**402A**	-	1	56C●	143-5TC	31
28	1.05	1052	**61.90**	3	-	-	**403A**	-	1	56C	-	31
28	1.27	1068	**61.89**	2	-	-	-	**402C**	1	56C●	143-5TC	39
25	1.16	1186	**70.95**	3	-	-	**403A**	-	1	56C	-	31
25	1.38	1186	**70.95**	3	-	-	-	**403C**	1	56C●	143-5TC	39
24	1.22	1227	**73.43**	3	-	-	**403A**	-	1	56C	-	31
23	1.12	1249	**74.77**	3	-	-	-	**403C**	1	56C●	143-5TC	39
20	0.96	1448	**86.66**	3	-	-	-	**403C**	1	56C●	143-5TC	39
18	1.01	1618	**96.85**	3	-	-	-	**403C**	1	56C●	143-5TC	39
15	1.43	1959	**117.22**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
14	1.32	2116	**126.65**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
13	1.33	2283	**136.62**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
12	1.39	2434	**145.68**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
12	1.39	2434	**145.68**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
11	1.01	2762	**165.29**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
11	1.29	2630	**157.40**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

1/2 HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
11	1.29	2630	**157.40**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
10	1.01	3014	**180.40**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
9.4	1.22	3096	**185.29**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
9.4	1.22	3096	**185.29**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
8.6	0.99	3411	**204.12**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
8.5	0.99	3433	**205.43**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
7.8	1.15	3746	**224.18**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
7.8	1.15	3746	**224.18**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 48.*

3/4 HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1115	8.90	41	**1.57**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
616	5.12	74	**2.84**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
532	5.13	85	**3.29**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
509	4.72	89	**3.44**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
498	7.54	91	**3.52**	2	-	-	**402A**	-	1	56C●	143-5TC	31
452	3.58	100	**3.87**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
409	3.79	111	**4.28**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
401	6.83	113	**4.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
379	3.59	120	**4.62**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
321	2.98	141	**5.45**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
315	5.96	144	**5.56**	2	-	-	**402A**	-	1	56C●	143-5TC	31
281	3.65	161	**6.23**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
278	2.56	163	**6.30**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
275	4.95	165	**6.36**	2	-	-	**402A**	-	1	56C●	143-5TC	31
243	3.15	187	**7.20**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
239	5.42	190	**7.33**	2	-	-	**402A**	-	1	56C●	143-5TC	31
226	3.35	201	**7.74**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
222	5.04	205	**7.89**	2	-	-	**402A**	-	1	56C●	143-5TC	31
213	1.60	213	**8.22**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
178	3.13	255	**9.85**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
174	4.94	261	**10.06**	2	-	-	**402A**	-	1	56C●	143-5TC	31
153	3.27	296	**11.42**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
150	4.95	302	**11.66**	2	-	-	**402A**	-	1	56C●	143-5TC	31
139✱	1.07	319	**8.22**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
134	2.84	338	**13.03**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
132	4.00	344	**13.26**	2	-	-	**402A**	-	1	56C●	143-5TC	31

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

3/4 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
128	3.49	355	**13.68**	2	-	-	**402A**	-	1	56C●	143-5TC	31
116	2.45	391	**15.10**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
114	3.45	398	**15.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
108	2.03	420	**16.20**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
106	2.57	427	**16.20**	2	-	-	**402A**	-	1	56C●	143-5TC	31
97	2.94	468	**18.04**	2	-	-	**402A**	-	1	56C●	143-5TC	31
93	1.75	487	**18.78**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
92	2.22	495	**18.80**	2	-	-	**402A**	-	1	56C●	143-5TC	31
83	1.75	548	**21.15**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
81	2.46	558	**21.54**	2	-	-	**402A**	-	1	56C●	143-5TC	31
80	1.77	566	**21.84**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
79	2.48	578	**22.29**	2	-	-	**402A**	-	1	56C●	143-5TC	31
67	1.25	682	**26.31**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
65	1.58	694	**26.30**	2	-	-	**402A**	-	1	56C●	143-5TC	31
61	1.28	748	**28.88**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
60	1.80	762	**29.40**	2	-	-	**402A**	-	1	56C●	143-5TC	31
49	0.92	931	**35.91**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
48	1.16	947	**35.91**	2	-	-	**402A**	-	1	56C●	143-5TC	31
46	1.38	994	**38.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
40	1.17	1097	**43.69**	3	-	-	**403A**	-	1	56C●	143-5TC	31
37	0.89	1236	**46.86**	3	-	-	**402A**	-	1	56C●	143-5TC	31
37	1.11	1215	**46.87**	3	-	-	-	**402C**	1	56C●	143-5TC	39
35	1.08	1271	**50.64**	3	-	-	**403A**	-	1	56C●	143-5TC	31
35	1.29	1271	**50.64**	3	-	-	-	**403C**	1	56C●	143-5TC	39
29	1.07	1537	**61.21**	3	-	-	-	**403C**	1	56C●	143-5TC	39
19	1.20	2329	**92.78**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
19*	0.89	2365	**60.90**	2	-	**452A**	-	-	1.25	143/5TC	56C●	33
17	1.16	2628	**104.68**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
14	1.35	3179	**126.65**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
13	1.11	3408	**135.74**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
13	1.11	3408	**135.74**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
11	1.03	4150	**165.29**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
11	1.04	4123	**164.23**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41

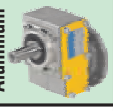
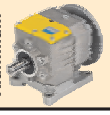
* *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

1 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum 	Two Stages Aluminum 	Two or Three Stages Aluminum 	Two or Three Stages Cast Iron 	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1346	13.22	45	**1.30**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
1115	6.68	54	**1.57**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
714	12.78	85	**2.45**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
616	3.85	98	**2.84**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
532	3.85	113	**3.29**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
529	9.46	114	**3.31**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
509	3.54	119	**3.44**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
498	5.66	121	**3.52**	2	-	-	**402A**	-	1	56C●	143-5TC	31
452	2.69	134	**3.87**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
409	2.85	148	**4.28**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
406	7.92	149	**4.31**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
401	5.13	151	**4.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
379	2.69	159	**4.62**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
332	6.48	182	**5.27**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
321	2.24	188	**5.45**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
315	4.48	192	**5.56**	2	-	-	**402A**	-	1	56C●	143-5TC	31
281	2.74	215	**6.23**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
278	1.93	217	**6.30**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
275	3.72	219	**6.36**	2	-	-	**402A**	-	1	56C●	143-5TC	31
243	2.37	248	**7.20**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
239	4.07	253	**7.33**	2	-	-	**402A**	-	1	56C●	143-5TC	31
229	3.83	263	**7.63**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
226	2.52	267	**7.74**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
222	3.78	272	**7.89**	2	-	-	**402A**	-	1	56C●	143-5TC	31
213	1.20	284	**8.22**	1	**411A**	-	-	-	3/4	56C●	143-5TC	24
178	2.35	340	**9.85**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
174	3.71	347	**10.06**	2	-	-	**402A**	-	1	56C●	143-5TC	31
167	1.93	362	**10.50**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
153	2.45	394	**11.42**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
150	3.72	402	**11.66**	2	-	-	**402A**	-	1	56C●	143-5TC	31
149 *	2.56	395	**7.63**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
134	2.13	449	**13.03**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
132	3.00	458	**13.26**	2	-	-	**402A**	-	1	56C●	143-5TC	31
128	2.62	472	**13.68**	2	-	-	**402A**	-	1	56C●	143-5TC	31
116	1.84	521	**15.10**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
114	2.59	530	**15.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
109 *	1.29	543	**10.50**	1	**511A**	-	-	-	1.125	56C●	143-5TC	25
108	1.53	559	**16.20**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
106	1.93	569	**16.20**	2	-	-	**402A**	-	1	56C●	143-5TC	31
97	2.21	622	**18.04**	2	-	-	**402A**	-	1	56C●	143-5TC	31
93	1.32	648	**18.78**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
92	1.67	659	**18.80**	2	-	-	**402A**	-	1	56C●	143-5TC	31
83	1.31	730	**21.15**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29

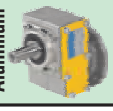
* *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

1 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum 	Two Stages Aluminum 	Two or Three Stages Aluminum 	Two or Three Stages Cast Iron 	Output Shaft DIA	Available Motor Flanges		Dim. on Page
81	1.85	743	**21.54**	2	-	-	**402A**	-	1	56C●	143-5TC	31
80	1.33	753	**21.84**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
79	1.86	769	**22.29**	2	-	-	**402A**	-	1	56C●	143-5TC	31
67	0.94	908	**26.31**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
65	1.19	923	**26.30**	2	-	-	**402A**	-	1	56C●	143-5TC	31
61	0.96	996	**28.88**	2	-	**302A**	-	-	3/4	56C●	143-5TC	29
60	1.35	1014	**29.40**	2	-	-	**402A**	-	1	56C●	143-5TC	31
49	1.09	1239	**35.91**	2	-	-	-	**402C**	1	56C●	143-5TC	39
48	0.87	1261	**35.91**	2	-	-	**402A**	-	1	56C●	143-5TC	31
46	1.04	1324	**38.37**	2	-	-	**402A**	-	1	56C●	143-5TC	31
46	1.17	1283	**38.40**	3	-	-	**403A**	-	1	56C●	143-5TC	31
46	1.14	1324	**38.37**	2	-	-	-	**402C**	1	56C●	143-5TC	39
46	1.15	1281	**38.34**	3	-	-	-	**403C**	1	56C●	143-5TC	39
40	1.12	1460	**43.69**	3	-	-	-	**403C**	1	56C●	143-5TC	39
29	1.00	2101	**60.90**	2	-	**452A**	-	-	1.25	56C●	143-5TC	33
29	1.05	2101	**60.90**	2	-	-	**502A**	-	1.25	56C●	143-5TC	35
26	1.26	2213	**66.22**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
25	1.43	2373	**71.01**	3	-	-	**603A**	-	1.25	56C●	143-5TC	37
23	1.19	2563	**76.69**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
23	1.05	2536	**49.00**	2	-	**452A**	-	-	1.25	56C●	143-5TC	33
23 *	1.25	2536	**49.00**	2	-	-	-	**602C**	1.375	56C●	143-5TC	41
21.2	1.23	2750	**82.30**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
21.2	1.23	2750	**82.30**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
21	1.09	2793	**83.59**	3	-	-	**503A**	-	1.25	56C●	143-5TC	35
21	1.36	2793	**83.59**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
20.9	1.36	2793	**83.59**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
19	1.38	3101	**92.78**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
19 *	1.08	3151	**60.90**	2	-	-	-	**602C**	1.375	56C●	143-5TC	41
19	1.38	3101	**92.78**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
17	1.23	3498	**104.68**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
17	1.23	3498	**104.68**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
15	1.10	3917	**117.22**	3	-	-	**603A**	-	1.375	56C●	143-5TC	37
15	1.10	3917	**117.22**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41
14	1.01	4232	**126.65**	3	-	-	-	**603C**	1.375	56C●	143-5TC	41

* *1140 RPM Input*

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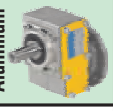
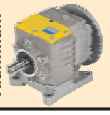
● *Input shaft bushing required - see page 49*

1½ HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum 	Two Stages Aluminum 	Two or Three Stages Aluminum 	Two or Three Stages Cast Iron 	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1346	8.82	67	**1.30**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
1115	4.46	81	**1.57**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
714	8.52	127	**2.45**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
616	2.57	147	**2.84**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
532	2.57	170	**3.29**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
529	6.30	171	**3.31**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
498	3.77	182	**3.52**	2	-	-	**402A**	-	1	143/5TC	56C●	31
452	1.79	200	**3.87**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
406	5.28	223	**4.31**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
401	3.42	226	**4.37**	2	-	-	**402A**	-	1	143/5TC	56C●	31
379	1.80	239	**4.62**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
332	4.32	273	**5.27**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
315	2.98	288	**5.56**	2	-	-	**402A**	-	1	143/5TC	56C●	31
278	1.28	326	**6.30**	1	**411A**	-	-	-	3/4	143/5TC	56C●	24
275	2.48	329	**6.36**	2	-	-	**402A**	-	1	143/5TC	56C●	31
239	2.71	379	**7.33**	2	-	-	**402A**	-	1	143/5TC	56C●	31
229	2.56	395	**7.63**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
222	2.52	409	**7.89**	2	-	-	**402A**	-	1	143/5TC	56C●	31
174	2.47	520	**10.06**	2	-	-	**402A**	-	1	143/5TC	56C●	31
167	1.29	543	**10.50**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
150	2.48	603	**11.66**	2	-	-	**402A**	-	1	143/5TC	56C●	31
149*	1.70	593	**7.63**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
132	2.00	686	**13.26**	2	-	-	**402A**	-	1	143/5TC	56C●	31
128	1.75	708	**13.68**	2	-	-	**402A**	-	1	143/5TC	56C●	31
114	1.73	795	**15.37**	2	-	-	**402A**	-	1	143/5TC	56C●	31
106	1.29	853	**16.20**	2	-	-	**402A**	-	1	143/5TC	56C●	31
97	1.47	934	**18.04**	2	-	-	**402A**	-	1	143/5TC	56C●	31
92	1.11	989	**18.80**	2	-	-	**402A**	-	1	143/5TC	56C●	31
81	1.23	1115	**21.54**	2	-	-	**402A**	-	1	143/5TC	56C●	31
79	1.24	1154	**22.29**	2	-	-	**402A**	-	1	143/5TC	56C●	31
79	1.13	1152	**22.26**	2	-	-	-	**402C**	1	143/5TC	56C●	39
67	0.99	1361	**26.31**	2	-	-	-	**402C**	1	143/5TC	56C●	39
60	0.90	1521	**29.40**	2	-	-	**402A**	-	1	143/5TC	56C●	31
60	1.08	1521	**29.40**	2	-	-	-	**402C**	1	143/5TC	56C●	39
43	1.22	2096	**40.50**	2	-	**452A**	-	-	1.25	143/5TC	56C●	33
43	1.27	2096	**40.50**	2	-	-	-	**602C**	1.375	143/5TC	56C●	41
43	1.21	2096	**40.50**	2	-	-	**502A**	-	1.25	143/5TC	56C●	35
43	1.27	2096	**40.50**	2	-	-	**602A**	-	1.375	143/5TC	56C●	37
40	0.92	2288	**44.22**	2	-	**452A**	-	-	1.25	143/5TC	56C●	33
40	0.97	2288	**44.23**	2	-	-	**502A**	-	1.25	143/5TC	56C●	35
37	1.28	2367	**47.22**	3	-	-	**503A**	-	1.25	143/5TC	56C●	35
36	1.05	2536	**49.00**	2	-	**452A**	-	-	1.25	143/5TC	56C●	33
36	1.10	2536	**49.00**	2	-	-	**502A**	-	1.25	143/5TC	56C●	35

* *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

1½ HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
36	1.25	2536	**49.00**	2	-	-	**602A**	-	1.375	143/5TC	56C●	37
36	1.25	2536	**49.00**	2	-	-	-	**602C**	1.375	143/5TC	56C●	41
32	1.11	2744	**54.73**	3	-	-	**503A**	-	1.25	143/5TC	56C●	35
29	1.08	3151	**60.90**	2	-	-	**602A**	-	1.375	143/5TC	56C●	37
29	1.08	3151	**60.90**	2	-	-	-	**602C**	1.375	143/5TC	56C●	41
26	1.29	3319	**66.22**	3	-	-	**603A**	-	1.375	143/5TC	56C●	37
26	1.29	3319	**66.22**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41
25	0.95	3560	**71.01**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41
23	1.12	3844	**76.69**	3	-	-	**603A**	-	1.375	143/5TC	56C●	37
23	1.12	3844	**76.69**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 48.*

2 HP *NEMA Frame Selections 1750 RPM Input*

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1346	6.61	90	**1.30**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
714	6.39	169	**2.45**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
529	4.73	228	**3.31**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
498	2.83	243	**3.52**	2	-	-	**402A**	-	1	143/5TC	56C●	31
485	5.33	249	**3.61**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
414	5.16	292	**4.23**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
406	3.96	297	**4.31**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
401	2.57	301	**4.37**	2	-	-	**402A**	-	1	143/5TC	56C●	31
349	5.12	346	**5.01**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
332	3.24	364	**5.27**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
315	2.24	384	**5.56**	2	-	-	**402A**	-	1	143/5TC	56C●	31
288	5.28	419	**6.07**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
275	1.86	439	**6.36**	2	-	-	**402A**	-	1	143/5TC	56C●	31
257	5.23	469	**6.81**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
239	2.04	506	**7.33**	2	-	-	**402A**	-	1	143/5TC	56C●	31
229	1.92	526	**7.63**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
222	1.89	545	**7.89**	2	-	-	**402A**	-	1	143/5TC	56C●	31
220	4.83	549	**7.96**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
185	4.13	652	**9.45**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
174	1.86	694	**10.06**	2	-	-	**402A**	-	1	143/5TC	56C●	31
167	0.97	724	**10.50**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25
153	3.37	789	**11.43**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
150	1.86	804	**11.66**	2	-	-	**402A**	-	1	143/5TC	56C●	31
149✱	1.28	790	**7.63**	1	**511A**	-	-	-	1.125	143/5TC	56C●	25

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

2 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
132	1.50	915	**13.26**	2	-	-	**402A**	-	1	143/5TC	56C●	31
128	1.31	944	**13.68**	2	-	-	**402A**	-	1	143/5TC	56C●	31
123	2.15	980	**14.21**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
114	1.30	1061	**15.37**	2	-	-	**402A**	-	1	143/5TC	56C●	31
108	1.21	1118	**16.20**	2	-	-	-	**402C**	1	143/5TC	56C●	39
106	0.97	1137	**16.20**	2	-	-	**402A**	-	1	143/5TC	56C●	31
105	2.35	1147	**16.62**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
97	1.10	1246	**18.04**	2	-	-	**402A**	-	1	143/5TC	56C●	31
93	1.05	1296	**18.78**	2	-	-	-	**402C**	1	143/5TC	56C●	39
92	0.83	1318	**18.80**	2	-	-	**402A**	-	1	143/5TC	56C●	31
87	1.91	1387	**20.10**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
81	0.92	1486	**21.54**	2	-	-	**402A**	-	1	143/5TC	56C●	31
81	1.11	1486	**21.54**	2	-	-	-	**402C**	1	143/5TC	56C●	39
79	0.93	1538	**22.29**	2	-	-	**402A**	-	1	143/5TC	56C●	31
70	1.22	1723	**24.98**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
70	1.28	1724	**24.98**	2	-	-	**502A**	-	1.250	143/5TC	56C●	35
60	1.33	2029	**29.41**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
49	1.08	2455	**35.58**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
49	1.14	2455	**35.58**	2	-	-	**502A**	-	1.250	143/5TC	56C●	35
44	1.20	2659	**39.79**	3	-	-	**503A**	-	1.250	143/5TC	56C●	35
44	1.40	2659	**39.79**	3	-	-	**603A**	-	1.375	143/5TC	56C●	37
44	1.40	2659	**39.79**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41
43	0.92	2794	**40.50**	2	-	**452A**	-	-	1.250	143/5TC	56C●	33
40	1.11	3051	**44.23**	2	-	-	**602A**	-	1.375	143/5TC	56C●	37
40	1.11	3052	**44.23**	2	-	-	-	**602C**	1.375	143/5TC	56C●	41
37	1.36	3156	**47.22**	3	-	-	**603A**	-	1.375	143/5TC	56C●	37
37	1.36	3156	**47.22**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41
32	1.18	3658	**54.73**	3	-	-	**603A**	-	1.375	143/5TC	56C●	37
32	1.18	3658	**54.73**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41
31	1.12	3819	**57.13**	3	-	-	**603A**	-	1.375	143/5TC	56C●	37
31	1.12	3819	**57.13**	3	-	-	-	**603C**	1.375	143/5TC	56C●	41

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

3 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
1346	4.41	135	**1.30**	1	**511A**	-	-	-	1.125	182/4TC	143/5TC●	25
714	4.26	254	**2.45**	1	**511A**	-	-	-	1.125	182/4TC	143/5TC●	25
529	3.15	343	**3.31**	1	**511A**	-	-	-	1.125	182/4TC	143/5TC●	25

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

3 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
498	1.89	364	**3.52**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
485	3.55	374	**3.61**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
485	3.45	374	**3.61**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
414	3.44	438	**4.23**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
414	3.34	437	**4.23**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
406	2.64	446	**4.31**	1	**511A**	-	-	-	1.125	182/4TC	143/5TC ●	25
401	1.71	452	**4.37**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
349	3.41	518	**5.01**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
349	3.31	519	**5.01**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
332	2.16	545	**5.27**	1	**511A**	-	-	-	1.125	182/4TC	143/5TC ●	25
315	1.49	575	**5.56**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
288	3.52	628	**6.07**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
288	3.42	628	**6.07**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
275	1.24	658	**6.36**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
257	3.48	704	**6.81**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
257	3.66	704	**6.81**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
239	1.36	759	**7.33**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
229	1.28	790	**7.63**	1	**511A**	-	-	-	1.125	182/4TC	143/5TC ●	25
222	1.26	817	**7.89**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
220	3.22	824	**7.96**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
220	3.44	824	**7.96**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
195	1.37	927	**8.96**	2	-	-	-	**402C**	1	143/5TC	56C ●	39
185	2.75	978	**9.45**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
185	3.11	978	**9.45**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
174	1.24	1041	**10.06**	2		-	**402A**	-	1	143/5TC	56C ●	31
174	1.21	1039	**10.04**	2		-	-	**402C**	1	143/5TC	56C ●	39
153	2.24	1183	**11.43**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
153	2.37	1183	**11.43**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
150	1.24	1206	**11.66**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
150	1.12	1205	**11.64**	2	-	-	-	**402C**	1	143/5TC	56C ●	39
132	1.00	1373	**13.26**	2	-	-	**402A**	-	1	143/5TC	56C ●	31
132	1.10	1372	**13.26**	2	-	-	-	**402C**	1	143/5TC	56C ●	39
123	1.44	1471	**14.21**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
123	1.51	1471	**14.21**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
114	1.04	1591	**15.37**	2	-	-	-	**402C**	1	143/5TC	56C ●	39
105	1.56	1720	**16.62**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
105	1.77	1720	**16.62**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
87	1.28	2080	**20.10**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
87	1.35	2080	**20.10**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
71	1.10	2546	**24.61**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
70	0.82	2585	**24.98**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC ●	33
70	0.86	2586	**24.98**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC ●	35
70	1.31	2586	**24.98**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC ●	37

* *1140 RPM Input*

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● *Input shaft bushing required - see page 49*

3 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
70	1.31	2586	**24.98**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
60	0.88	3044	**29.41**	2	-	-	**452A**	-	1.250	182/4TC	143/5TC●	33
60	1.00	3044	**29.41**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
60	1.24	3044	**29.41**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
60	1.24	3044	**29.41**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
49	1.16	3683	**35.58**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
49	1.16	3683	**35.58**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 48.*

5 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
485	2.13	623	**3.61**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
485	2.07	623	**3.61**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
485	2.27	623	**3.61**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
414	2.06	730	**4.23**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
414	2.00	729	**4.23**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
414	2.36	729	**4.23**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
349	2.05	864	**5.01**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
349	1.99	865	**5.01**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
349	2.38	865	**5.01**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
315	1.05	957	**5.55**	2	-	-	-	**402C**	1	182/4TC	143/5TC●	39
288	2.11	1047	**6.07**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
288	2.05	1046	**6.07**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
288	2.22	1046	**6.07**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
257	2.09	1173	**6.81**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
257	2.19	1174	**6.81**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
257	2.49	1174	**6.81**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
239	1.00	1264	**7.33**	2	-	-	-	**402C**	1	182/4TC	143/5TC●	39
220	1.93	1373	**7.96**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
220	2.06	1373	**7.96**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
220	2.31	1373	**7.96**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
185	1.65	1630	**9.45**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
185	1.86	1630	**9.45**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
185	2.11	1630	**9.45**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
153	1.35	1971	**11.43**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
153	1.42	1972	**11.43**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
153	1.74	1972	**11.43**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
123	0.86	2451	**14.21**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
123	0.90	2451	**14.21**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

5 HP

NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Three Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
123	1.38	2451	**14.21**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
105	0.94	2867	**16.62**	2	-	**452A**	-	-	1.250	182/4TC	143/5TC●	33
105	1.06	2866	**16.62**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
105	1.50	2866	**16.62**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
87	1.24	3467	**20.10**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
87	1.24	3467	**20.10**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
71	1.00	4244	**24.61**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37

✱ *1140 RPM Input*

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 48.*

7½HP

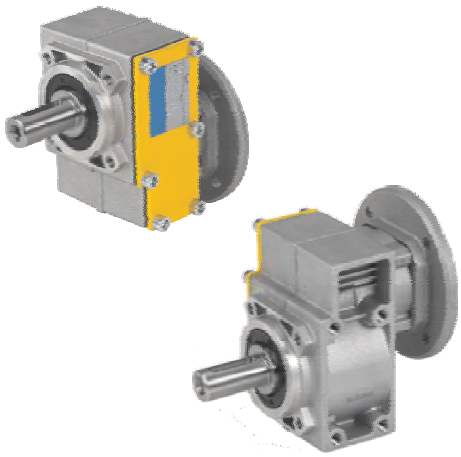
NEMA Frame Selections
1750 RPM Input

Output Speed (RPM)	Service Factor	Output Torque (lb-in)	Ratio	Nbr Red.	One Stage Aluminum	Two Stages Aluminum	Two or Thee Stages Aluminum	Two or Three Stages Cast Iron	Output Shaft DIA	Available Motor Flanges		Dim. on Page
485	1.38	934	**3.61**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
485	1.52	934	**3.61**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
485	1.52	934	**3.61**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
414	1.34	1093	**4.23**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
414	1.57	1093	**4.23**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
414	1.57	1094	**4.23**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
349	1.32	1297	**5.01**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
349	1.59	1297	**5.01**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
349	1.59	1296	**5.01**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
288	1.37	1570	**6.07**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
288	1.48	1570	**6.07**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
288	1.48	1570	**6.07**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
257	1.46	1761	**6.81**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
257	1.66	1761	**6.81**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
257	1.66	1762	**6.81**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
220	1.38	2060	**7.96**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
220	1.54	2060	**7.96**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
220	1.54	2059	**7.96**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
185	1.24	2445	**9.45**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
185	1.40	2445	**9.45**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
185	1.40	2445	**9.45**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
153	0.95	2958	**11.43**	2	-	-	**502A**	-	1.250	182/4TC	143/5TC●	35
153	1.16	2958	**11.43**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
153	1.16	2957	**11.43**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
123	0.92	3676	**14.21**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
123	0.92	3676	**14.21**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41
105	1.00	4299	**16.62**	2	-	-	**602A**	-	1.375	182/4TC	143/5TC●	37
105	1.00	4300	**16.62**	2	-	-	-	**602C**	1.375	182/4TC	143/5TC●	41

See How To Order on pages 20 - 21

● *Input shaft bushing required - see page 49*

Aluminum Single Reduction

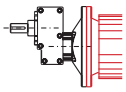


311A	266 Lb.in.
411A	443 Lb.in.
511A	1046 Lb.in.

How To:

Typical Product Code **P** → Input Style

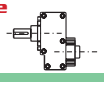
Motorized **M**



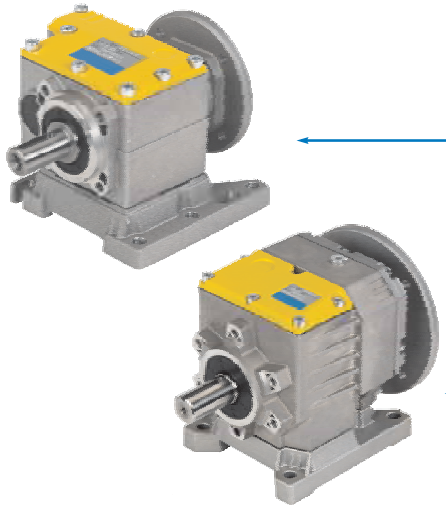
Predisposed **P**

Type "R" **R**

Modular Base **B**



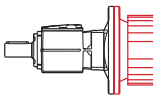
Aluminum Double & Triple Reduction



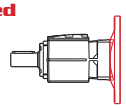
202A	621 Lb.in.
302A	1064 Lb.in.
452A	2660 Lb.in.
402/3A	1330 Lb.in.
502/3A	2837 Lb.in.
602/3A	4079 Lb.in.

Typical Product Code **P** → Input Style

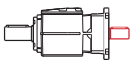
Motorized **M**



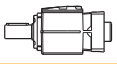
Predisposed **P**



Type "R" **R**



Modular Base **B**

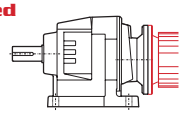


Double & Triple Reduction Cast Iron

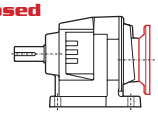
402C	1729 Lb.in.
403C	1729 Lb.in.
602C	4079 Lb.in.
603C	4079 Lb.in.

Typical Product Code **P** → Input Style

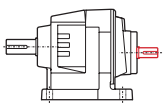
Motorized **M**



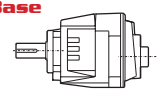
Predisposed **P**



Type "R" **R**



Modular Base **B**



Order

311A | B1 | 1.57 | X | 3 | X | V6

Reducer Type/Size
- 311A
- 411A
- 511A

Mounting
- -F Output Flange Mounted
- -N Without Flange-Feet
- H1 Feet Mounted

Ratio — See technical data table

Output Shaft Diameter

311A
X = Dia 0.625”

411A
O = Dia 0.750”

511A
Y = Dia 1.125”

Output Flange Diameter

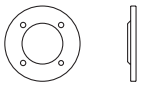
N = Without Flange

311A
U = Nema 143/5TC
2 = Dia 5.51” (140mm)
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)

411A
U = Nema 143/5TC
2 = Dia 5.51” (140mm)
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)

511A
U = Nema 143/5TC
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)
5 = Dia 9.84” (250mm)

Input Flange NEMA Frame Size



W = Nema 56C
X = Nema143-5TC
Y = Nema 182-4TC

Input Bore NEMA

K = Without Flange ø 0.625”
N = Without Flange ø 0.875”
S = Without Flange ø 1.125”

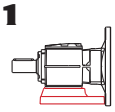
Mounting Position — See tables Page 44

202A | B1 | 3.44 | Q | 3 | X | V6

Reducer Type/Size
- 202A
- 302A
- 402/3A
- 452A
- 502/3A
- 602/3A

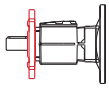
Mounting

B1

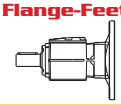


You see feet code in the chart of the dimensions

- -F Output Flange Mounted



- -N Without Flange-Feet



Ratio — See technical data table.

Output Shaft Diameter

202A
X = Dia 0.625”

302A
O = Dia 0.750”

402/3A
Q = Dia 1.00”

452A-502/3A
T = Dia1.250”

602/3A
Z = Dia1.375”

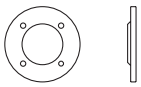
Output Flange Diameter

N = Without Flange

202A-302A 402/3A
1 = Dia 4.72” (120mm)
2 = Dia 5.51” (140mm)
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)
5 = Dia 9.84” (250mm)

452A-502/3A 602/3A
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)
5 = Dia 9.84” (250mm)

Input Flange NEMA Frame Size



W = Nema 56C
X = Nema143-5TC
Y = Nema 182-4TC

Input Bore NEMA

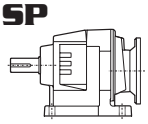
K = Without Flange ø 0625”
N = Without Flange ø 0.875”
S = Without Flange ø 1.125”

Mounting Position — See tables Pages 44-45

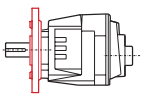
402C | -F | 5.55 | Q | 3 | X | V6

Reducer Type/Size
- 402C
- 403C
- 602C
- 603C

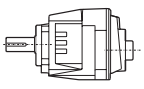
Mounting
- SP



- -F Output Flange Mounted



- -N Without Flange-Feet



Ratio — See technical data table

Output Shaft Diameter

402/3C
Q = Dia1.00”

602/3C
Z = Dia1.375”

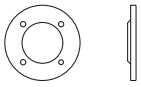
Output Flange Diameter

N = Without Flange

402/3C
1 = Dia 4.72” (120mm)
2 = Dia 5.51” (140mm)
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)

602/3C
3 = Dia 6.30” (160mm)
4 = Dia 7.87” (200mm)
5 = Dia 9.84” (250mm)

Input Flange NEMA Frame Size



W = Nema 56C
X = Nema143-5TC
Y = Nema 182-4TC

Input Bore NEMA

K = Without Flange ø 0.625”
N = Without Flange ø 0.875”
S = Without Flange ø1.125”

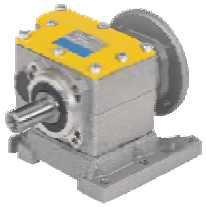
Mounting Position — See tables Page 46

Selection By Size / Torque and Speed

For example:

Step 1 Find the TORQUE / SIZE *Be sure to consider Service Factor.*

Step 2 Select the OUTPUT SPEED, and the RATIO



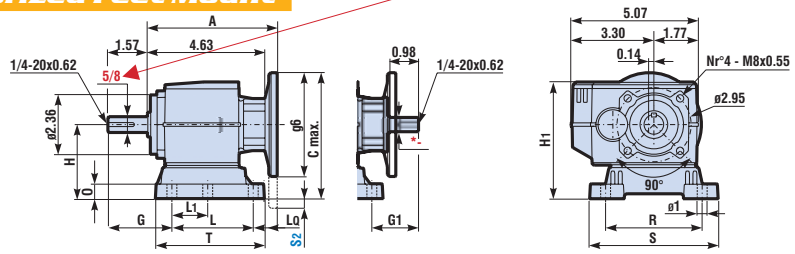
202A — Lb.in. 620.64 — Output shaft Diameter 0.625"

1.0 Service Factor Alluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (")		Available Motor Flanges		Reduction bushing
				Standard	On Request	Standard	On Request	
509	356	3.72	3.44	0.625	3/4	56C	-	-

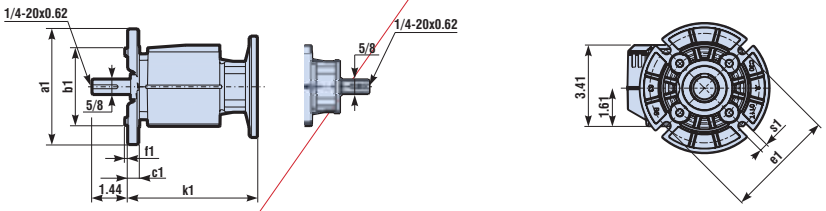
Step 3 Select the MOUNTING FEET and the OUTPUT SHAFT

Motorized Feet Mount



Competitive* Reference	Feet code:	G	G1	H	R	L	L1	LO	S	T	H1	O	ø1	S2 With motor flange
Sew R17 - Old R32	S1	2.28	1.65	2.95	4.33	4.33	1.97	0.73	5.12	5.16	4.55	0.59	0.35	0.3 56C
Lenze Type 03	L3	2.06	3.83	2.56	3.58	2.36	-	2.91	4.13	2.91	5.87	0.20	0.35	0.69 56C
Lenze Type 04	L4	2.08	3.19	3.15	4.13	2.99	-	2.26	5.20	4.02	6.50	0.20	0.35	0.1 56C

Or select an OUTPUT FLANGE

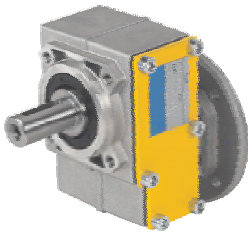


202A

Output Flange Options:	Suffix feet code:	a1	b1	c1	e1	f1	s1
Option 1	2	5.51	3.74	0.45	4.53	0.12	0.35
Option 2	3	6.30	4.33	0.45	5.12	0.14	0.35

Step 4 Go to page 20 - 21 to see how to order / options / etc.

311A — Lb.in. 266 — Output shaft Diameter 0.625”



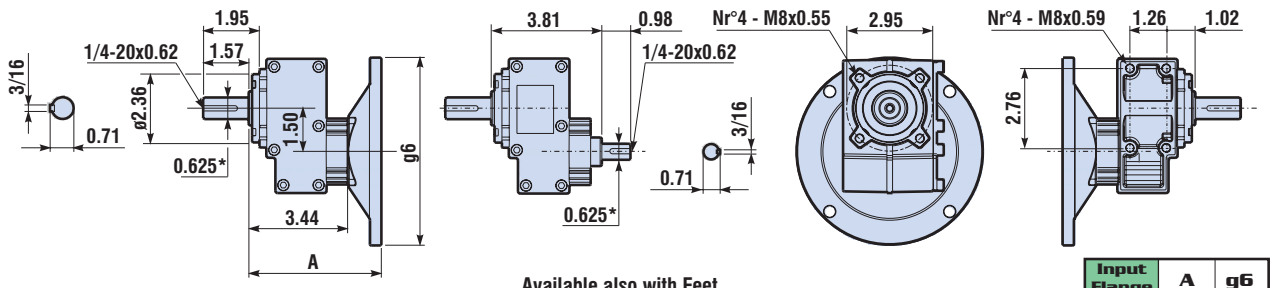
1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft		Available Motor Flanges		
				Standard	Optional			
1115	362	6.66	1.57	0.625	0.75-0.875	-	-	56C
616	377	3.84	2.84	0.625	0.75-0.875	-	-	56C
532	437	3.84	3.29	0.625	0.75-0.875	-	-	56C
452	359	2.68	3.87	0.625	0.75-0.875	-	-	56C
379	429	2.69	4.62	0.625	0.75-0.875	-	-	56C
278	419	1.92	6.30	0.625	0.75-0.875	-	-	56C
213	342	1.20	8.22	0.625	0.75-0.875	-	-	56C
161	250	0.66	10.86	0.625	0.75-0.875	-	-	56C
139*	342	0.78	8.22	0.625	0.75-0.875	-	-	56C
105*	250	0.43	10.86	0.625	0.75-0.875	-	-	56C

*1140 RPM Input

Motorized Base Mount

Lbs. Mod. Base 4.41



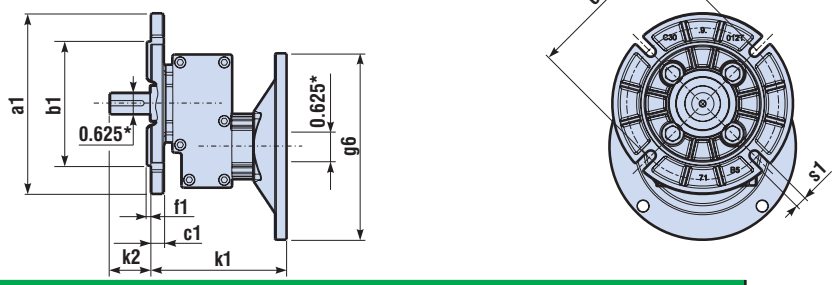
Input Flange	A	g6
56C	4.58	6.50

Available also with Feet
see page 48

* For other options see page 49

Motorized Flange Mount

Lbs. With Flange 5.29



311A

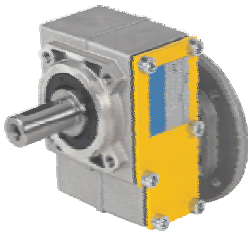
Output Flange Options:	Suffix feet code	a1 Dia	b1	c1	e1	f1	k1	k2	s1
Option Nema	U	6.50	4.50	0.61	5.87	0.13	4.82	1.34	0.41
Option 1	2	5.51	3.74	0.45	4.53	0.12	4.73	1.43	0.35
Option 2	3	6.30	4.33	0.45	5.12	0.14	4.73	1.43	0.35
Option 3	4	7.87	5.12	0.45	6.50	0.14	4.73	1.43	0.43

Input Flange	g6
56C	6.50

* For other options see page 49

For the correct compilation of the order code see page 20

411A — Lb.in. 443 — Output shaft Diameter 0.750”



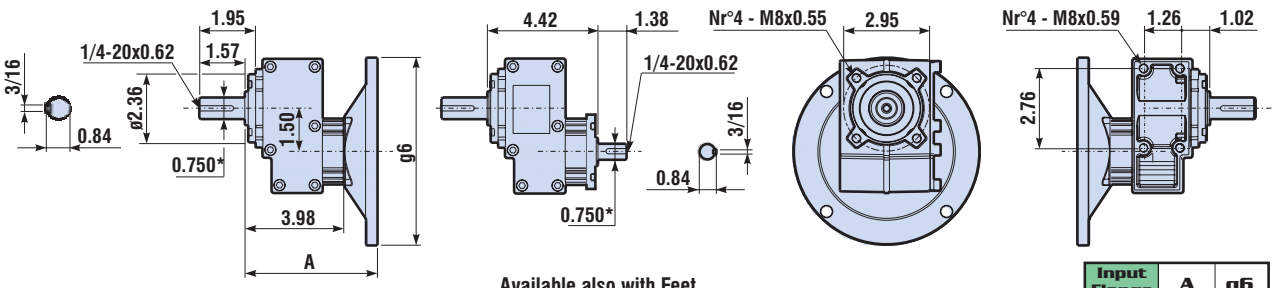
1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft		Available Motor Flanges		
				Standard	Optional			
1115	362	6.66	1.57	0.750	0.625-0.875	-	143-5TC	56C ⬢
616	377	3.84	2.84	0.750	0.625-0.875	-	143-5TC	56C ⬢
532	437	3.84	3.29	0.750	0.625-0.875	-	143-5TC	56C ⬢
452	359	2.68	3.87	0.750	0.625-0.875	-	143-5TC	56C ⬢
379	429	2.69	4.62	0.750	0.625-0.875	-	143-5TC	56C ⬢
278	419	1.92	6.30	0.750	0.625-0.875	-	143-5TC	56C ⬢
213	342	1.20	8.22	0.750	0.625-0.875	-	143-5TC	56C ⬢
161	250	0.66	10.86	0.750	0.625-0.875	-	143-5TC	56C ⬢
139*	342	0.78	8.22	0.750	0.625-0.875	-	143-5TC	56C ⬢
105*	250	0.43	10.86	0.750	0.625-0.875	-	143-5TC	56C ⬢

*1140 RPM Input

⬢ With Motor Shaft Reduction Bushing

Lbs. Mod. Base 6.39

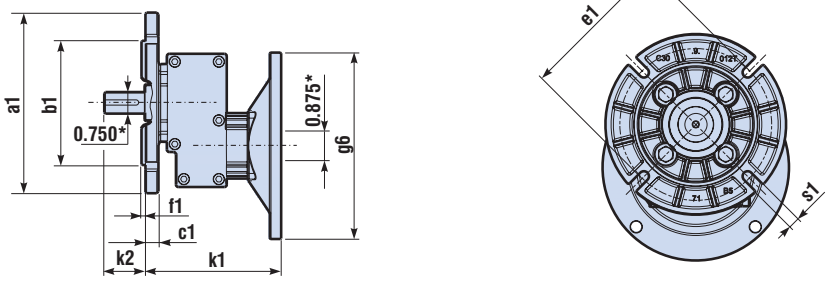


Available also with Feet see page 48

Input Flange	A	g6
143/5TC	4.96	6.50

* For other options see page 49

Lbs. With Flange 7.27



411A

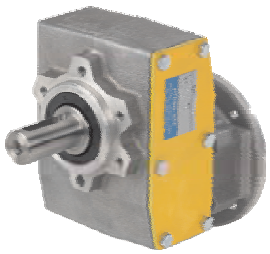
Output Flange Options:	Suffix feet code	a1 Dia	b1	c1	e1	f1	k1	k2	s1
Option Nema	U	6.50	4.50	0.61	5.87	0.13	5.18	1.34	0.41
Option 1	2	5.51	3.74	0.45	4.53	0.12	5.08	1.44	0.35
Option 2	3	6.30	4.33	0.45	5.12	0.14	5.08	1.44	0.35
Option 3	4	7.87	5.12	0.45	6.50	0.14	5.08	1.44	0.43

Input Flange	g6
143/5TC	6.50

* For other options see page 49

For the correct compilation of the order code see page 20

511A — Lb.in. 1046 — Output shaft Diameter 1.125”



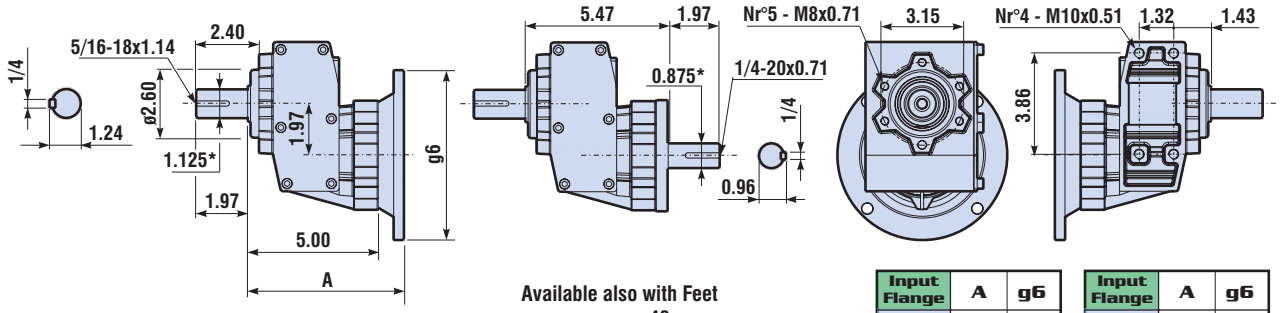
1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”) Standard	Output Shaft (”) Optional	Available Motor Flanges		
1346	593	13.18	1.30	1.125	-	182-4TC	143-5TC ●	56C ●
714	1080	12.74	2.45	1.125	-	182-4TC	143-5TC ●	56C ●
529	1080	9.43	3.31	1.125	-	182-4TC	143-5TC ●	56C ●
406	1177	7.89	4.31	1.125	-	182-4TC	143-5TC ●	56C ●
332	1177	6.46	5.27	1.125	-	182-4TC	143-5TC ●	56C ●
229	1009	3.82	7.63	1.125	-	182-4TC	143-5TC ●	56C ●
167	699	1.92	10.5	1.125	-	182-4TC	143-5TC ●	56C ●
149*	1009	2.49	7.63	1.125	-	182-4TC	143-5TC ●	56C ●
109*	699	1.25	10.5	1.125	-	182-4TC	143-5TC ●	56C ●

*1140 RPM Input

● With Motor Shaft Reduction Bushing

Lbs. Mod. Base 10.79



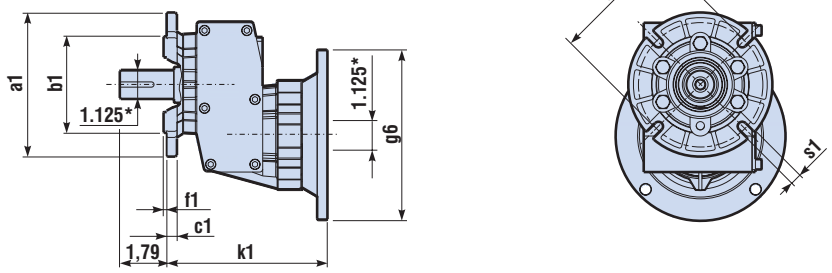
Available also with Feet see page 48

Input Flange	A	g6
143/5TC	5.96	6.50

Input Flange	A	g6
182/4TC	6.66	8.88

* For other options see page 49

Lbs. With Flange 12.78



511A

Output Flange Options:	Suffix feet code	a1 Dia	b1	c1	e1	f1	s1
Option Nema	U	6.50	4.50	0.61	5.87	0.13	0.41
Option 1	3	6.30	4.33	0.39	5.12	0.14	0.37
Option 2	4	7.87	5.12	0.39	6.50	0.14	0.43
Option 3	5	9.84	7.09	0.45	8.46	0.14	0.55

Input Flange	g6	k1
143/5TC	6.50	6.14

Input Flange	g6	k1
182/4TC	8.88	6.84

For the correct compilation of the order code see page 20

202A Lb.in. 621 Output shaft Diameter 0.625”

1.0 Service Factor Aluminum Case

1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
509	443	3.72	**3.44**	0.625	0.750	-	-	**56C**
409	443	2.99	**4.28**	0.625	0.750	-	-	**56C**
321	443	2.35	**5.45**	0.625	0.750	-	-	**56C**
281	443	2.05	**6.23**	0.625	0.750	-	-	**56C**
243	443	1.78	**7.20**	0.625	0.750	-	-	**56C**
226	443	1.65	**7.74**	0.625	0.750	-	-	**56C**
178	531	1.56	**9.85**	0.625	0.750	-	-	**56C**
153	531	1.34	**11.42**	0.625	0.750	-	-	**56C**
134	531	1.18	**13.03**	0.625	0.750	-	-	**56C**
116	531	1.02	**15.10**	0.625	0.750	-	-	**56C**
108	531	0.95	**16.20**	0.625	0.750	-	-	**56C**
93	531	0.82	**18.78**	0.625	0.750	-	-	**56C**
83	531	0.73	**21.15**	0.625	0.750	-	-	**56C**
80	531	1.70	**21.84**	0.625	0.750	-	-	**56C**
67	531	0.58	**26.31**	0.625	0.750	-	-	**56C**
61	620	0.62	**28.88**	0.625	0.750	-	-	**56C**
49	620	0.50	**35.91**	0.625	0.750	-	-	**56C**
46	620	0.48	**37.69**	0.625	0.750	-	-	**56C**
37	620	0.38	**46.87**	0.625	0.750	-	-	**56C**
35	620	0.36	**49.76**	0.625	0.750	-	-	**56C**
28	620	0.29	**61.89**	0.625	0.750	-	-	**56C**
23	620	0.23	**49.76**	0.625	0.750	-	-	**56C**
18	620	0.19	**61.89**	0.625	0.750	-	-	**56C**

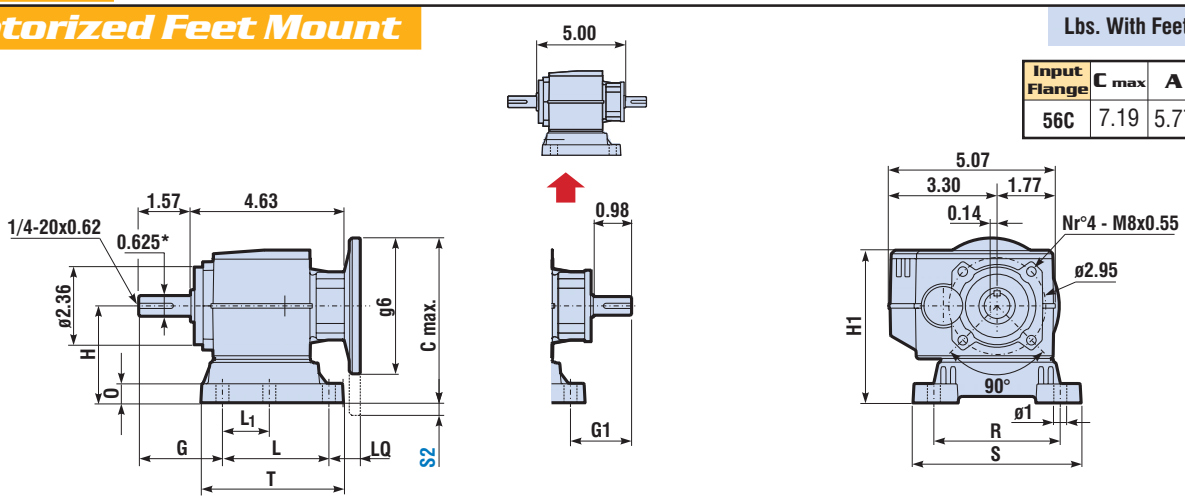
✸ *1140 RPM Input*

202A

Motorized Feet Mount

Lbs. With Feet 7.05

Input Flange	C max	A	g6
56C	7.19	5.77	6.5

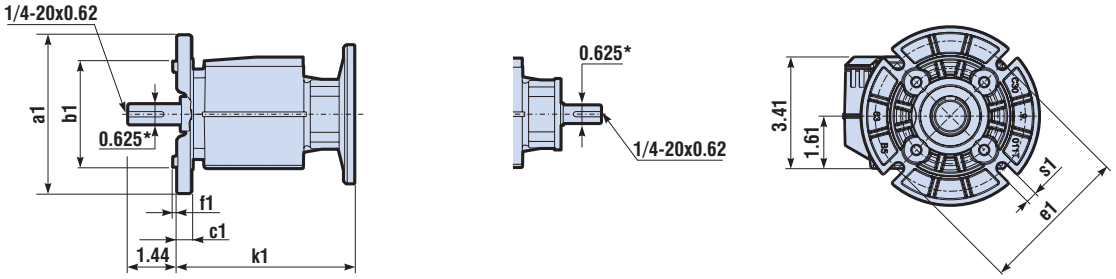


Competitive # Reference	Feet code:	G	G1	H	H1	L	L1	LQ	O	R	S	T	ø1	S2 With motor flange
Sew R17 - Old R32 [1]	S1	2.28	1.65	2.95	4.55	4.33	1.97	0.73	0.59	4.33	5.12	5.16	0.35	0.3 56C
Lenze Type 03	L3	2.06	3.83	2.56	5.87	2.36	-	2.91	0.20	3.58	4.13	2.91	0.35	0.69 56C
Lenze Type 04	L4	2.08	3.19	3.15	6.50	2.99	-	2.26	0.20	4.13	5.20	4.02	0.35	0.1 56C
Bonfiglioli 112-(102)	B1	2.28	2.56	3.35	4.92	3.43	1.97	1.63	0.59	4.33	5.12	4.21	0.35	-
Leeson P1100 [2]	U1 ★	3.08	2.56	3.00	-	2.50	-	1.75	-	7.12	8.13	3.50	0.44	0.25 56C
Also interchangeable with	1 D. Brown M0320/30 - Nord Sk172 - B. Hansen SFN02 - Motovario A 32/3 2 Bison 482													

★ Feet on request

Motorized Output Flange Mount

Lbs. With Flange 7.27

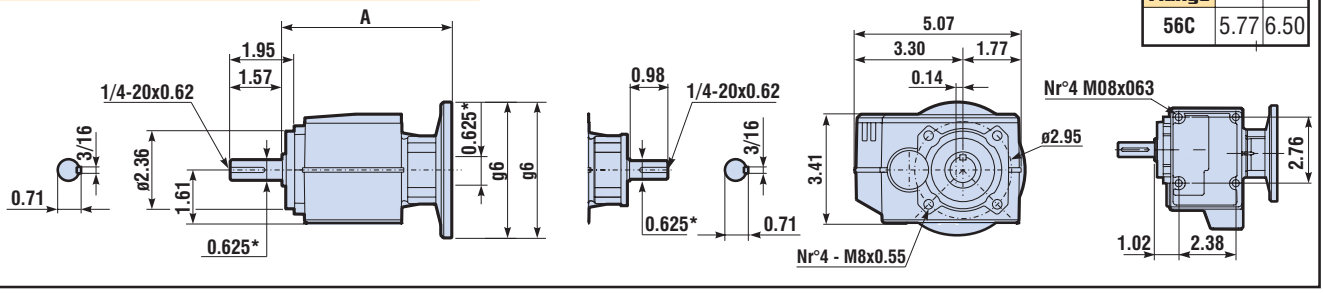


Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	2	5.51	3.74	0.45	4.53	0.12	0.35
Option 2	3	6.30	4.33	0.45	5.12	0.14	0.35
Option 3	4	7.87	5.12	0.45	6.50	0.14	0.43

Input Flange	g6	k1
56C	6.50	5.90

Motorized Base Mount

Input Flange	A	g6
56C	5.77	6.50



* For other options see page 49

 # Other competitive interchange / transition bases are available.

302A Lb.in. 1064 Output shaft Diameter 0.750”

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
509	420	3.53	**3.44**	0.750	0.625	-	143-5TC	56C ⬢
409	420	2.84	**4.28**	0.750	0.625	-	143-5TC	56C ⬢
321	420	2.23	**5.45**	0.750	0.625	-	143-5TC	56C ⬢
281	589	2.73	**6.23**	0.750	0.625	-	143-5TC	56C ⬢
243	589	2.36	**7.20**	0.750	0.625	-	143-5TC	56C ⬢
226	673	2.51	**7.74**	0.750	0.625	-	143-5TC	56C ⬢
178	799	2.34	**9.85**	0.750	0.625	-	143-5TC	56C ⬢
153	967	2.45	**11.42**	0.750	0.625	-	143-5TC	56C ⬢
134	959	2.13	**13.03**	0.750	0.625	-	143-5TC	56C ⬢
116	959	1.83	**15.10**	0.750	0.625	-	143-5TC	56C ⬢
108	852	1.52	**16.20**	0.750	0.625	-	143-5TC	56C ⬢
93	852	1.31	**18.78**	0.750	0.625	-	143-5TC	56C ⬢
83	959	1.31	**21.15**	0.750	0.625	-	143-5TC	56C ⬢
80	1001	1.32	**21.84**	0.750	0.625	-	143-5TC	56C ⬢
67	852	0.94	**26.31**	0.750	0.625	-	143-5TC	56C ⬢
61	959	0.96	**28.88**	0.750	0.625	-	143-5TC	56C ⬢
49	852	0.69	**35.91**	0.750	0.625	-	143-5TC	56C ⬢
46	858	0.66	**37.69**	0.750	0.625	-	143-5TC	56C ⬢
37	852	0.53	**46.87**	0.750	0.625	-	143-5TC	56C ⬢
35	849	0.49	**49.76**	0.750	0.625	-	143-5TC	56C ⬢
28	852	0.40	**61.89**	0.750	0.625	-	143-5TC	56C ⬢
23*	849	0.32	**49.76**	0.750	0.625	-	143-5TC	56C ⬢
18*	852	0.26	**61.89**	0.750	0.625	-	143-5TC	56C ⬢

* *1140 RPM Input*

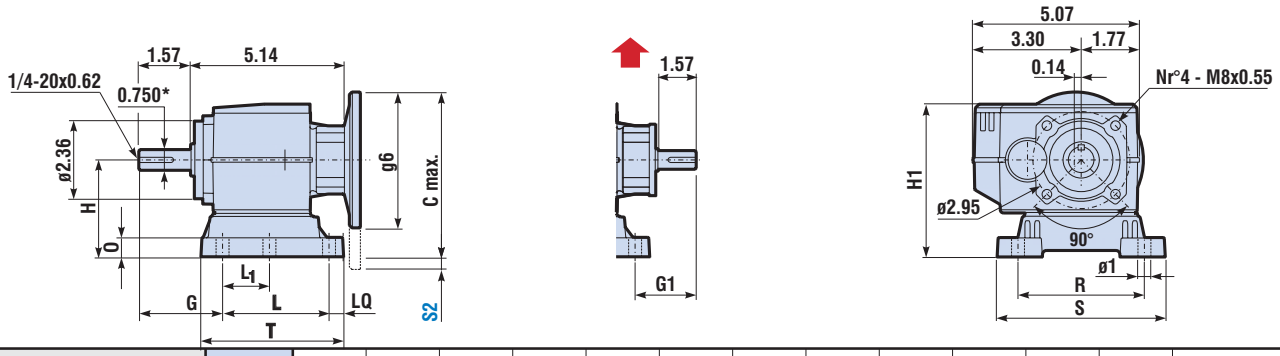
⬢ *With Motor Shaft Reduction Bushing*

302A

Motorized Feet Mount

Lbs. With Feet 8.37

Input Flange	A	Cmax	g6
56C 143/5T	6.32	7.19	6.50

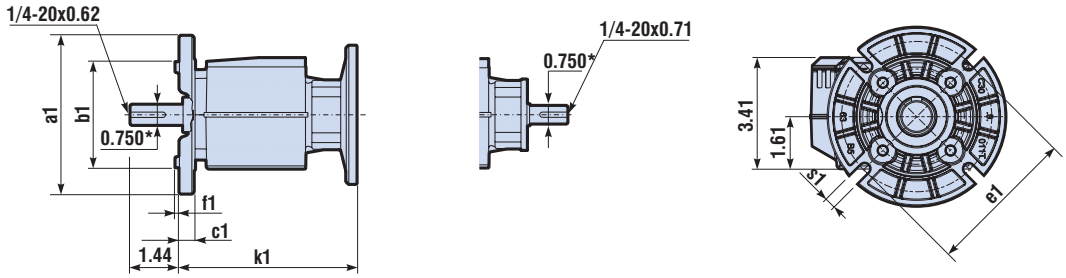


Competitive # Reference	Feet code:	G	G1	H	H1	L	L1	LQ	O	R	S	T	ø1	S2 With motor flange
Sew R17 - Old R32 1	S1	2.28	2.18	2.95	4.55	4.33	1.97	1.10	0.59	4.33	5.12	5.16	0.35	0.3 56C-143/5T
Lenze Type 03	L3	2.06	4.37	2.56	5.87	2.36	-	3.29	0.20	3.58	4.13	2.91	0.35	0.7 56C-143/5T
Lenze Type 04	L4	2.08	3.72	3.15	6.50	2.99	-	2.64	0.20	4.13	5.20	4.02	0.35	0.1 56C-143/5T
Bonfiglioli 112-(102)	B1	2.28	3.09	3.35	4.92	3.43	1.97	2.01	0.59	4.33	5.12	4.21	0.35	
	B2	2.28	2.22	3.94	5.71	4.23	2.36	-	0.20	5.12	6.10	-	0.43	
Also interchangeable with	1 D. Brown M0320/30 - Nord Sk172 - B. Hansen SFN02 - Motovario A 32/3													

★ Feet on request

Motorized Output Flange Mount

Lbs. With Flange 8.37

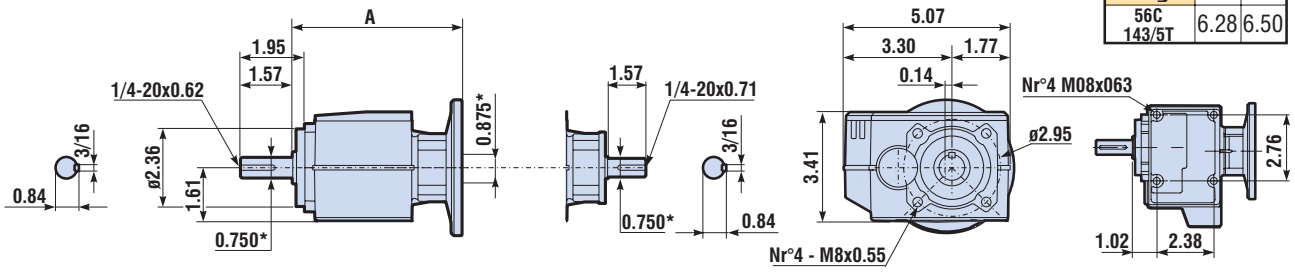


Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	2	5.51	3.74	0.45	4.53	0.12	0.35
Option 2	3	6.30	4.33	0.45	5.12	0.14	0.35
Option 3	4	7.87	5.12	0.45	6.50	0.14	0.43

Input Flange	g6	k1
56C 143/5T	6.50	6.46

Motorized Base Mount

Input Flange	A	g6
56C 143/5T	6.28	6.50



* For other options see page 49

 # Other competitive interchange / transition bases are available.

402A — Lb.in. 1330 — Output shaft Diameter 1.00”

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
498	687	5.64	3.52	1.00	0.750	-	143-5TC	56C ●
401	773	5.12	4.37	1.00	0.750	-	143-5TC	56C ●
315	859	4.46	5.56	1.00	0.750	-	143-5TC	56C ●
275	816	3.71	6.36	1.00	0.750	-	143-5TC	56C ●
239	1030	4.06	7.33	1.00	0.750	-	143-5TC	56C ●
222	1030	3.77	7.89	1.00	0.750	-	143-5TC	56C ●
174	1288	3.70	10.06	1.00	0.750	-	143-5TC	56C ●
150	1494	3.70	11.66	1.00	0.750	-	143-5TC	56C ●
132	1374	2.99	13.26	1.00	0.750	-	143-5TC	56C ●
128	1236	2.61	13.68	1.00	0.750	-	143-5TC	56C ●
114	1374	2.58	15.37	1.00	0.750	-	143-5TC	56C ●
106	1099	1.93	16.20	1.00	0.750	-	143-5TC	56C ●
97	1374	2.20	18.04	1.00	0.750	-	143-5TC	56C ●
92	1099	1.66	18.80	1.00	0.750	-	143-5TC	56C ●
81	1374	1.84	21.54	1.00	0.750	-	143-5TC	56C ●
79	1434	1.86	22.29	1.00	0.750	-	143-5TC	56C ●
65	1099	1.19	26.30	1.00	0.750	-	143-5TC	56C ●
60	1374	1.35	29.40	1.00	0.750	-	143-5TC	56C ●
48	1099	0.87	35.91	1.00	0.750	-	143-5TC	56C ●
46	1374	1.03	38.37	1.00	0.750	-	143-5TC	56C ●
37	1099	0.67	46.86	1.00	0.750	-	143-5TC	56C ●
35	1133	0.65	50.67	1.00	0.750	-	143-5TC	56C ●
28	1099	0.50	61.88	1.00	0.750	-	143-5TC	56C ●

● *With Motor Shaft Reduction Bushing*

403A — Lb.in. 1330 — Output shaft Diameter 1.00”

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
46	1502	1.13	38.40	1.00	0.750	-	-	56C
40	1279	0.85	43.69	1.00	0.750	-	-	56C
35	1374	0.78	50.64	1.00	0.750	-	-	56C
32	1099	0.59	53.36	1.00	0.750	-	-	56C
29	1374	0.65	61.22	1.00	0.750	-	-	56C
28	1099	0.50	61.90	1.00	0.750	-	-	56C
25	1374	0.56	70.95	1.00	0.750	-	-	56C
24	1502	0.59	73.43	1.00	0.750	-	-	56C
23	1099	0.42	74.77	1.00	0.750	-	-	56C
20	1099	0.36	86.66	1.00	0.750	-	-	56C
18	1374	0.41	96.85	1.00	0.750	-	-	56C
17	1545	0.43	102.89	1.00	0.750	-	-	56C
14	1374	0.31	126.40	1.00	0.750	-	-	56C
13	1374	0.29	135.69	1.00	0.750	-	-	56C
10.4	1099	0.19	165.70	1.00	0.750	-	-	56C
9.9	1374	0.22	177.09	1.00	0.750	-	-	56C
8	1099	0.14	216.30	1.00	0.750	-	-	56C

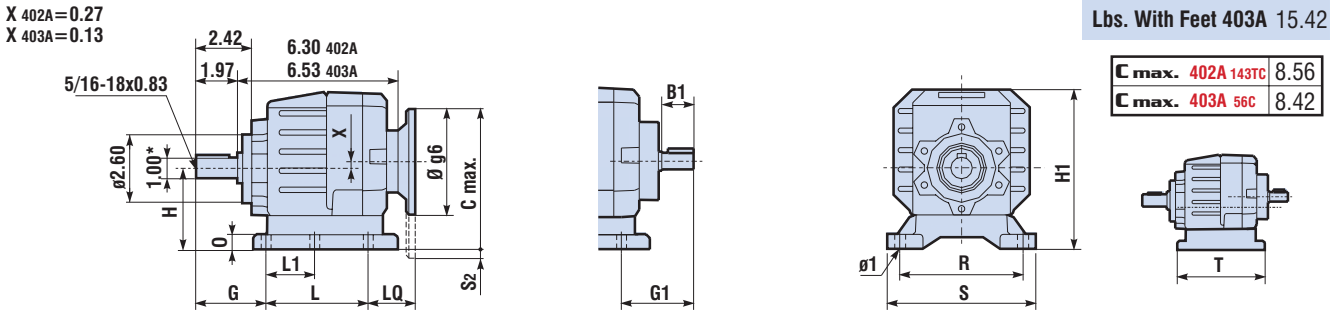
402A 403A

Motorized Feet Mount

Lbs. With Feet 402A 14.10

Lbs. With Feet 403A 15.42

C max. 402A 143TC	8.56
C max. 403A 56C	8.42

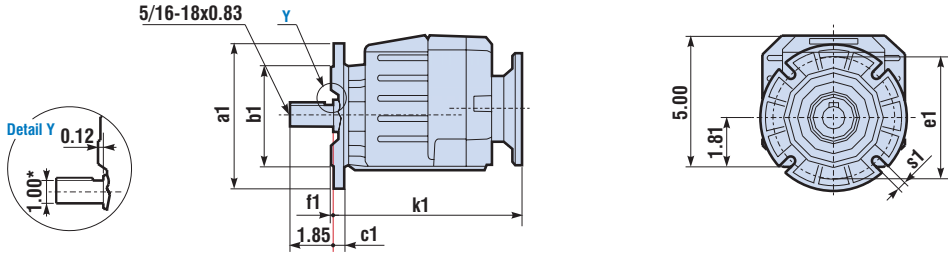


Competitive # Reference	Feet code:	G	G1 402A	G1 403A	H	H1	L	L1	LQ 56C-140TC 402A	LQ 56C-140TC 403A	O	R	S	T	ø1	S2 with motor flange 56C-140TC 402A	S2 with motor flange 56C-140TC 403A
Sew R27-R37-R40 1	S2	2.95	2.61	2.39	3.54	6.77	5.12	-	1.83	2.25	0.79	4.33	5.71	6.02	0.35	-	-
Sew R17-old R32 2	S1	2.68	3.67	3.45	2.95	6.10	4.33	1.97	2.90	3.31	0.59	4.33	5.71	5.51	0.35	0.03	0.17
Lenze Type 04	L4	2.48	5.21	4.98	3.15	6.38	2.99	-	4.43	4.84	0.20	4.13	5.20	4.88	0.39	-	-
Lenze Type 05	L5	2.60	4.54	4.31	3.94	7.17	3.54	-	3.76	4.18	0.24	4.92	5.91	4.72	0.47	-	-
Bonfiglioli C112	B1	2.68	4.58	4.35	3.35	6.57	3.43	1.97	3.80	4.21	0.59	4.33	5.12	4.92	0.35	-	-
Bonfiglioli C212/3	B2	2.68	3.77	3.55	3.94	7.17	4.23	2.36	2.99	3.41	0.67	5.12	6.10	5.35	0.43	-	-
Browning CbN21 3	E1	2.60	1.58	1.36	3.15	6.38	6.50	-	0.81	1.22	0.24	4.33	6.50	7.56	0.47	-	-
Sumitomo 4075-85G	J1	2.62	5.70	5.48	3.15	6.38	2.36	-	4.92	5.34	0.24	4.72	6.30	4.92	0.39	-	-
Sumitomo 4090-95G	J2	2.95	4.19	3.96	3.94	7.17	3.54	-	3.41	3.82	0.24	5.91	6.89	4.52	0.47	-	-
Motovario A 042/3	M1	2.95	4.38	4.16	3.15	6.38	3.35	-	3.60	4.02	0.59	4.53	5.71	5.08	0.35	-	-
Also interchangeable with	1D.Brown M0420/30 - Nord SK272/3-373/3 - B.Hansen SFN14 - Dodge Quantis Hb38 - Falk 04UC - Flender Dz38 - Grove 2042/3 - Motovario 032/3 2D.Brown M0320/30 - Nord SK 172 - B.Hansen SFN02 - Motovario A32/3 3B.Hansen 1																

Motorized Output Flange Mount

Lbs. With Flange 402A 13.11

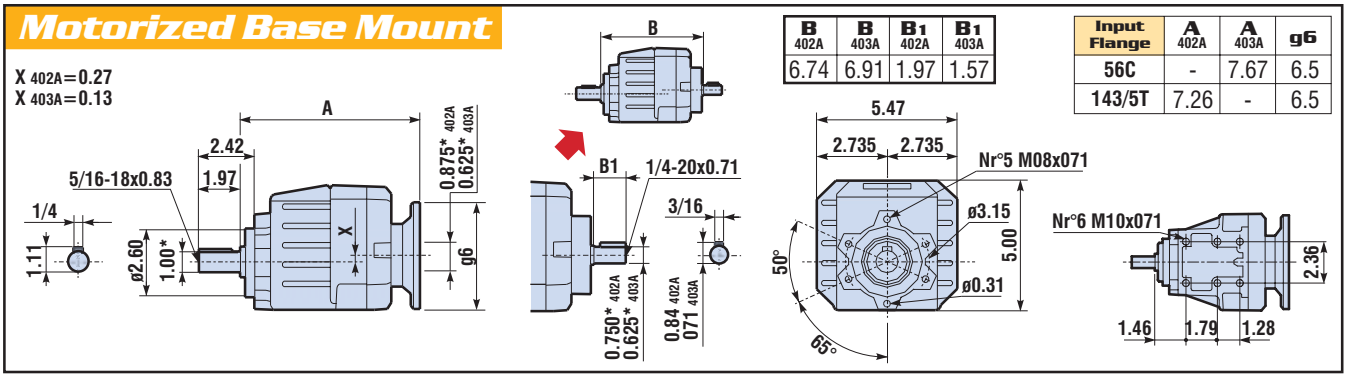
Lbs. With Flange 403A 14.65



Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	2	5.51	3.74	0.39	4.53	0.12	0.35
Option 2	3	6.30	4.33	0.39	5.12	0.14	0.35
Option 3	4	7.87	5.12	0.43	6.50	0.14	0.43

Input Flange	56C 403A	143/5TC 402A
k1	8.28	7.87
g6	6.5	6.5

Motorized Base Mount



B 402A	B 403A	B1 402A	B1 403A
6.74	6.91	1.97	1.57

Input Flange	A 402A	A 403A	g6
56C	-	7.67	6.5
143/5T	7.26	-	6.5

* For other options see page 49

 # Other competitive interchange / transition bases are available.

452A Lb.in. 2660 Output shaft Diameter 1.250”

1.0 Service Factor Aluminum Case

1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
485	1328	10.63	**3.61**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
414	1505	10.28	**4.23**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
349	1770	10.21	**5.01**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
288	2213	10.53	**6.07**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
257	2452	10.42	**6.81**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
220	2655	9.64	**7.96**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
185	2691	8.23	**9.45**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
153	2655	6.71	**11.43**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
123	2111	4.29	**14.21**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
105	2691	4.68	**16.62**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
87	2655	3.82	**20.10**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
70	2111	2.44	**24.98**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
60	2691	2.64	**29.41**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
49	2655	2.16	**35.58**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
43	2567	1.83	**40.50**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
40	2111	1.38	**44.22**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
36	2655	1.57	**49.00**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
29	2111	1.00	**60.90**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
23✸	2655	1.02	**49.00**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢
19✸	2111	0.65	**60.9**	1.250	-	182-4TC	143-5TC ⬢	56C ⬢

✸ *1140 RPM Input*

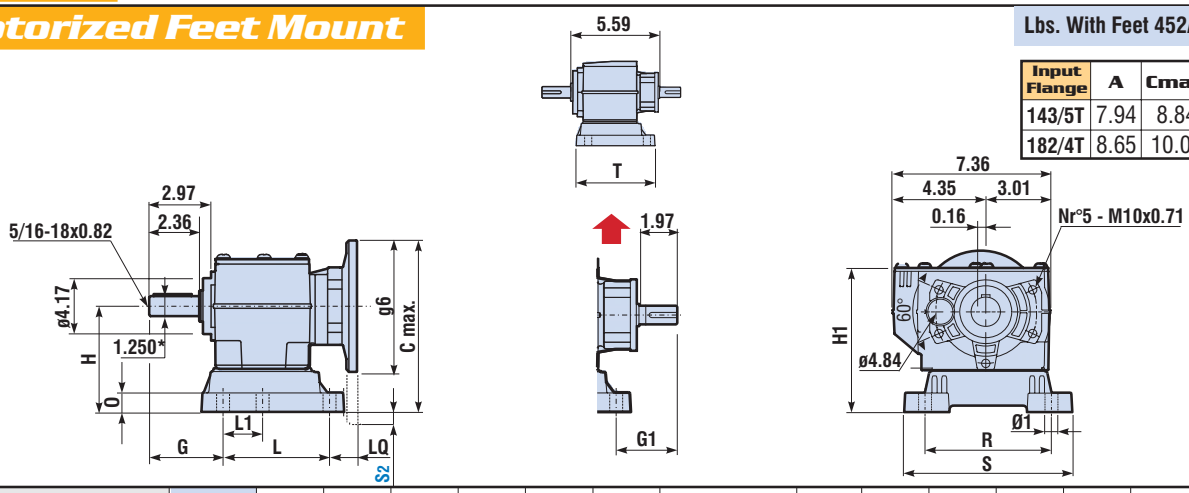
⬢ *With Motor Shaft Reduction Bushing*

452A

Motorized Feet Mount

Lbs. With Feet 452A 19.71

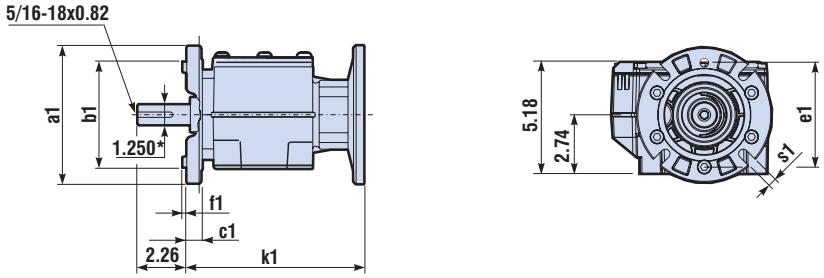
Input Flange	A	Cmax	g6
143/5T	7.94	8.84	6.5
182/4T	8.65	10.03	8.88



Competitive # Reference	Feet code:	G	G1	H	H1	L	L1	LQ 143/5	LQ 182/4	O	R	S	T	ø1	S2 With motor flange
Sew R47-old R60 1	S4	3.54	1.74	4.53	6.57	6.50	-	0.26	-	0.94	5.31	6.69	7.76	0.53	
Lenze Type 06	L6	3.11	4.50	4.92	6.97	4.17	-	3.02	2.11	0.31	6.30	8.07	6.83	0.55	
Bonfiglioli C312/3	B3	3.07	3.59	4.33	6.38	5.12	2.76	2.11	1.17	0.79	6.30	7.48	6.14	0.43	0.11 182/4T
B. Hansen 2 2	E2	2.87	1.35	3.94	5.98	7.56	-	-	-	0.24	5.31	6.46	8.66	0.55	0.50 182/4T
Sumitomo 4100/05G	J3	3.35	4.89	3.94	5.98	3.54	-	3.41	2.74	0.31	5.91	7.09	6.54	0.55	0.50 182/4T
Motovario A52/3	M2	3.54	4.30	4.33	6.38	3.94	-	2.82	2.35	0.71	5.31-5.91	7.48	5.51	0.43	
Also interchangeable with	1 D.Brown M0620/30 - Nord SK 472/3 - B.Hansen SFN24 - Dodge Quantis Hb48 - Falk 06UC - Flender D40 - Grove 2062 - Motovario 042/3														
	2 Browing CbN22														

Motorized Output Flange Mount

Lbs. With Flange 452A 19.16

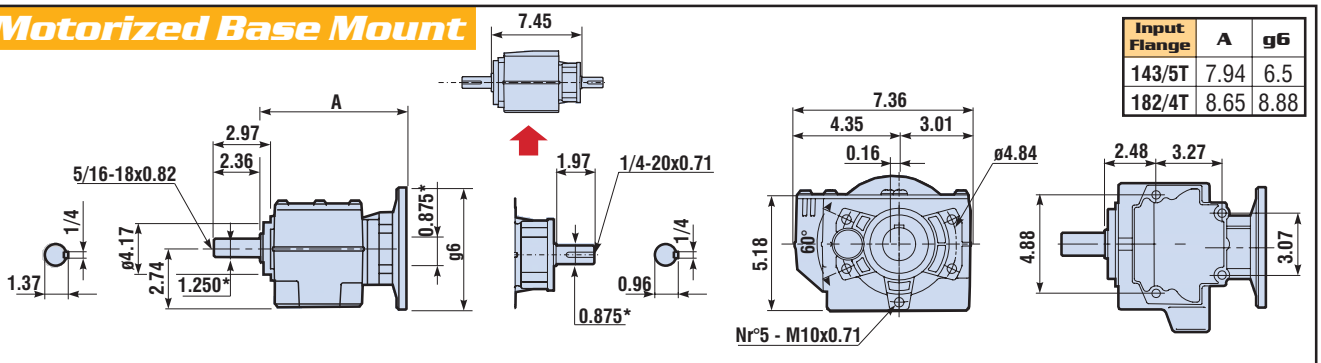


Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	4	7.87	5.12	0.43	6.50	0.18	0.43
Option 2	5	9.84	7.09	0.61	8.46	0.16	0.55

Input Flange	g6	k1
143/5T	6.50	8.04
182/4T	8.88	8.75

Motorized Base Mount

Input Flange	A	g6
143/5T	7.94	6.5
182/4T	8.65	8.88



* For other options see page 49

 # Other competitive interchange / transition bases are available.

502A — Lb.in. 2837 — Output shaft Diameter 1.250"

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (")		Available Motor Flanges		
				Standard	Optional			
485	1288	10.31	3.61	1.250	-	182-4TC	143-5TC ●	56C ●
414	1459	9.98	4.23	1.250	-	182-4TC	143-5TC ●	56C ●
349	1717	9.90	5.01	1.250	-	182-4TC	143-5TC ●	56C ●
288	2146	10.22	6.07	1.250	-	182-4TC	143-5TC ●	56C ●
257	2576	10.94	6.81	1.250	-	182-4TC	143-5TC ●	56C ●
220	2833	10.28	7.96	1.250	-	182-4TC	143-5TC ●	56C ●
185	3039	9.29	9.45	1.250	-	182-4TC	143-5TC ●	56C ●
153	2799	7.07	11.43	1.250	-	182-4TC	143-5TC ●	56C ●
123	2214	4.50	14.21	1.250	-	182-4TC	143-5TC ●	56C ●
105	3039	5.29	16.62	1.250	-	182-4TC	143-5TC ●	56C ●
87	2799	4.02	20.10	1.250	-	182-4TC	143-5TC ●	56C ●
71	2799	3.29	24.61	1.250	-	182-4TC	143-5TC ●	56C ●
70	2214	2.56	24.98	1.250	-	182-4TC	143-5TC ●	56C ●
60	3039	2.99	29.41	1.250	-	182-4TC	143-5TC ●	56C ●
49	2799	2.27	35.58	1.250	-	182-4TC	143-5TC ●	56C ●
43	2533	1.81	40.50	1.250	-	182-4TC	143-5TC ●	56C ●
40	2214	1.45	44.23	1.250	-	182-4TC	143-5TC ●	56C ●
36	2799	1.65	49	1.250	-	182-4TC	143-5TC ●	56C ●
29	2214	1.05	60.90	1.250	-	182-4TC	143-5TC ●	56C ●

● *With Motor Shaft Reduction Bushing*

503A — Lb.in. 2837 — Output shaft Diameter 1.250"

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (")		Available Motor Flanges		
				Standard	Optional			
43.98	3202	2.33	39.79	1.250	-	-	143-5TC	56C ●
37.06	3039	1.86	47.22	1.250	-	-	143-5TC	56C ●
31.97	3039	1.6	54.73	1.250	-	-	143-5TC	56C ●
26.43	2799	1.22	66.22	1.250	-	-	143-5TC	56C ●
22.82	3039	1.15	76.69	1.250	-	-	143-5TC	56C ●
20.94	3039	1.05	83.59	1.250	-	-	143-5TC	56C ●
18.86	2799	0.87	92.78	1.250	-	-	143-5TC	56C ●
16.72	3039	0.84	104.68	1.250	-	-	143-5TC	56C ●
14.93	2799	0.69	117.22	1.250	-	-	143-5TC	56C ●
13.82	2799	0.64	126.65	1.250	-	-	143-5TC	56C ●
12.81	3039	0.64	136.62	1.250	-	-	143-5TC	56C ●
10.59	2799	0.49	165.29	1.250	-	-	143-5TC	56C ●
9.70	3039	0.49	180.40	1.250	-	-	143-5TC	56C ●
8.02	2799	0.37	218.26	1.250	-	-	143-5TC	56C ●
7.24	3039	0.36	241.82	1.250	-	-	143-5TC	56C ●
5.98	2799	0.28	292.57	1.250	-	-	143-5TC	56C ●
5.48	3039	0.28	319.32	1.250	-	-	143-5TC	56C ●
4.53	2799	0.21	386.33	1.250	-	-	143-5TC	56C ●
3.64	2214	0.13	480.16	1.250	-	-	143-5TC	56C ●

● *With Motor Shaft Reduction Bushing*

502A 503A

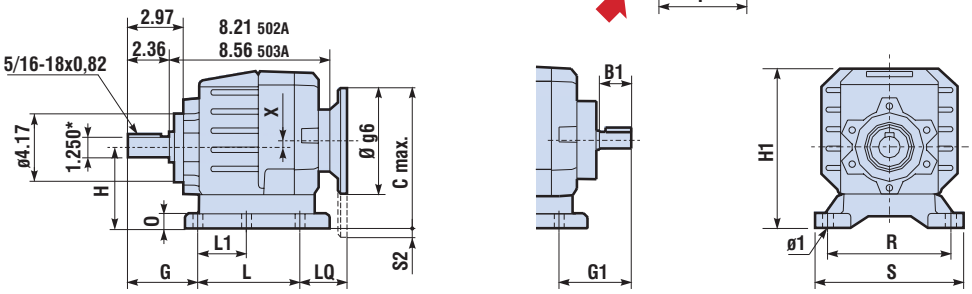
Motorized Feet Mount

X 502A=0.21
X 503A=0.59

Lbs. With Feet 502A 25.99

Lbs. With Feet 503A 27.09

C max.		
C max.	502A 143TC	9.05
C max.	503A 56C	9.43
C max.	502A 182TC	10.24

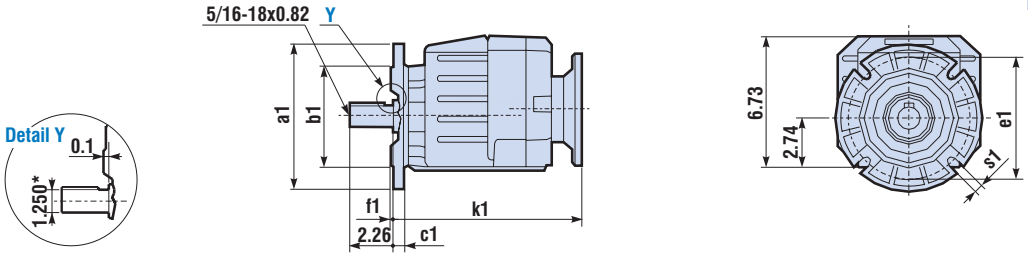


Competitive # Reference	Feet code:	G	G1 502A	G1 503A	H	H1	L	LQ - 56C/140TC 502A	LQ - 56C/140TC 503A	LQ 180TC 502A	O	R	S	T	ø1	S2 with motor flange 182/4TC 502A	S2 with motor flange 182/4TC 503A
Sew R47-old R60 1	S4	3.54	2.96	3.29	4.53	8.52	6.50	1.46	1.79	2.16	0.94	5.31	6.69	7.76	0.53	-	-
Lenze Type 06	L6	3.11	5.72	6.04	4.92	8.92	4.17	4.21	4.55	4.92	0.31	6.30	8.07	6.83	0.55	-	-
Bonfiglioli C312/3	B3	3.07	4.81	5.14	4.33	8.33	5.12	3.31	3.64	4.01	0.79	6.30	7.48	6.14	0.43	-	-
B. Hansen 2 2	E2	2.87	2.57	2.89	3.94	7.93	7.56	1.06	1.40	1.77	0.24	5.31	6.46	8.66	0.55	0.29	-
Sumitomo 4100-05G	J3	3.35	6.11	6.44	3.94	7.93	3.54	4.61	4.94	5.31	0.31	5.91	7.09	6.54	0.55	0.29	-
Motovario A 52/3	M2	3.54	5.52	5.85	3.94	8.33	3.94	4.02	4.35	4.72	0.71	5.31 / 5.90	7.48	5.51	0.43	-	-
Also interchangeable with		1 D.Brown M0620/30 - Nord SK 472/3 - B.Hansen SFN24 - Dodge Quantis Hb48 - Falk 06UC - Flender D40 - Grove 2062 - Motovario 042/3															
		2 Browing CbN22															

Motorized Output Flange Mount

Lbs. With Flange 502A 25.55

Lbs. With Flange 503A 27.53



Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	4	7.87	5.12	0.43	6.50	0.18	0.43
Option 2	5	9.84	7.09	0.61	8.46	0.16	0.55

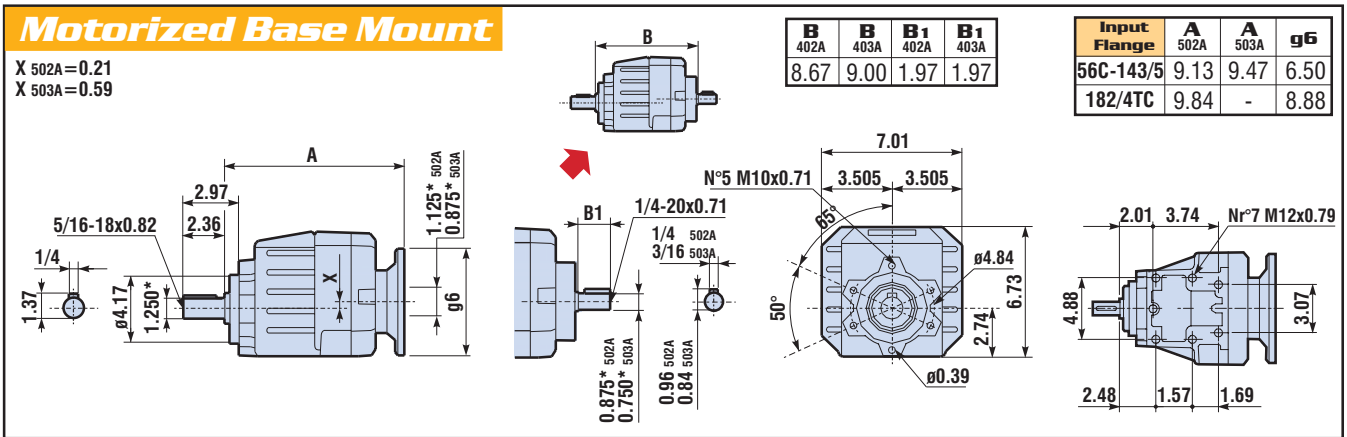
Input Flange	56-143/5 402A	56-143/5 403A	182/4TC 402A
k1	9.27	9.62	9.98
g6	6.5	6.5	8.88

Motorized Base Mount

X 502A=0.21
X 503A=0.59

B 402A	B 403A	B1 402A	B1 403A
8.67	9.00	1.97	1.97

Input Flange	A 502A	A 503A	g6
56C-143/5	9.13	9.47	6.50
182/4TC	9.84	-	8.88



* For other options see page 49

 # Other competitive interchange / transition bases are available.

602A — Lb.in. 4079 — Output shaft Diameter 1.375"

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (")		Available Motor Flanges		
				Standard	Optional			
485	1417	11.34	3.61	1.375	1.250	182-4TC	143-5TC ●	56C ●
414	1717	11.74	4.23	1.375	1.250	182-4TC	143-5TC ●	56C ●
349	2060	11.88	5.01	1.375	1.250	182-4TC	143-5TC ●	56C ●
288	2318	11.04	6.07	1.375	1.250	182-4TC	143-5TC ●	56C ●
257	2919	12.40	6.81	1.375	1.250	182-4TC	143-5TC ●	56C ●
220	3177	11.53	7.96	1.375	1.250	182-4TC	143-5TC ●	56C ●
185	3434	10.50	9.45	1.375	1.250	182-4TC	143-5TC ●	56C ●
153	3434	8.68	11.43	1.375	1.250	182-4TC	143-5TC ●	56C ●
123	3388	6.89	14.21	1.375	1.250	182-4TC	143-5TC ●	56C ●
105	4305	7.49	16.62	1.375	1.250	182-4TC	143-5TC ●	56C ●
87	4287	6.16	20.10	1.375	1.250	182-4TC	143-5TC ●	56C ●
71	4227	4.96	24.61	1.375	1.250	182-4TC	143-5TC ●	56C ●
70	3388	3.92	24.98	1.375	1.250	182-4TC	143-5TC ●	56C ●
59	3775	3.71	29.41	1.375	1.250	182-4TC	143-5TC ●	56C ●
49	4287	3.48	35.58	1.375	1.250	182-4TC	143-5TC ●	56C ●
43	2661	1.90	40.50	1.375	1.250	182-4TC	143-5TC ●	56C ●
40	3388	2.21	44.23	1.375	1.250	182-4TC	143-5TC ●	56C ●
36	3157	1.86	49.00	1.375	1.250	182-4TC	143-5TC ●	56C ●
29	3388	1.61	60.90	1.375	1.250	182-4TC	143-5TC ●	56C ●

● *With Motor Shaft Reduction Bushing*

603A — Lb.in. 4079 — Output shaft Diameter 1.375"

1.0 Service Factor Aluminum Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (")		Available Motor Flanges		
				Standard	Optional			
43.98	3726	2.71	39.79	1.375	1.250	-	143-5TC	56C ●
37.06	4301	2.63	47.22	1.375	1.250	-	143-5TC	56C ●
31.97	4301	2.27	54.73	1.375	1.250	-	143-5TC	56C ●
30.63	4293	2.17	57.13	1.375	1.250	-	143-5TC	56C ●
26.43	4293	1.87	66.22	1.375	1.250	-	143-5TC	56C ●
24.64	3388	1.38	71.01	1.375	1.250	-	143-5TC	56C ●
22.82	4301	1.62	76.69	1.375	1.250	-	143-5TC	56C ●
21.26	3388	1.19	82.30	1.375	1.250	-	143-5TC	56C ●
20.94	3786	1.31	83.59	1.375	1.250	-	143-5TC	56C ●
18.86	4293	1.34	92.78	1.375	1.250	-	143-5TC	56C ●
16.72	4301	1.19	104.68	1.375	1.250	-	143-5TC	56C ●
14.93	4293	1.06	117.22	1.375	1.250	-	143-5TC	56C ●
13.82	4293	0.98	126.65	1.375	1.250	-	143-5TC	56C ●
12.89	3786	0.81	135.74	1.375	1.250	-	143-5TC	56C ●
12.01	3388	0.67	145.68	1.375	1.250	-	143-5TC	56C ●
11.12	3388	0.62	157.40	1.375	1.250	-	143-5TC	56C ●
10.59	4293	0.75	165.29	1.375	1.250	-	143-5TC	56C ●
9.44	3786	0.59	185.29	1.375	1.250	-	143-5TC	56C ●
8.52	3388	0.48	205.43	1.375	1.250	-	143-5TC	56C ●
7.81	4293	0.55	224.18	1.375	1.250	-	143-5TC	56C ●
7.24	3786	0.45	241.82	1.375	1.250	-	143-5TC	56C ●
6.28	3388	0.35	278.62	1.375	1.250	-	143-5TC	56C ●
5.98	4293	0.42	292.57	1.375	1.250	-	143-5TC	56C ●
4.81	3388	0.27	363.63	1.375	1.250	-	143-5TC	56C ●

● *With Motor Shaft Reduction Bushing*

602A 603A

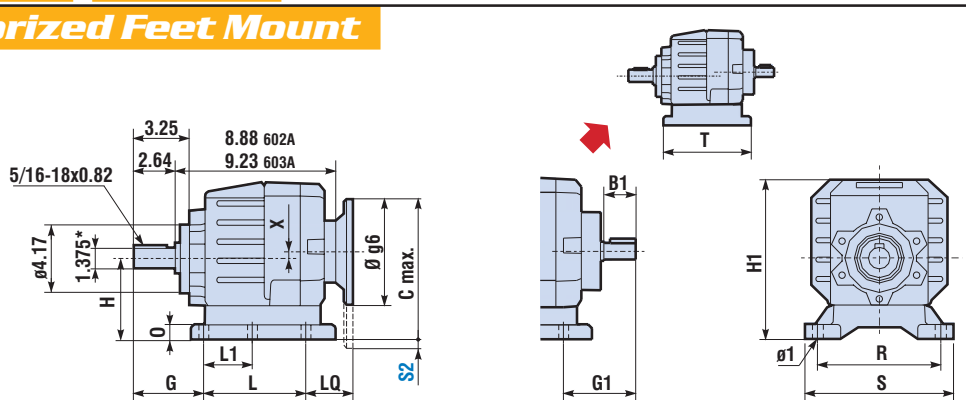
Motorized Feet Mount

X 602A=0.86
X 603A=0.61

Lbs. With Feet 602A 32.60

Lbs. With Feet 603A 34.80

C max. 602A 143TC	10.49
C max. 603A 56C	10.24
C max. 602A 182TC	11.68

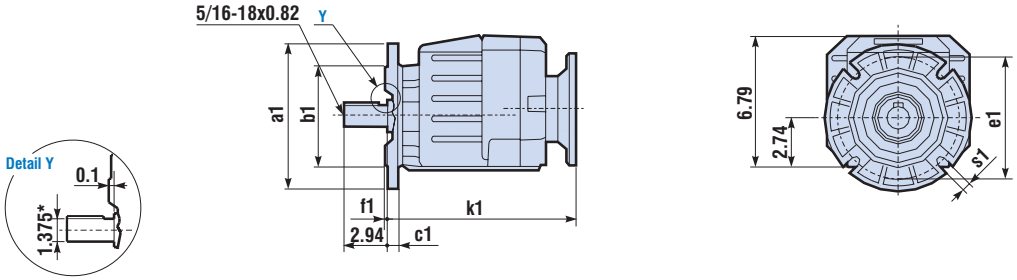


Competitive # Reference	Feet code:	G	G1 602A	G1 603A	H	H1	L	LQ - 56C/140TC 602A	LQ - 56C/140TC 603A	LQ 180TC 602A	O	R	S	T	ø1	S2 with motor flange 182/4TC 602A	S2 with motor flange 182/4TC 603A
Sew R47-old R60 1	S4	3.82	3.63	3.97	4.53	8.58	6.50	1.88	-	2.58	0.94	5.31	6.69	7.76	0.53	-	-
Sew R77	S7	4.02	1.86	2.20	5.51	9.57	8.07	0.11	-	0.81	0.31	6.69	8.03	10.71	0.55	-	-
Lenze Type 06	L6	3.39	6.39	6.72	4.92	8.98	4.17	4.63	1.06	5.34	0.31	6.30	8.07	6.83	0.55	-	-
Bonfiglioli C412/3	B4	3.43	4.64	4.97	5.12	9.17	5.89	2.88	-	3.59	0.71	7.09	8.50	7.30	0.55	-	-
B. Hansen 2 2	E2	3.29	3.10	3.44	3.94	7.99	7.56	1.35	-	2.05	0.24	5.31	6.46	8.66	0.55	-	-
Sumitomo 4110G	J4	3.70	5.72	6.06	4.72	8.78	4.53	3.96	0.39	4.67	0.31	7.48	8.86	6.79	0.55	-	-
Motovario A 52/3	M2	3.82	6.19	6.53	4.33	8.39	3.94	4.44	0.86	5.14	0.71	5.91	7.48	5.51	0.43	-	-
Motovario A 62/3	M3	4.02	5.60	5.94	4.72	8.78	4.33	3.85	0.27	4.55	0.79	6.69 7.28	9.06	5.91	0.55	-	-
Also interchangeable with	1 D.Brown M0620/30-Sew R57-Nord SK 472-572/3-B.Hansen SFN24-Dodge Quantis Hb48-Falk 06UC-Flender D40-Grove 2062-Motovario 042-052/3																
	2 Browing CbN22																

Motorized Output Flange Mount

Lbs. With Flange 602A 31.50

Lbs. With Flange 603A 31.94

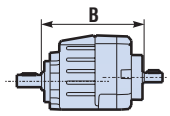


Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	4	7.87	5.12	0.43	6.50	0.18	0.43
Option 2	5	9.84	7.09	0.61	8.46	0.16	0.55

Input Flange	56-143/5 602A	56-143/5 603A	182/4TC 602A
k1	9.94	10.29	10.65
g6	6.50	6.50	8.88

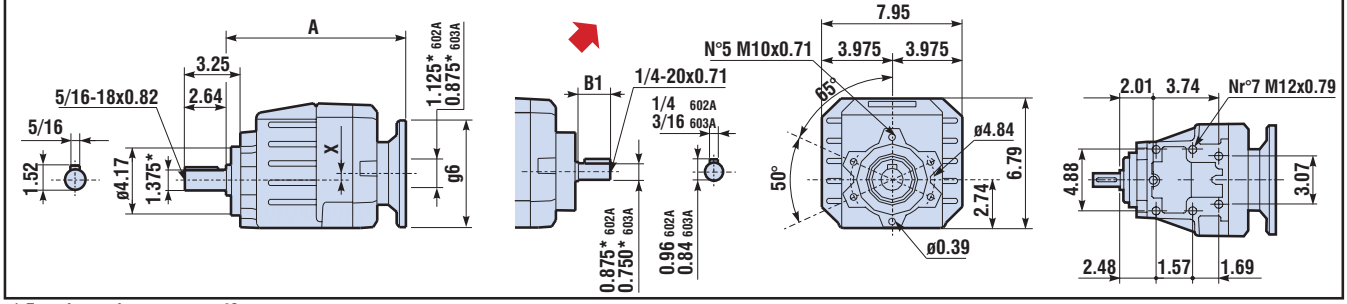
Motorized Base Mount

X 602A=0.86
X 603A=0.61



B 602A	B 603A	B1 602A	B1 603A
9.34	9.67	1.97	1.97

Input Flange	A 602A	A 603A	g6
143/5TC	9.83	10.20	6.50
182/4TC	10.54	-	8.88



* For other options see page 49

 # Other competitive interchange / transition bases are available.

402C — Lb.in. 1729 — Output shaft Diameter 1.00”

1.0 Service Factor Cast Iron Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
315	1009	5.25	5.55	1.00	0.750	-	143-5TC	56C ⬣
239	1261	4.97	7.33	1.00	0.750	-	143-5TC	56C ⬣
195	1275	4.11	8.96	1.00	0.750	-	143-5TC	56C ⬣
174	1261	3.63	10.04	1.00	0.750	-	143-5TC	56C ⬣
150	1345	3.34	11.64	1.00	0.750	-	143-5TC	56C ⬣
132	1513	3.30	13.26	1.00	0.750	-	143-5TC	56C ⬣
114	1648	3.10	15.37	1.00	0.750	-	143-5TC	56C ⬣
108	1354	2.42	16.20	1.00	0.750	-	143-5TC	56C ⬣
93	1354	2.08	18.78	1.00	0.750	-	143-5TC	56C ⬣
81	1648	2.21	21.54	1.00	0.750	-	143-5TC	56C ⬣
79	1303	1.69	22.26	1.00	0.750	-	143-5TC	56C ⬣
67	1354	1.49	26.31	1.00	0.750	-	143-5TC	56C ⬣
60	1648	1.62	29.40	1.00	0.750	-	143-5TC	56C ⬣
49	1354	1.09	35.91	1.00	0.750	-	143-5TC	56C ⬣
46	1513	1.14	38.37	1.00	0.750	-	143-5TC	56C ⬣
37	1354	0.83	46.87	1.00	0.750	-	143-5TC	56C ⬣
35	1261	0.72	50.67	1.00	0.750	-	143-5TC	56C ⬣
28	1354	0.63	61.89	1.00	0.750	-	143-5TC	56C ⬣
23 ✱	1261	0.47	50.67	1.00	0.750	-	143-5TC	56C ⬣
18 ✱	1354	0.41	61.89	1.00	0.750	-	143-5TC	56C ⬣

✱ *1140 RPM Input*

⬣ *With Motor Shaft Reduction Bushing*

403C — Lb.in. 1729 — Output shaft Diameter 1.00”

1.0 Service Factor Cast Iron Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
46	1471	1.11	38.34	1.00	0.750	-	143-5TC	56C ⬣
40	1640	1.08	43.69	1.00	0.750	-	143-5TC	56C ⬣
35	1640	0.94	50.64	1.00	0.750	-	143-5TC	56C ⬣
29	1640	0.77	61.21	1.00	0.750	-	143-5TC	56C ⬣
25	1640	0.67	70.95	1.00	0.750	-	143-5TC	56C ⬣
23	1394	0.54	74.77	1.00	0.750	-	143-5TC	56C ⬣
20	1394	0.46	86.66	1.00	0.750	-	143-5TC	56C ⬣
18	1640	0.49	96.85	1.00	0.750	-	143-5TC	56C ⬣
15	1394	0.34	118.29	1.00	0.750	-	143-5TC	56C ⬣
13	1640	0.35	135.69	1.00	0.750	-	143-5TC	56C ⬣
11	1394	0.24	165.74	1.00	0.750	-	143-5TC	56C ⬣

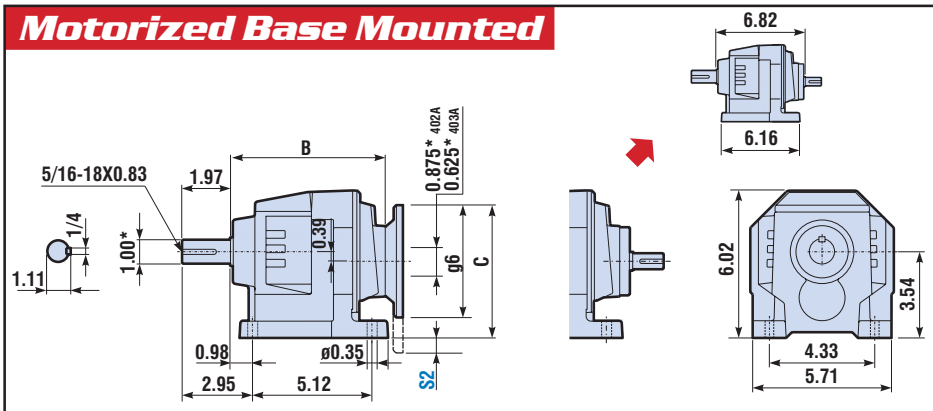
⬣ *With Motor Shaft Reduction Bushing*

402C 403C

Motorized Base Mounted

Lbs. With Feet 402C 21.37

Lbs. With Feet 403C 22.36



402C

Input Flange	A	B	C	g6	S2
56C-143/5TC	7.34	6.38	6.79	6.5	-

403C

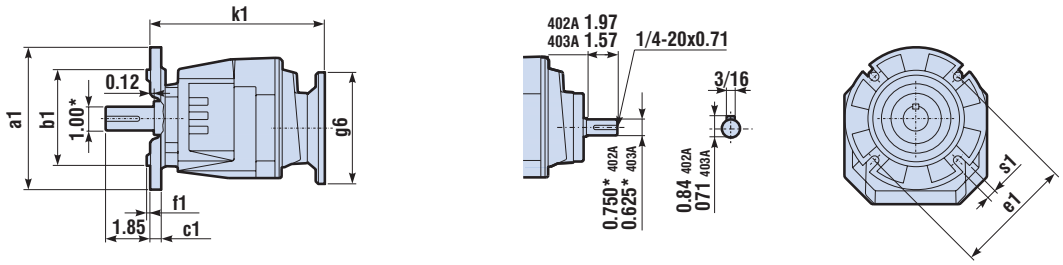
Input Flange	A	B	C	g6	S2
56C-143/5TC	8.19	7.22	6.79	6.5	-

★ Feet interchangeable with: S2 (See page 31)

Motorized Output Flange Mounted

Lbs. With Flange 402C 22.47

Lbs. With Flange 403C 23.35



- F Output Flange

Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	2	5,51	3,74	0,39	4,53	0,12	0,35
Option 2	3	6,30	4,33	0,39	5,12	0,12	0,35
Option 3	4	7,87	5,12	0,43	6,50	0,14	0,43

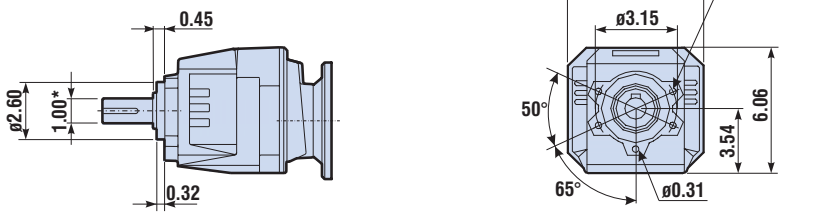
402C

Input Flange	g6	k1
56C-143/5TC	6,5	7,46

403C

Input Flange	g6	k1
56C-143/5TC	6,5	8,32

Modular Reducer Case Only



- N Reducer withput output Flange or Feet

* For other options see page 49

For the correct compilation of the order code see pages 20 - 21

602C — Lb.in. 4079 — Output shaft Diameter 1.375”

1.0 Service Factor Cast Iron Case — 1750 RPM Input

Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
485	1417	11.34	3.61	1.375	1.250	182-4TC	143-5TC ●	56C ●
414	1717	11.73	4.23	1.375	1.250	182-4TC	143-5TC ●	56C ●
349	2060	11.89	5.01	1.375	1.250	182-4TC	143-5TC ●	56C ●
288	2318	11.04	6.07	1.375	1.250	182-4TC	143-5TC ●	56C ●
257	2919	12.39	6.81	1.375	1.250	182-4TC	143-5TC ●	56C ●
220	3177	11.53	7.96	1.375	1.250	182-4TC	143-5TC ●	56C ●
185	3434	10.50	9.45	1.375	1.250	182-4TC	143-5TC ●	56C ●
153	3434	8.68	11.43	1.375	1.250	182-4TC	143-5TC ●	56C ●
123	3388	6.89	14.21	1.375	1.250	182-4TC	143-5TC ●	56C ●
105	4305	7.49	16.62	1.375	1.250	182-4TC	143-5TC ●	56C ●
87	4287	6.16	20.10	1.375	1.250	182-4TC	143-5TC ●	56C ●
70	3388	3.92	24.98	1.375	1.250	182-4TC	143-5TC ●	56C ●
60	3775	3.71	29.41	1.375	1.250	182-4TC	143-5TC ●	56C ●
49	4287	3.48	35.58	1.375	1.250	182-4TC	143-5TC ●	56C ●
43	2661	1.90	40.50	1.375	1.250	182-4TC	143-5TC ●	56C ●
40	3388	2.21	44.23	1.375	1.250	182-4TC	143-5TC ●	56C ●
36	3157	1.86	49.00	1.375	1.250	182-4TC	143-5TC ●	56C ●
29	3388	1.61	60.90	1.375	1.250	182-4TC	143-5TC ●	56C ●
23 ✱	3157	1.21	49.00	1.375	1.250	182-4TC	143-5TC ●	56C ●
19 ✱	3388	1.05	60.90	1.375	1.250	182-4TC	143-5TC ●	56C ●

✱1140 RPM Input

● With Motor Shaft Reduction Bushing

603C — Lb.in. 4079 — Output shaft Diameter 1.375”

1.0 Service Factor Cast Iron Case — 1750 RPM Input

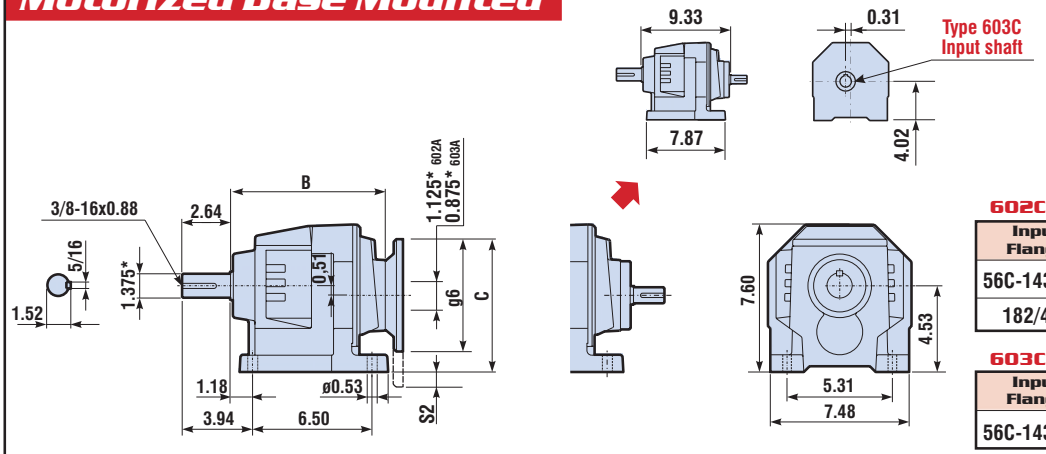
Output Speed (RPM)	Output Torque (lb-in)	Input HP	Ratio	Output Shaft (”)		Available Motor Flanges		
				Standard	Optional			
44	3726	2.71	39.79	1.375	1.250	-	143-5TC	56C ●
37	4301	2.63	47.22	1.375	1.250	-	143-5TC	56C ●
32	4301	2.27	54.73	1.375	1.250	-	143-5TC	56C ●
31	4293	2.17	57.13	1.375	1.250	-	143-5TC	56C ●
26	4293	1.87	66.22	1.375	1.250	-	143-5TC	56C ●
25	3388	1.38	71.01	1.375	1.250	-	143-5TC	56C ●
23	4301	1.62	76.69	1.375	1.250	-	143-5TC	56C ●
21.2	3388	1.19	82.30	1.375	1.250	-	143-5TC	56C ●
20.9	3786	1.31	83.59	1.375	1.250	-	143-5TC	56C ●
19	4293	1.34	92.78	1.375	1.250	-	143-5TC	56C ●
17	4301	1.19	104.68	1.375	1.250	-	143-5TC	56C ●
15	4293	1.06	117.22	1.375	1.250	-	143-5TC	56C ●
14	4293	0.98	126.65	1.375	1.250	-	143-5TC	56C ●
13	3786	0.81	135.74	1.375	1.250	-	143-5TC	56C ●
12	3388	0.67	145.68	1.375	1.250	-	143-5TC	56C ●
11.1	3388	0.62	157.40	1.375	1.250	-	143-5TC	56C ●
10.7	4293	0.76	164.23	1.375	1.250	-	143-5TC	56C ●
9.4	3786	0.59	185.29	1.375	1.250	-	143-5TC	56C ●
8.6	3388	0.48	204.12	1.375	1.250	-	143-5TC	56C ●
7.8	4293	0.55	224.18	1.375	1.250	-	143-5TC	56C ●
6.3	3388	0.35	278.62	1.375	1.250	-	143-5TC	56C ●

602C 603C

Motorized Base Mounted

Lbs. With Feet 602C 49.34

Lbs. With Feet 603C 48.90



602C

Input Flange	A	B	C	g6	S2
56C-143/5TC	9.83	8.87	7.27	6.50	-
182/4TC	10.54	8.87	8.46	8.88	-

603C

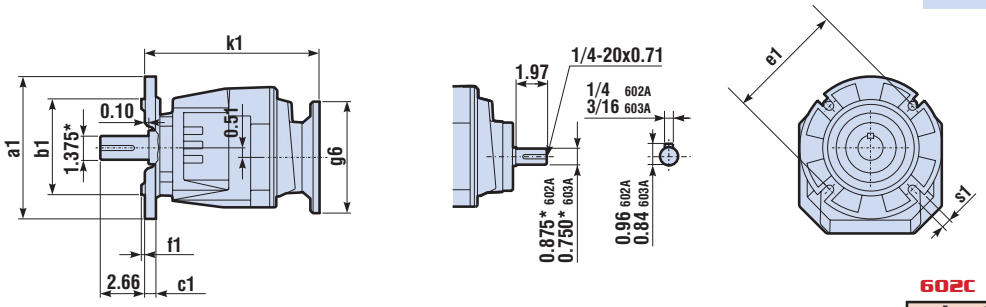
Input Flange	A	B	C	g6	S2
56C-143/5TC	10.18	9.21	7.27	6.50	-

★ Feet interchangeable with: S4 (See page 35)

Motorized Flange Mounted

Lbs. With Feet 602C 48.90

Lbs. With Feet 603C 53.52



602C

Input Flange	g6	k1
56C-143/5TC	6,50	10.38
182/4TC	8.88	11.09

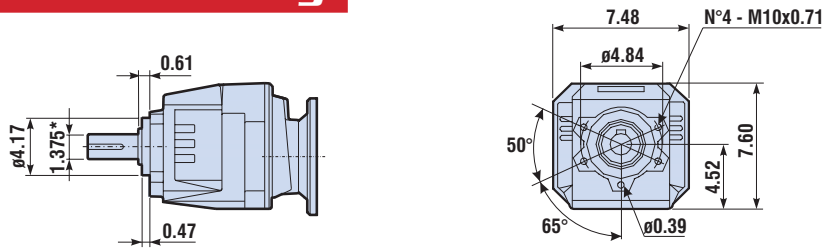
603C

Input Flange	g6	k1
56C-143/5TC	6,50	10.69

- F Output Flange

Output Flange Options:	Output flange code	a1	b1	c1	e1	f1	s1
Option 1	2	7.87	5.12	0.51	6.50	0.18	0.43
Option 2	3	9.84	7.09	0.61	8.46	0.16	0.55

Modular Reducer Case Only



- N Reducer withput output Flange or Feet

For the correct compilation of the order code see pages 20 - 21

General Technical Information

Overhung Loads and Thrust Load

An overhung load exists when a force is applied at right angle to 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 and in selection tables 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.

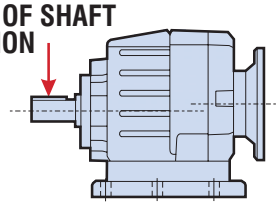
Output Shaft OHL =

$$\frac{\text{126000 x Input HP x Overhung Load Factor x Efficiency}}{\text{Pitch Diameter (Of sprocket, pulley or sheave) x Output RPM}}$$

Input Shaft OHL =

$$\frac{\text{126000 x Input HP x Overhung Load Factor}}{\text{Pitch Diameter (Of sprocket, pulley or sheave) x Input RPM}}$$

OVERHUNG LOAD AT CENTER OF SHAFT EXTENSION



Overhung Loads Factors

Sprocket	1.00
Gear Pinion	1.25
V-Belt Sheave or Pulley	1.50
Flat Belt	2.50

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 ratio.

$$\text{HP} = \frac{\text{TQ x Speed (RPM)}}{63025} \qquad \text{TQ} = \frac{\text{HP x 63025}}{\text{RPM}}$$

Service Factor

A service factor is selected to adjust a reducer's load carrying characteristics to reflect the application load requirements.

$$\text{Reducer Service Factor} = \frac{\text{Reducer HP Rating}}{\text{Motor HP Rating}}$$

Efficiency

The efficiency of an inline helical speed reducer is dependent on input speed, quality of gearing, type of lubricant, ambient temperature and many other variables. The efficiency for a speed reducer can be easily calculated as follows.

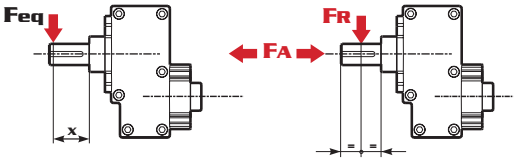
$$\text{Efficiency} = \frac{\text{Output HP}}{\text{Input HP}}$$

Average efficiency of double reduction inline reducers: 96%
triple reduction inline reducers: 93%

NOTE: The overhung load capacities in the catalog are calculated at centerline of shaft extension with no thrust load

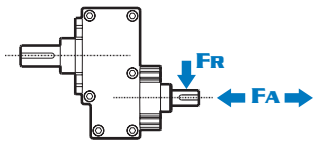
ALUMINUM ONE STAGE — Radial and Axial Loads

Output shaft



RPM	311A		411A		511A	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
700	18.87	94.36	40.89	204.45	66.05	330.26
600	22.47	112.33	44.93	224.67	71.89	359.47
400	25.84	130.31	51.67	258.37	83.13	415.64
300	28.31	141.54	56.17	280.84	89.87	449.34
200	32.80	164.01	65.15	325.77	103.35	516.74
140	35.95	179.74	71.89	359.47	114.58	572.91
Feq=	$F_R \cdot \frac{1.61}{X+0.83}$		$F_R \cdot \frac{1.81}{X+0.83}$		$F_R \cdot \frac{1.88}{X+0.90}$	

Input shaft

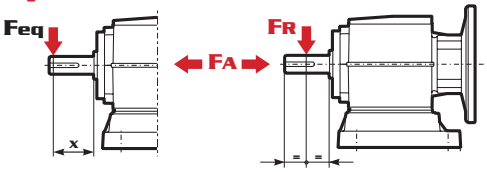


RPM	311A		411A		511A	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
1400	31.45	157.27	53.92	269.60	89.87	449.34
900	35.95	179.74	62.91	314.54	98.85	494.27

*** Higher capacity bearings available on request.**

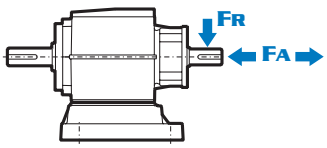
ALUMINUM TWO or TREE STAGES — Radial and Axial Loads

Output shaft



RPM	202A-302A		402/3A		452A		502/3A		602/3A	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
300	31.45	157.27	69.65	348.24	93.24	465.07	103.35	516.74	125.81	629.07
250	33.93	169.85	74.14	370.7	96.61	485.29	107.84	539.21	134.8	674.01
200	41.56	207.59	80.88	404.41	105.59	525.73	116.83	584.14	143.79	718.94
140	55.27	296.56	91.22	456.08	121.32	606.71	134.8	674.01	166.26	831.28
120	60.66	303.30	100.65	503.26	125.81	626.83	139.3	696.48	170.75	853.74
85	67.40	337	107.84	539.21	141.54	707.71	157.27	786.34	188.72	898.68
70	76.39	381.94	121.32	606.61	157.27	788.59	175.24	876.21	199.96	943.61
40	85.37	426.87	134.8	674.01	181.88	909.91	202.2	1011	260.62	1303.1
15	-	-	134.8	674.01	202.2	1011	224.67	1123.3	292.07	1460.3
Feq=	$F_R \cdot \frac{1.52}{X+0.73}$		$F_R \cdot \frac{1.81}{X+0.83}$		$F_R \cdot \frac{2.01}{X+0.83}$		$F_R \cdot \frac{2.13}{X+0.94}$		$F_R \cdot \frac{2.38}{X+1.01}$	

Input shaft



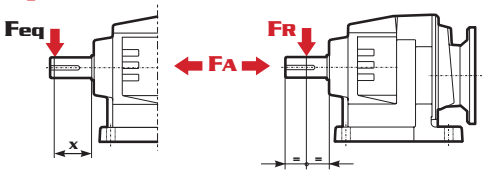
RPM	202A		302A		402A		452A 502A		602A	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
300	31.45	157.27	50.78	253.88	53.92	269.6	89.87	449.34	101.1	505.51
250	35.95	179.74	59.31	296.56	62.91	314.54	98.85	494.27	112.33	561.67
200	42.69	213.44	72.34	361.72	76.39	381.94	98.85	494.27	134.8	674.01

RPM	403A		503A		603A	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
300	31.45	157.27	53.92	269.6	89.87	449.34
250	35.95	179.74	62.91	314.54	98.85	494.27
200	42.69	213.44	69.65	381.94	98.85	494.27

*** Higher capacity bearings available on request.**

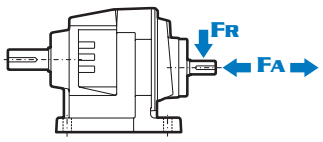
CAST-IRON TWO or TREE STAGES — Radial and Axial Loads

Output shaft



n_2 [min^{-1}]	402C-403C		602C-603C	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
300	89.87	449.34	130.31	651.54
250	98.85	494.27	139.30	696.48
200	105.59	527.97	148.28	741.41
140	121.32	606.61	170.75	853.74
120	132.56	651.54	179.74	898.68
85	152.78	763.88	215.68	1078.41
70	170.75	853.74	224.67	1123.35
40	193.22	966.08	269.6	1348
15	193.22	966.08	326.22	1631.1
Feq=	$F_R \cdot \frac{1.81}{X+0.83}$		$F_R \cdot \frac{2.38}{X+1.01}$	

Input shaft

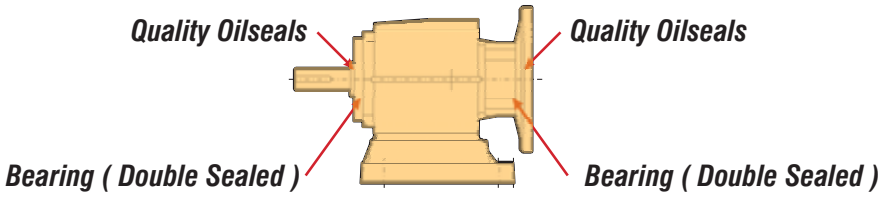


RPM	402C		403C		602C		603C	
	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]	FA [Lb]	FR [Lb]
300	53.92	269.6	53.92	269.6	101.1	505.51	89.87	449.34
250	62.91	314.54	62.91	314.54	112.33	561.67	98.85	494.27
200	76.39	381.94	76.39	381.94	134.8	674.01	98.85	494.27

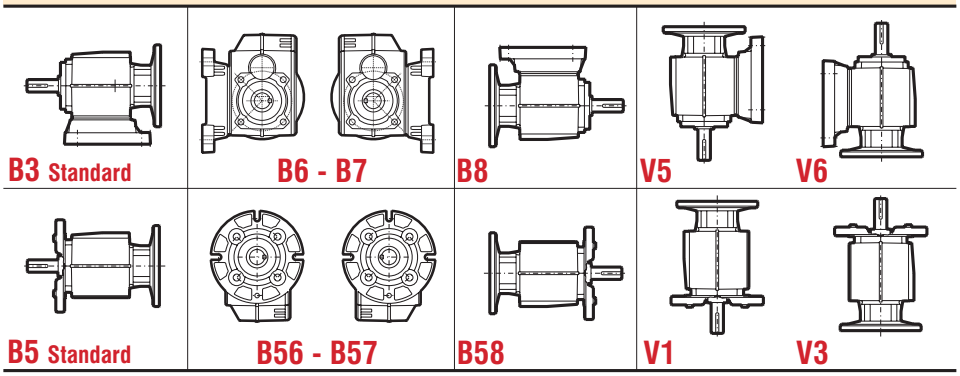
*** Higher capacity bearings available on request.**

Lubrication 311A - 411A - 511A - 202A - 302A - 452A

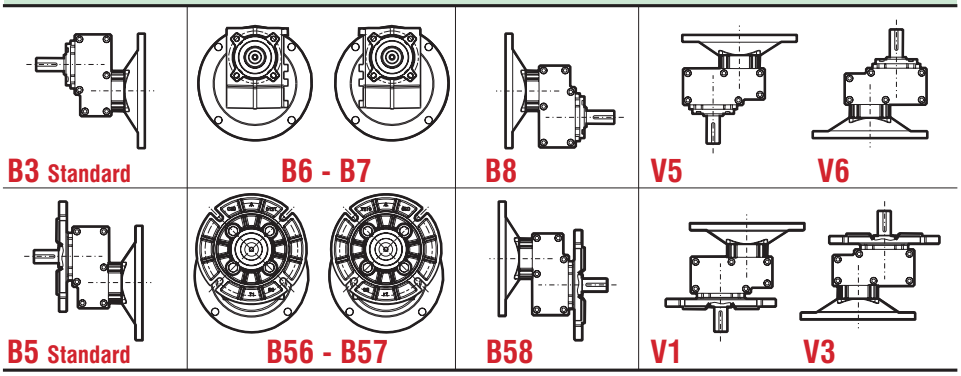
Aluminum reducer Types 202A-302A-311A-411A-511A and 452A are supplied complete with synthetic oil that is satisfactory for the life of the reducer in most applications. ***The quantity of oil is satisfactory for all mounting positions***. The oil of these reducers can only be changed by removing the inspection cover. Oil can be removed or changed only by opening the upper cover.



Type 202A - 302A - 452A Mounting Position



Type 311A - 411A - 511A Mounting Position

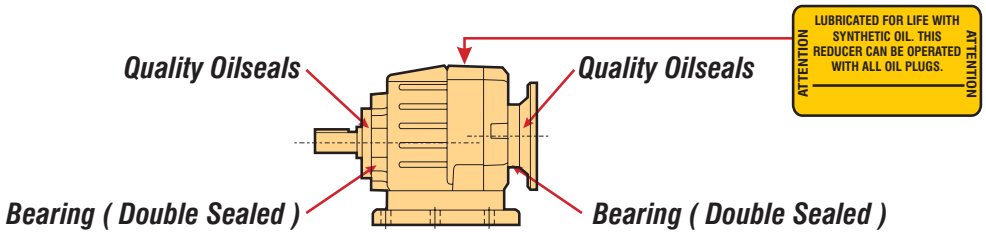


Oil Capacities for All Mounting Positions in Ounces

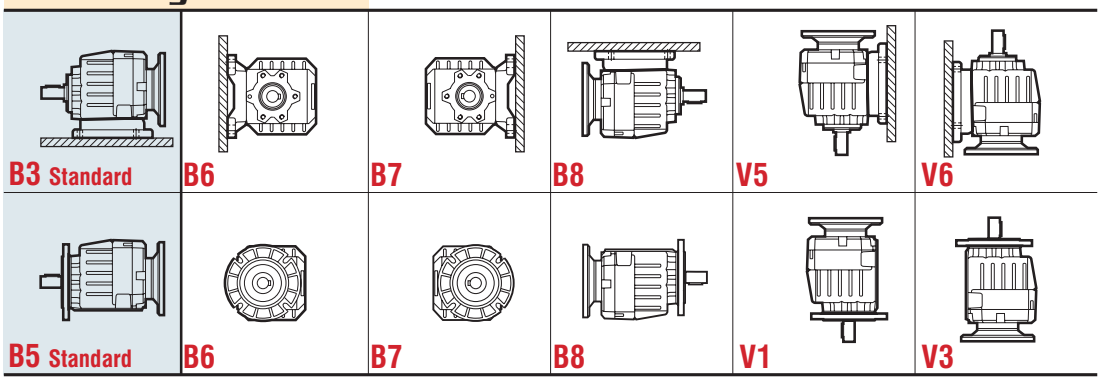
Reducer Size:	311A	411A	511A	202A	302A	452A
All the positions	3.53	3.53	8.82	5.29	5.29	10.93

Lubrication 402A-403A-502A-503A-602A-603A

These Aluminum reducers are supplied complete with synthetic oil satisfactory for the life of the reducer in most applications. ***The quantity is suitable for mounting positions B3 and B5***. If the reducer is mounted in a different position, ***the quantity of oil must be corrected using the chart below***. Upon request reducers can be supplied from the factory with the proper oil fill for the other mounting positions noted below. With synthetic oil, no breather type drain is required.



Mounting Position



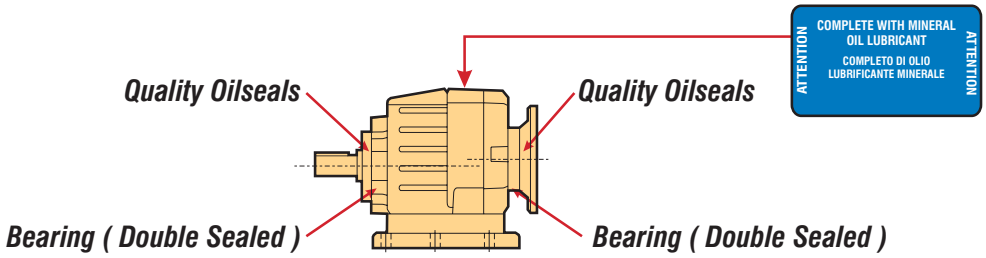
Standard Two Stages

OIL QUANTITY (Ounces)	TYPE	B3-B5	B6-B56	B7-B57	B8-B58	V5-V1	V6-V3
	402A	8.82	10.58	14.11	14.11	14.11	17.64
	502A	15.87	19.40	35.27	38.80	38.80	40.56
	602A	19.40	29.98	37.04	42.33	42.33	44.09

Standard Three Stages

OIL QUANTITY (Ounces)	TYPE	B3-B5	B6-B56	B7-B57	B8-B58	V5-V1	V6-V3
	403A	10.58	12.35	15.87	15.87	15.87	19.40
	503A	26.46	26.46	37.04	40.56	42.33	42.33
	603A	26.79	31.75	40.56	44.09	45.86	47.62

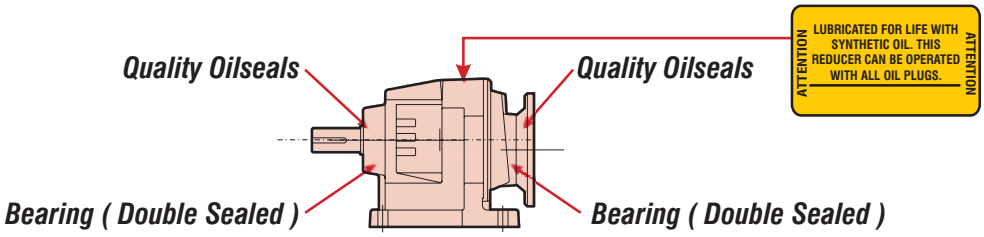
ON REQUEST reducers can be supplied with mineral oil. The standard mineral oil lubricant is ISO VG CLP (CC). When mineral oil is used, a breather type drain must be used to prevent excessive housing pressure and premature wear of the oil seals.



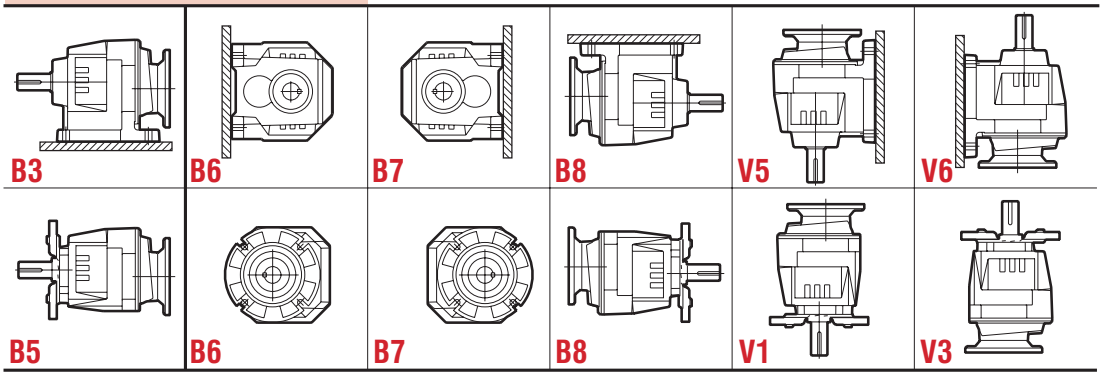
Additionally, specialized lubricants are available for other environments. See page 47 for a listing if in doubt as to the correct lubricant.

Lubrication 402C-403C-602C-603C

These Cast Iron reducers are supplied complete with synthetic oil satisfactory for the life of the reducer in most applications. ***The quantity is suitable for mounting positions B3 and B5***. If the reducer is mounted in a different position, ***the quantity of oil must be corrected using the chart below***. Upon request reducers can be supplied from the factory with the proper oil fill for the other mounting positions noted below. With synthetic oil, no breather type drain is required.

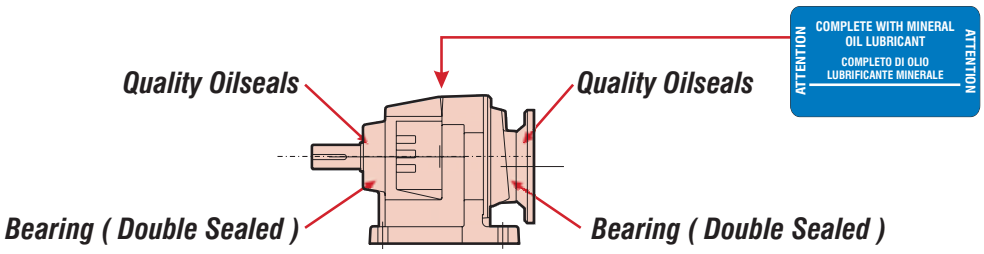


Mounting Position



OIL QUANTITY (Ounces)	Type / Position	B3 / B5	B6	B7	B8	V5 / V1	V6 / V3
	402C	17.64	17.64	17.64	17.64	22.93	29.98
	403C	19.40	19.40	19.40	19.40	24.69	31.75
	602C	35.27	52.91	52.91	52.91	70.55	70.55
	603C	45.86	52.91	52.91	52.91	74.08	70.55

ON REQUEST reducers can be supplied with mineral oil. The standard mineral oil lubricant is ISO VG CLP (CC). When mineral oil is used, a breather type drain must be used to prevent excessive housing pressure and premature wear of the oil seals.



Additionally, specialized lubricants are available for other environments. See page 47 for a listing if in doubt as to the correct lubricant.

Lubrication

Start-Up - **Verify that the installed mounting position is the same as the nametag mounting position.**
If not, adjust the oil quantity accordingly.

Lubricant - All reducers are shipped from the factory properly filled with synthetic lubricant.

Maintenance & Oil Specifications -For synthetic oils, the lube should be changed every 20000 service hours or after four years. In case of extreme operating (e.g. high humidity, aggressive environment or large temperature variations), shorter intervals between changes are recommended.

Typical Oils

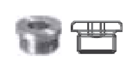
★ *Suggested Standard Oil*

PAO = *Poly Alpha Olefin*

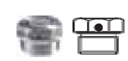
Viscosity ISO NLGI	Type	°F (-50 … +200)	Mobil	Shell	Kluber	Castrol	bp	Tribology Tech-Lube	TEXACO
VG 460	CLP HC	-22°F +176°F	Mobilgear SHC 634	Omala 460 HD	Klubersynth EG 4-460	Insolube EP 460	N / A	Tribol 1510/460	-
VG 320	CLP HC	-31°F +176°F	Mobilgear SHC 632	Omala 320 HD	Klubersynth EG 4-320	Insolube EP 460	N / A	Tribol 1510/320	-
★ VG 220	CLP HC	-30°F +176°F	Mobilgear SHC 630	Omala 220 HD	Klubersynth EG 4-220	Insolube EP 220	N / A	Tribol 1510/220	Pinnacle EP 220
VG 150	CLP HC	-35°F +50°F	Mobilgear SHC 629	Omala 150 HD	Klubersynth EG 4-150	Insolube EP 150	N / A	N / A	Pinnacle EP 150
VG 100	CLP HC	-35°F +50°F	Mobilgear SHC 629	Omala 150 HD	Klubersynth EG 4-150	Insolube EP 150	N / A	N / A	Pinnacle EP 150
VG 68	CLP HC	-40°F +50°F	Mobilgear SHC 626	N / A	N / A	Insolube EP 68	N / A	N / A	-
VG 32	CLP HC	-40°F +50°F	Mobilgear SHC 624	N / A	Kluber-Summit HySyn FG-32	N / A	N / A	N / A	Cetus PAO 46

Ambient Temperature
CLP HC → Synthetic Hydrocarbons

→ Synthetic Lubricant
Reducers can be operated without an open breather plug.



NOTE
If mineral oils are required an open breather plug is required.



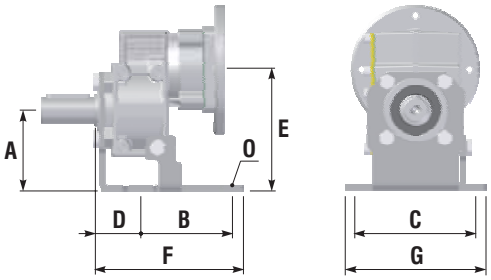
Special Purpose Lubricants

Ambient Temperature	Oil Type	Manufacturer	Oil Brand Name
20°F to 104°F (-5°C to 40°C)	Food Grade Oil - Synthetic	Chevron	FM ISO 220
20°F to 104°F (-5°C to 40°C)	Food Grade Oil - Synthetic	OilJAX	Magnaplate 85W140-FG
5°F to 125°F (-20°C to 50°C)	Fluid Grease	Mobil	Mobilux EP023
-30°F to 140°F (-35°C to 60°C)	Fluid Grease - Synthetic	Mobil	Mobilith SHC 007
-30°F to 140°F (-35°C to 60°C)	Fluid Grease - Synthetic	Shell	Albida LC

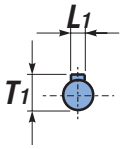
Optional Accessories & Modifications.

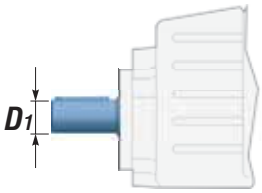
☆ Feet on Request for Single Reduction Units

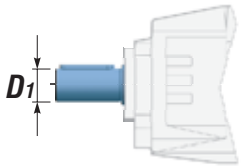
Type	A (")	B (")	C (")	D (")	O (")	E (")	F (")	G (")
311A	2.95	4.33	4.33	0.70	0.35	4.45	5.47	5.20
411A	2.95	4.33	4.33	0.70	0.35	4.45	5.47	5.20
511A	3.54	5.12	4.33	0.98	0.39	5.51	6.61	5.20



☆ Output Shaft on Request







Single Reductions

Type	D1 (")	T1 (")	L1 (")
311A	0.750	0.84	3/16
	0.875	0.96	3/16
411A	0.625	0.71	3/16
	0.875	0.96	3/16
511A	-	-	-
	-	-	-

Double and Triple Red. Aluminum

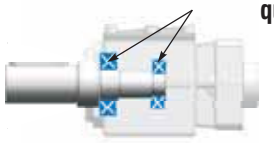
Type	D1 (")	T1 (")	L1 (")
202A	0.750	0.84	3/16
302A	0.625	0.71	3/16
402/3A	0.750	0.84	3/16
452A	-	-	-
502/3A	-	-	-
602/3A	1.250	1.37	1/4

Double and Triple Red. Cast Iron

Type	D1 (")	T1 (")	L1 (")
402/3A	0.750	0.84	3/16
602/3A	1.250	1.37	1/4

☆ Cylindrical roller bearings on the output shaft

For Type
202A - 302A - 452A



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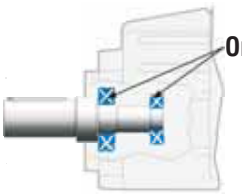
For Type
402A - 403A
502A - 503A
602A - 603A
402C - 403C
602C - 603C



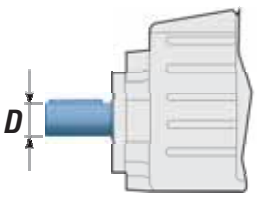
On Request

☆ Metric Output Shaft

For Type	Diameter (mm)
202A	**14** | **16** | 20 | 25
302A	**20** | 14 | 16 | 25
452A	**30** | 28 | 35

For Type	Diameter (mm)
402/3A	**25** | 16 | 19 | 20 | 24
502/3A	**30** | 28 | 35
602/3A	**35** | 30 | 38 | 40

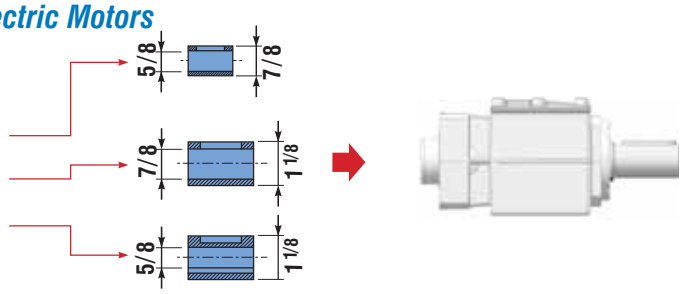
For Type	Diameter (mm)
402/3C	**25** | 16 | 19 | 20 | 24
602/3C	**35** | 30 | 38 | 40



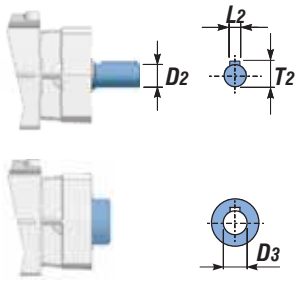
Optional Output / Input Shafts

☆ Input Shaft Bushings for Nema Electric Motors

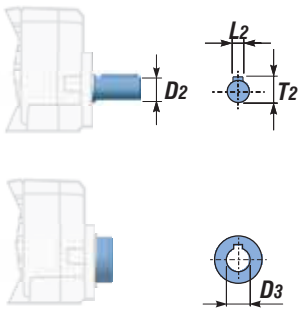
Type	Code
56C ➡ 143/5TC	BRU56143
143/5TC ➡ 182/4TC	BRU143182
56C ➡ 182/4TC	BRU56182

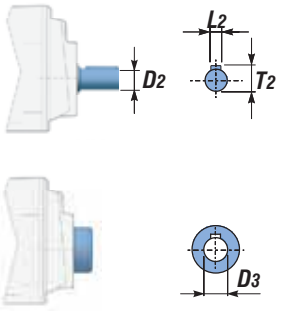


☆ Input Shaft on request Type "R"



Input Bores on request





Single Reductions

Type	D2 (")	T2 (")	L2 (")	D3 (")
311A	-	-	-	-
411A	0.625	0.71	3/16	5/8
511A	0.750	0.84	3/16	5/8
	-	-	-	1 1/8

Double and Triple Reductions Aluminum

Type	D2 (")	T2 (")	L2 (")	D3 (")
202A	-	-	-	-
302A	0.625	0.71	3/16	5/8
402/3A	0.625	0.71	3/16	5/8
452A	0.750	0.84	3/16	5/8
502/3A	0.750	0.84	3/16	5/8
	-	-	-	1 1/8
602/3A	0.750	0.84	3/16	5/8
	-	-	-	1 1/8

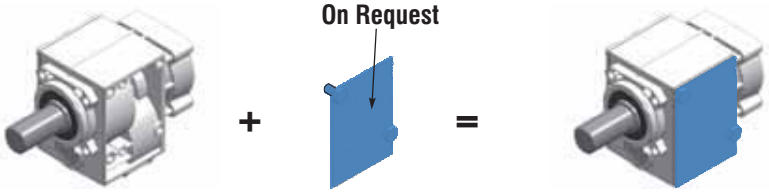
Double and Triple Reductions Cast Iron

Type	D2 (")	T2 (")	L2 (")	D3 (")
402/3C	0.625	0.71	3/16	5/8
602/3C	0.750	0.84	3/16	5/8
	-	-	-	1 1/8

☆ Base Closing Cover

For Type

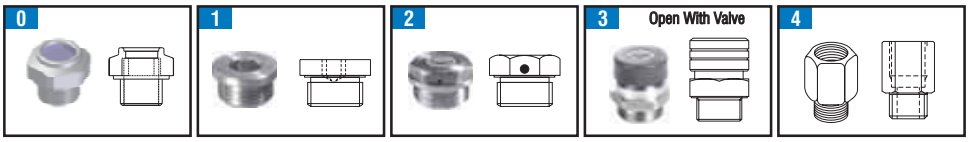
202A - 302A - 452A

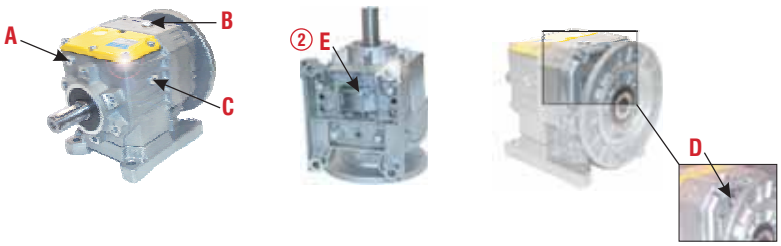


Oil Levels Plugs for 402A÷603C

For applications requiring mineral oils, gearboxes can be delivered with oil plugs (level and leak) as represented in figure 2, for the oil quantity, see pages 45 - 46

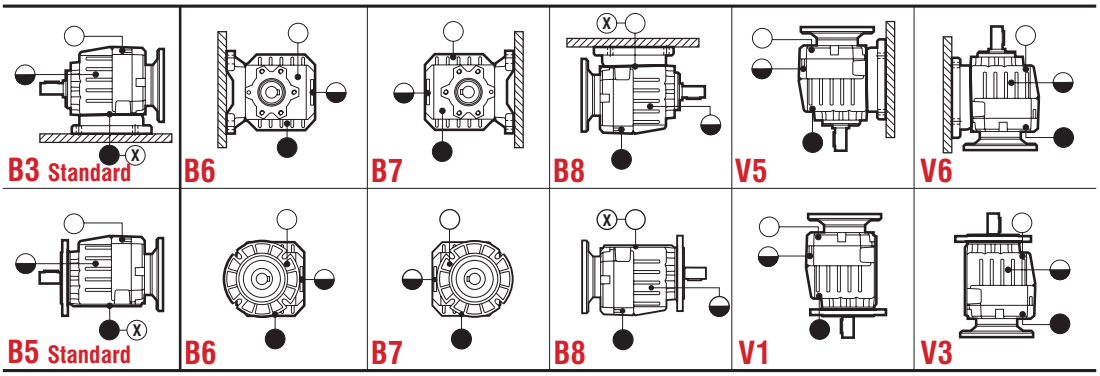
- ○ Breather Plug
- ◒ Oil Level
- ● Drain Plug





Positions	B3 / B5	B6	B7	B8	V5 / V1	V6 / V3
A	1	2 (3)	1	1	1	1
B	2 (3)	0	0	1	0	1
C	0	1	1	0	1	0
D	1	1	1	1	4+2 (3)	1
E	1	1	1	2 (3)	1	1

② In some sizes the drain plug X is missing, use other drain to service the reducer.



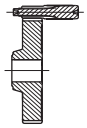
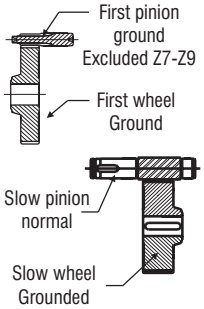
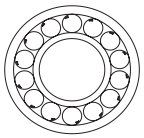
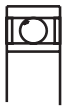
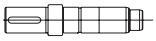
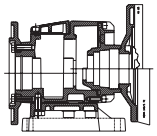
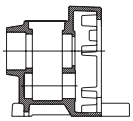
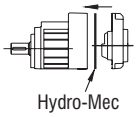
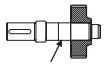
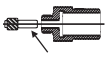
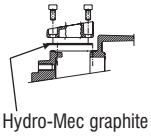
IEC Metric Motor Input Flanges

☆ Input Bore / Flange for IEC Motors (Metric)

IEC Flange	63 B5	71 B5	80 B5	90 B5	100/112 B5	56 B14	63 B14	71 B14	80 B14	90 B14	100/112 B14
ø 1 (”)	5.51	6.30	7.87	7.87	9.84	3.15	3.54	4.13	4.72	5.51	6.30
ø 2 (”)	0.43	0.55	0.75	0.94	1.10	0.35	0.43	0.55	0.75	0.94	1.10

Type	63 B5	71 B5	80 B5	90 B5	100/112 B5	56 B14	63 B14	71 B14	80 B14	90 B14	100/112 B14
202A											
302A											
402A											
403A											
452A											
502A											
503A											
602A											
603A											
402C											
403C											
602C											
603C											

Technical Information

Gears	Bearings	Oil seals	Shafts	Housings	Gaskets	Screws
 Method of calculation: AISI / AGMA 2001-B88Gears Tolerance DIN 3967 Mat.: 16 Mn Cr5 DIN: 16Mn Cr5 AISI/SAE (5115) ***Core and surface hardening*** Surface hardness: 58/60 HRC Surface hardness dept 0.3 / 0.5 mm **MACHINING** Precision class: DIN 6/7  First pinion ground Excluded Z7-Z9 First wheel Ground Slow pinion normal Slow wheel Grounded	 **Open type Or sealed**  2RS For vertical mounting. BRAND USED: KOYO KBC NTN NSK **Higt speed** **Slow speed** URB (From KOYO)	 Q.ty Oil seals Input shaft CORTECO / CORCOS from Freudenberg (Germany) 70 Shore  NITRILE OUTPUT Oil seals Output shaft SIDAT / N.O.K. (JAPAN) 72 Shore On request VITON seals for high temperature.	**OUTPUT**  Mat.: 39NiCrMo3 DIN: 36NiCrMo4 AISI/SAE: 9840 **INPUT**  Mat.: 39NiCrMo3 DIN: 36NiCrMo4 AISI/SAE: 9840	 **ALUMINIUM:** GD-Al Si12 Cu2 Fe DIN 226A SAE 384.2/383  **CAST IRON:** G20 UNI-ISO 185 DIN 1691 ASTM A159-70	 Hydro-Mec graphite gasket On the housing  AREXONS S6A4P on the slow wheel;  AREXONS S6A4P on the first pinion;  Hydro-Mec graphite gasket on the cover	 High resistance Zinc-plated Class 8.8

Maintenance Check List

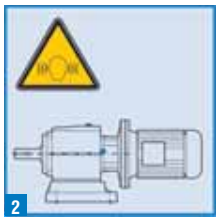
Maintain lubricant in good condition and at proper level. Apply proper maintenance to attached equipment at prescribed intervals recommended by the manufacturer.

- Oil change after 20,000 hr. (if synthetic)
- Oil change after 10,000 hr. (if mineral)
- Oil seals inspect change 5,000 hr.
- Screws check after 2,000 hr. (for Motor Flange)
- Shafts bearings play 3,000 hr.
- Dispose of used lubricant in accordance with applicable laws and regulations.
- Operate the equipment as it was designed to be operated.
- Do not overload.
- Run at correct speed.

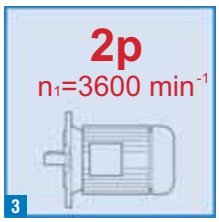
Our company will not be responsible for any direct or indirect damages, caused by improper application or for not observing the catalog specifications.

Selection Check List

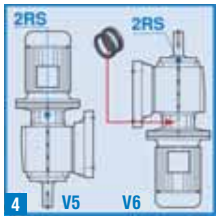
Written authorization is required to operate or use reducers in lifts or people moving devices. Check to make certain application does not exceed the allowable load capacities published in the current catalog. Buyer shall be solely responsible for determining the adequacy of the product for any and all 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.



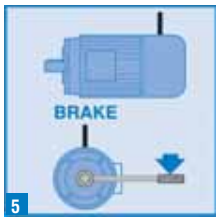
Specify with the order if a special low noise level is required.



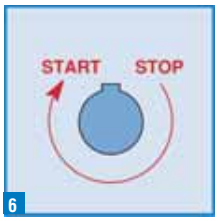
Two pole motors can be used only for very intermittent applications. If two pole motors are used specify on the order.



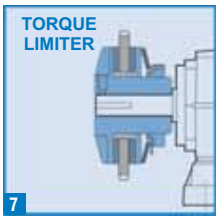
Do not change mounting positions without contacting Renold. Altering the mounting position may require special lubrication provisions which must be factory installed. When reducers are mounted in positions V5 or V6 and used in continuous duty applications, replace the upper bearing with a self lubricated style bearing, and we suggest double input seal for V6.



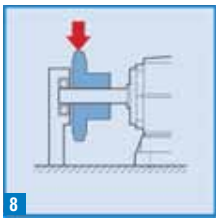
Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake. Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.



For applications having frequent starts and stops it is advisable to use two oil seals or double lip oil seals to avoid premature wear of the oil seals.



If the application subjects the reducer to shock loads and sudden stops it is advisable to use mechanical or eletronic torque limiting devices.



For very heavy radial load, additional output shaft support may be required to prevent premature bearing failure or shaft breakage from bending fatigue.

Stocking Check List

INSPECTION OF UNIT

Thoroughly inspect the equipment for any shipping and handling damage before accepting shipment from the freight company.

PROPER HANDLING OF THE UNIT

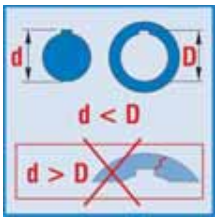
Exercise care to prevent damage to the unit when moving. Insure that adequate safety measures are taken to protect personnel during transportation. Protect the mounting surface from damage.

Keep unit in a dry, temperature controlled area. If stored other than said, long term storage methods must be applied to the unit including complete fill with lubricant. Protect machined surfaces and rotate shafts periodically. Prior to putting unit info service, drain lubricant and refill to proper level as determined by the mounting position.

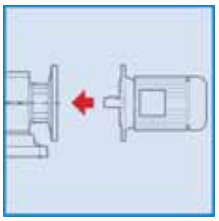
When installed outdoors, make sure protection is provided from atmospheric elements.

Installation Check List

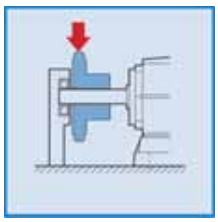
LOCK OUT POWER before any maintenance is performed. Make absolutely sure that no voltage is applied while work is being done on the gearbox.



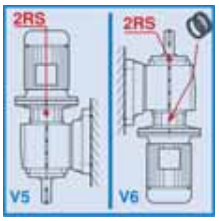
When mounting items to the reducer shaft, appropriate anti-seize and oxidizer compounds should be used.



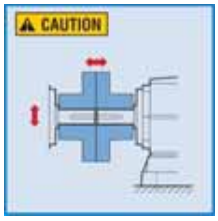
When mounting a motor to reducers, the fastening bolts should not be tightened until both the reducer flange and motor face are in contact. When mounting is complete check by manually rotating the motor's shaft to be sure the assembly turns freely.



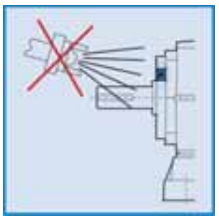
For very heavy radial load, additional output shaft support may be required to prevent premature bearing failure or shaft breakage from bending fatigue.



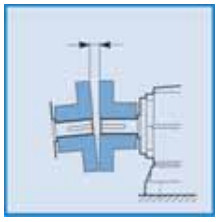
Do not change mounting positions without contacting Renold. Altering the positions may require special lubrication provisions which must be factory installed. When reducers are mounted in positions V5 or V6 and used in continuous duty applications, replace the upper bearing with a self lubricated style bearing, and we suggest double input seal for V6.



The system of connected rotating parts must be free from critical speed, torsional or other type vibration, no matter how induced. The responsibility for this system analysis lies with the purchaser of the speed reducer.



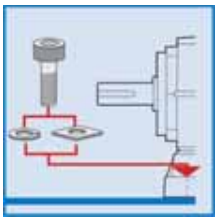
If the reducer is to be painted, protect machined surfaces and oil seals from over-spray.



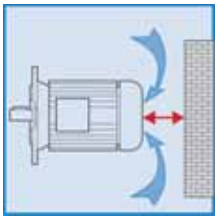
Check shaft and coupling alignment.

In applications where multiple starts, stops or reverses occur, it is advisable to use Loctite Code 270 or similar compounds on the fastening bolts of the output flange and feet.

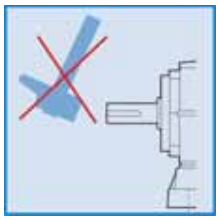
For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.



Mount the reducer on a flat surface free of vibration. If high overhung loads are expected, it is advisable to reinforce bolt heads with washers as shown in picture.



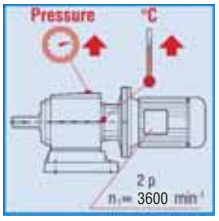
Make sure there is sufficient space between any obstructions and the motor's air intake area to provide adequate cooling for the motor.



When mounting anything on the reducer's shaft,protect the bearings from impact by using the appropriate pullers and threaded holes in the end of the reducer shaft.

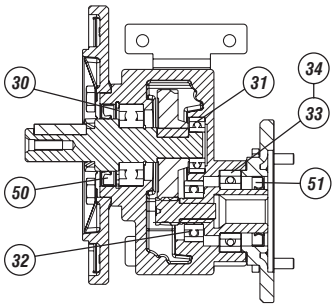
Test run the first unit to verify proper operation.

Make sure that mounting of pulleys or pinions does not create overhung loads exceeding the capacity of the reducer.



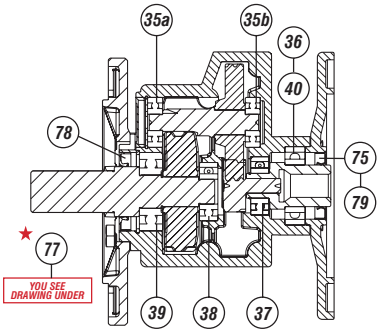
High speed motors, greater than 1800 rpm, can produce high operating temperatures within the reducer and should only be used for intermittent duty applications. Decrease the reducer's lubricant levels and install a breather plug.

Parts List



Single Reduction

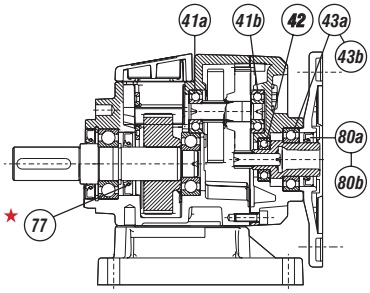
Position Nr° / Type	BEARINGS					OIL SEALS		
	30	31	32	33	34	50	51	
311A	6204	6002	6002	6005	-	20x40x7 TC	-	-
411A	6205	6002	6004	6007	6004	25x47x7 TC	35x47x7 SC	20x30x7 SC
511A	6207	6004	6205	6009	6205	35x72x7 TC	45x62x7 SC	25x35x7 SC



Double Reduction Aluminum

Position Nr° / Type	BEARINGS							OIL SEALS			
	35a	35b	36	37	38	39	40	75	77	78	79
202A	6200	6200	6005	6202	6202	6204	6005	25x40x7 SC	-	30x47x7 TC	20x30x7 SC
302A	6200	6200	6007	6004	6202	6204	6204	35x47x7 SC	-	30x47x7 TC	20x30x7 SC
402A	6200 (6300*)	6202	6007	6004	6204	6205	6004	35x47x7 SC	25x47x7 SC	30x52x7 TC	20x30x7 SC
452A	6202	6202	6009	6205	6205	6206	6205	45x62x7 SC	-	40x62x7 TC	25x35x7 SC
502A	6302	6204	6009	6205	6205	6207	6205	45x62x7 SC	40x52x7 SC	35x72x7 TC	25x35x7 SC
602A	6204	6304	6009	6205	6206	6209	6205	45x62x7 SC	50x62x7 SC	45x85x7 TC	25x35x7 SC

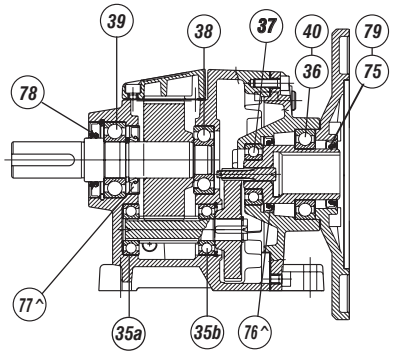
★ The Oil Seal 77 comes only upon request mounted in reducers 402A-502A-602A



Triple Reduction Aluminum

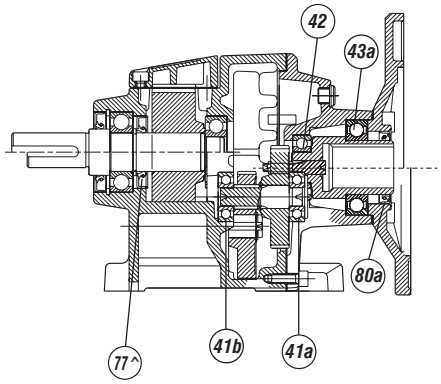
Position Nr° / Type	BEARINGS					OIL SEALS		
	41a	41b	42	43a	43b	77	80a	80b
403A	6201	6201	6002	6005	6005	25x47x7 SC	25x40x7 SC	25x40x7 SC
503A	6201	6301	6004	6007	6004	40x52x7 SC	35x47x7 SC	20x30x7 SC
603A	6201	6301	6004	6007	6004	50x62x7 SC	35x47x7 SC	25x35x7 SC

★ The Oil Seal 77 comes only upon request mounted in reducers 403A-503A-603A



Double Reduction Cast Iron

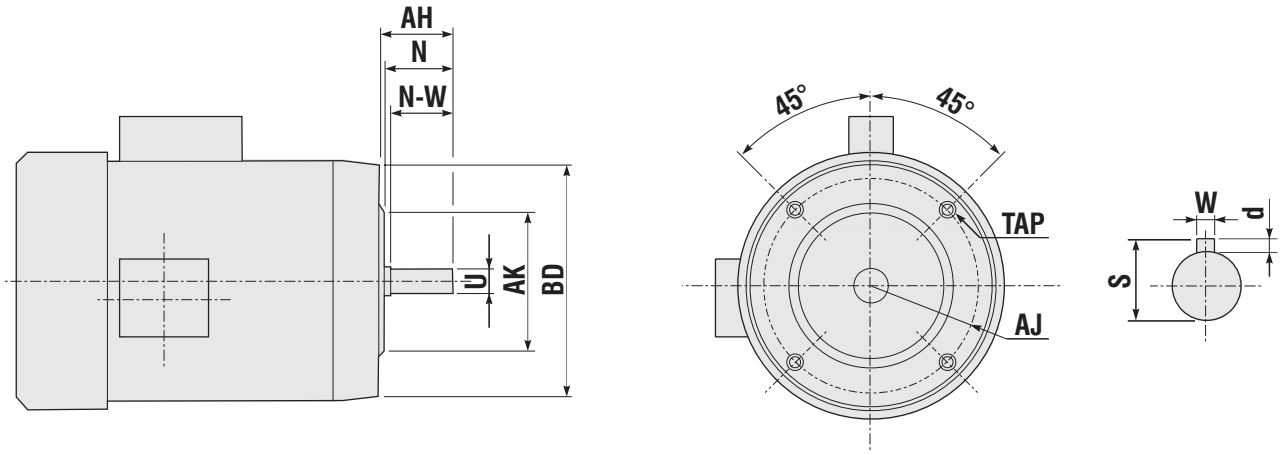
Position Nr° / Type	BEARINGS							OIL SEALS			
	35a	35b	36	37	38	39	40	75	76^	77^	78
402C	6202	6202	6007	6004	6204	6205	6004	35x47x7 SC	40x52x7 SC-	25x47x7 SC	30x52x7 TC
602C	6204	6304	6009	6205	6206	6209	6205	45x62x7 SC	50x75x7 SC	50x68x7 SC	45x85x8 TC



Triple Reduction Cast Iron

Position Nr° / Type	BEARINGS				OIL SEALS	
	41a	41b	42	43a	77^	80a
403A	6201	6201	6004	6007	40x52x7 SC	40x52x7 SC
503A	6201	6301	6004	6007	35x47x7 SC	35x47x7 SC

Nema Standard Motor Dimensions Reference



NEMA SHAFT AND KEYWAY DIMENSIONS

NEMA SHAFT (U)	KEYWAY DIMENSIONS (W x d)	(S)
5/8	3/16 x 3/32	0.709
7/8	3/16 x 3/32	0.964
1 1/8	1/4 x 1/8	1.241
1 3/8	5/16 x 5/32	1.518
1 5/8	3/8 x 3/16	1.796

The condensed dimensions shown on these pages are for general reference only and are not for construction.
Certified drawings of all ratings are available for construction purposes.

NEMA DIMENSIONS

Nema Frame	N	U	N-W	AH	AJ	AK	BD	TAP	KEY
S56 56	1 15/16	5/8	1 7/8	2 1/16	5 7/8	4 1/2	6 1/2	3/8-16	3/16
143T 145T	2 3/8	7/8	2 1/4	2 1/8	5 7/8	4 1/2	6 1/2	3/8-16	3/16
182T 184T	2 7/8	1 1/8	2 3/4	2 5/8	7 1/4	8 1/2	8 7/8	1/2-13	1/4

Notes

Notes

RENOLD Worldwide Sales and Services

ARGENTINA
Bennett Anderson,
Gonzales Y Cia SA, J.Aguero 1817
(1605) Munro
Buenos Aires
Tel: + 54 11 4761 5007/ 3531
Fax: + 54 11 4760 0866

Los Ases Ketten SA,
Avda Gaona 4046,
1407 Buenos Aires
Tel: + 54 116710855
Fax: + 54 116713141

AUSTRALIA
Renold Australia Proprietary Ltd
508-520 Wellington Road,
Mulgrave, Victoria 3170, Mulgrave North
Tel: +61 (0) 3 9262 3333
Fax: +61 (0) 3 9561 8561
Branch Tel: +61 (0) 3 9262 3355
Email: melcag@renold.com.au

Unit 1,
12-18 Victoria Street, Lidcombe,
Sydney, NSW 2141.
Tel: +61 (0) 2 9649 3122
Fax: +61 (0) 2 9646 1295
Email: nswsales@renold.com.au

Unit 10,
31 Boyland Avenue,
Coopers Plains, Brisbane,
Queensland 4108.
Tel: +61 (0) 7 3275 2155
Fax: +61 (0) 7 3875 1779

Corner Orsmond & George Sts.
Hindmarsh, Adelaide,
South Australia 5007.
Tel: +61 (0) 8 8346 9077
Fax: +61 (0) 8 8340 1217

Unit 2,
127 Grandstand Street, Belmont,
Perth, West Australia 6104.
Tel: +61 (0) 8 9479 1388
Fax: +61 (0) 8 9479 1364

Unit 13
56 Industrial Drive,
Mayfield, NSW 2304
Tel: +61 (0) 2 4960 8440
Fax: +61 (0) 2 4960 8455

PO Box 159,
Unanderra, Wollongong, NSW 2526.
Tel: +61 (0) 2 42 621771
Fax: +61 (0) 2 42 621772

Shop B,
247 Ingham Road,
Garbutt, Townsville, QLD 4814.
Tel: +61 (0) 7 4779 5922
Fax: +61 (0) 7 4775 1446

AUSTRIA
Renold GmbH
Rudolf Hausner Gasse 60/1
A-1220 Wien
Austria.
Tel: +43 (0) 1 3303484 0
Fax: +43 (0) 1 3303484 5

BANGLADESH
Brady & Co (Bangladesh) Ltd,
31, Bangabandhu Avenue,
Dhaka-1000
Tel: + 880 2802358
Fax: + 880 2802358

BELGIUM
Renold Continental Ltd
Allée Verte 1,1000 Brussel.
Tel: +32 (0) 2 2011262
Fax: +32 (0) 2 2032210
Email: info@renold.be

CANADA
Renold Canada Ltd
121 Roy Boulevard, Brantford,
Ontario, N3T 5N4
Toll Free: 1-800-265-9970
Tel: +1 519 756 6118
Fax: +1 519 756 1767
Email: inquiry@renoldcanada.com

622 rue De Hull,
Ville La Salle,
Quebec, H8R 1V9.
Toll Free: 1-800-361-1414
Tel: +1 514 367 1764
Fax: +1 514 367 4993

CHILE
Sargent S.A.,
Avda. Presidente Bulnes No 205,
Casilla 166-D,
Santiago - Chile.
Tel: (56 2) 510 3000
Fax: (56 2) 698 3989
Email: secventas@sargentagricola.cl

CHINA
Renold Transmission (Shanghai)
Company Limited
Unit 4A, Block 15
69 XiYa Road
Waigaoqiao Free Trade Zone
Shanghai 200131
Tel: +86 21 5046 2696
Fax: +86 21 5046 2695
Email: sales@renold.cn

COLOMBIA
Transmission de Potencia SA
Carrera 68B No10 - 98
Apartado Aereo 6794
Santafe de Bogato DC
Tel: + 571 2600100
Fax: + 571 2904823

Importadora Casa Sueca Ltda.,
Calle 52, No. 1N-74,
Apartado Aereo 1208, Cali.
Tel: 00 57 2346 4455
Fax: 00 57 2346 4967

CZECH REPUBLIC
Renold GesmbH
Technical Office, Dipl. Ing. R. Badura,
Jaroslavice 129, CZ-76001 Zlin.
Tel: +42 67 7211074
Fax: +42 67 7211074

DENMARK
Renold A/S,
Skelmarksvej 6, Postboks 90,
2605 Brøndby.
Tel: +45 43 452611
Fax: +45 43 456592
Email: renold@post9.tele.dk

EGYPT
Itaco,
Int'l for Trading & Agency,
P.O. Box 7550, Nasr City, Cairo.
Tel: + 20 2 2718036
Fax: + 20 2 2878089

EL SALVADOR
MVA & Cia
Residencial San Luis,
Avenida 4 #45 Block 2,
San Salvador,
El-Salvador, Central America
Tel: + 503 274 649

FINLAND
Kraftmek Oy,
Hitsaajankatu 9, P.O. Box 36,
FIN-00811 Helsinki
Tel: + 358 9 7557355
Fax: + 358 9 7550414

FRANCE
Brampton Renold,
Zone Industrielle A, Rue de la Pointe, BP 359, 59473 Seclin Cedex.
Tel: +33 (0) 320 16 29 29
Fax: +33 (0) 320 16 29 00

GERMANY
Arnold & Stolzenberg,
Juliusmühle,
D37574 Einbeck.
Postal address:
PO Box 1635 + 1645
D37557 Einbeck.
Tel: +49 (0) 5562 81248
Fax: +49 (0) 5562 81130
Email: arnoldandstolzenberg @t-online.de

GREECE
Provatas Engineering
53/47 Dragatsaniou St,
185 - 45 Piraeus.
Tel: + 30 1 4170266
Fax + 30 1 4170253

HOLLAND
Renold Continental Ltd,
Jarmuiden 30c,
1046 AD Amsterdam.
Tel: +31 (0) 20 614 6661
Fax: +31 (0) 20 614 6391
Email: info@renold.nl

HUNGARY
Renold GesmbH
Technical Office, Ing. Havasi Janos,
Ret Utca 25, H-6200 Kiskörös.
Tel: +36 (0) 78 312483
Fax: +36 (0) 78 312484

INDIA
Voltas Limited.,
Machine Tool Division,
Voltas House B, 3rd Floor,
TB Kadam Marg,
Chinchpokli,
Mumbai 400033
Tel: 091 22 370 0829
Fax: 091 22 371 4889
Email: mshaik@voltasltd.com

NORTHERN IRELAND
Henry R. Ayton Ltd,
Derriaghy, Dunmurry, Belfast.
Tel: 01232 618511
Fax: 01232 602436

SOUTHERN IRELAND
Henry R. Ayton Ltd.,
Broomhill Drive, Tallagh, Dublin 24
Tel: + 353 (0) 1 4517922
Fax: + 353 (0) 1 4517922

ISRAEL
Technica J. Bokstein Co. Ltd,
3 Hatrupa Street,
Netanya 42504
Tel: + 972 9 8850505
Fax: + 972 36131074

ITALY
Bianchi Cuscinetti SpA
Via Zuretti, 102, 20125 Milano,
Tel: + 39 02 67861
Fax: + 39 02 66981669

JAMAICA
Masterton Ltd,
21-25 Hanover Street, P.O. Box 73
Kingston.
Tel: + 18 767 540557
Fax: + 18 769 227807

KOREA
S.S. Corporation,
Yeouido, P.O. Box 60, Seoul.
Tel: 00-822-783-6829
Fax: 00-822-784-9322
Email: sslcorp@chollian.net

MALAYSIA
Renold (Malaysia)
LOT 2, Jalan Kecapi 33/2,
Eilte Industrial Park,
Off Jalan Bukit, Kemuning,
40400 Shah Alam, Selangor,
Malaysia.
Tel: + 60 3 5122 9880
Fax: + 60 3 5191 9881
Email: malaysia@renold.com

201, Jalan Simbang,
Taman Perling,
81200 Joho Bharu, Johor, Malaysia.
Tel: + 60 (0) 7 2384152-3
Fax: + 60 (0) 7 2384155
Email: malaysia@renold.com

67A, Jalan Medan Ipoh 6,
Bandar Baru Medan,
31400 Ipoh, Perak
Tel: + 60 (0) 5 548 0059
Fax: + 60 (0) 5 548 0214
Email: malaysia@renold.com

RENOLD Worldwide Sales and Services

28B Jalan Perai Jaya 3,
Bandar Perai Jaya,13600 Perai,
Penang, Malaysia
Tel: + 604-399 9648
Tel: + 604-399 0648
Fax: + 604-399 5649
Email: malaysia@renold.com

MAURITIUS
Dynamotors Ltd,
P.O. Box 733, Bell Village,
Tel: + 230 2122847/8/9
Fax: + 230 2088348

MEXICO
Accessorios Automotrices y
Rodamientos Industriales,
S.A. de C.V., Calz Legaria 833-A
Col Irigacion, Mexico DF 11500
Tel: + 52 5 395 6300
Fax: + 52 5 395 6370

NEW ZEALAND
Renold New Zealand,
594 Rosebank Road,
Avondale, Auckland.

Postal Address:
PO Box 19460,
Avondale, Auckland.
Tel: + 64 (0) 9 828 5018
Fax: + 64 (0) 9 828 5019
Email: aksales@renold.co.nz

Christchurch Branch Office,
32 Birmingham Drive, Christchurch,
PO Box 9006, Christchurch,
Tel: + 64 03 338 2169
Fax: + 64 03 338 8663

NORWAY
G. Heier A/S,
Postal Address: Postboks 6615,
Rodelokka, 0502 Oslo, Norway.
Office Address: Thv, Meyersgt.
7, Oslo.
Tel: + 47 232 34230
Fax: + 47 232 34242

PAKISTAN
Brady & Co. of Pakistan Ltd,
Shernaz House, P.O. Box 4453,
West Wharf Road, Karachi 2.
Tel: + 92 21.2310367/201712
Fax: + 92 21.2313376/2313378

PERU
Corporacion Basco S.A.C.
Av. Argentina 1165,
Lima 1, RUC 25776186.
Tel: + 51 1 4336633
Fax: + 51 1 4313188

PORTUGAL
Harker, Sumner, S.A.
Zona Industrial Maia 1 - Sector X
4475 - 132 Gemunde - Maia
Portugal.
Tel: + 351 229 4478 090
Fax: + 351 229 4478 098
E-mail: accionamantos.ind@harker.pt

SINGAPORE
Renold Transmission Limited
63 Hillview Avenue, #07-13,
Lam Soon Industrial Building,
Singapore 669569.
Tel: + 65 6760 2422
Fax: + 65 6760 1507
E-mail: renold@mbox5.singnet.com.sg

SOUTH AFRICA
Renold Croft (Pty) Limited,
Corner Liverpool and Bolton Streets,
Nestadt Industrial Sites, Benoni, 1501
Postal Address: Private Bag x 030,
Benoni, 1500.
Tel: + 27 (0) 11 747 9500
Fax: + 27 (0) 11 747 9505
E-mail: renold@iafrica.com

P.O. Box 2661, Witbank 1035,
Mpumalanga,
Republic of South Africa.
Tel: +27 (0) 13 692 7760
Fax: +27 (0) 13 697 0546
Email: renoldwit@worldonline.co.za

SPAIN
Brown Pestell,
Ctra N-11 Lm. 599.5 Nave 5,
08780 Palleja, Barcelona.
Tel: + 34 93 6630740
Fax: + 34 93 6632057

SWEDEN
Renold A/S
Skelmarksvej 6, Postboks 90
2605 Brøndby
Denmark.
Tel: + 45 43 452611
Fax: + 45 43 456592
E-mail: renold@post9.tele.dk

SWITZERLAND
Renold (Switzerland) Gmbh,
Ringstrasse 16, Postfach 1115
CH-8600 Dübendorf 1.
Tel: + 41 (0) 1 824 8484
Fax: + 41 (0) 1 824 8411
E-mail: info@renold-gmbh.ch

Route De Prilly 25,
CH-1023 Crissier.
Tel: + 41 (0) 21 632 9460
Fax: + 41 (0) 21 632 9475
E-mail: crissier@renold-gmbh.ch

THAILAND
United Power Engineering Co Ltd
4 Soi Sukhumvit 81 (Siripot)
Sukhumvit Road
Bangjak, Phrakhanong
Bangkok 10260.
Tel: + 66 2 7425366
Fax: + 66 2 7425379

TRINIDAD
Tracmac Engineering Ltd,
P.O. Box 945, Port of Spain,
Trinidad, West Indies.
Tel: + 1 665 460 1532
Fax: + 1 868 671 0012

TURKEY
Glengo Ithalat Ihracat Mumessillik
AS,
Gungoren Cad. No. 35 Bagcilar,
34560
Bakirkoy, Istanbul.
Tel: + 90 212 4613970
Fax: + 90 212 4613972
www.glengo.com.tr

UNITED KINGDOM
Renold Gears
Holroyd Gears Works, Milnrow,
Rochdale OL16 3LS
Tel: +44 (0) 1706 751000
Fax: +44 (0) 1706 751001
E-mail: sales@gears.renold.com
Web: www.renold.com

Renold Clutches & Couplings
Wentloog Corporate Park,
Newlands Road,
Cardiff CF3 2EU, Wales
Tel: + 44 (0) 29 20792737
Fax: + 44 (0) 29 20793004
(Sales):+ 44 (0) 29 20791360
E-mail: couplings@cc.renold.com
Web: www.renold.com

Renold Hi-Tec Couplings
112 Parkinson Road
Halifax HX1 3QH
Tel: +44 (0) 1422 255000
Fax: +44 (0) 1422 320273
E-mail: sales@hitec.renold.com
Web: www.renold.com

Holroyd
Harbour Lane North, Milnrow,
Rochdale, OL16 3LQ.
Tel: +44 (0) 1706 526 590
Fax: +44 (0) 1706 353 350
E-mail: info@holroyd.com
Web: www.holroyd.com

Renold Chain
UK Sales, Horninglow Road,
Burton upon Trent,
Staffordshire, DE14 2PS.
Tel: +44 (0) 1283 512 940
Fax: +44 (0) 1283 512 628
E-mail: enquiry@renold.com

USA
Renold Inc
Bourne Street, PO Box A, Westfield,
New York, 14787-0546
Tel: + 1 716 326 3121
Fax: + 1 716 326 6121
E-mail: renold@cecomet.net

VENEZUELA
Equipos Y Acessorios Astral CA,
Apartado 1651 Valencia.
Tel: + 584 1 332042
Fax: + 584 1 345641

WEB
www.renold.com

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CANADA
Renold Canada Ltd
Head Office & Ontario District
121 Roy Boulevard, Brantford,
Ontario N3T 5N4
Toll Free Tel: 800 265 9970
Tel: (519) 756 6118 Fax: (519) 756 1767
Email: inquiry@renoldcanada.com

Quebec District
622 rue De Hull, Ville La Salle,
Quebec H8R 1V9
Toll Free Tel: 800 361 1414
Tel: (514) 367 1764 Fax: (514) 367 4993

Western District
Toll Free Tel: 800 265 9970
Fax: 800 661 6118

Atlantic and Manitoba District
Toll Free Tel: 800 265 9970
Fax: 800 661 6118

USA
Renold Incorporated
100 Bourne Street
Westfield, NY 14787
Toll Free Tel: 1 800 879 2529
Fax: 716 326 8229
www.renoldajax.com

WEB
www.renold.com

E-MAIL
e-mail : gears.sales@renold.com

For other country distributors
please contact Renold UK.

RENOLD
Superior Gear Technology