

WORM GEAR DRIVES





Contents

Variodrive

- Features and Benefits3
- Nomenclature4
- Quick Select Guide5
- Ratings9
- Dimensions10
- Nema Input Dimensions12
- Mounting Positions13
- Accessories14
- Competitor Cross Reference16

Dimension 3000

- Nomenclature17
- Quick Select Guide18
- Ratings22
- Dimensions23
- Dimensional Comparison Guide27
- Service Factor Guide28
- Warranty35



Superior Products

Since 1975, we have used our talents and expertise to manufacture high quality gear drives including right angle, bevel, worm gear and spindle for power transmission systems serving all types of off-road and other industries. We can also custom design gear drives to meet even the most unique gearbox applications, including guiding you from prototype through testing processes.

Superior Advantage

Our method of manufacture, combined with the most up-to-date engineering software in the gear drive industry, allows us to produce consistent and economical gear drives and products designed to deliver the best solutions for your applications. And, the most demanding, challenging applications always need Superior products. These capabilities make us a valuable resource for your gearbox and special design products as well as contract and custom manufacturing needs. We routinely produce consistent and economical products designed to deliver Superior advantages for your products.

Superior Service

We understand that when you do business with Superior Gearbox Company, you're entrusting us with the reputation of your company and your equipment. That's why attention to detail, customer intensive service and quality control are strengths we take very seriously. Each gear drive or other product leaving our facility must undergo a comprehensive inspection process to guarantee its success, and ensure you receive a truly Superior Gearbox.



Variodrive Features and Benefits

Ribbed aluminum housing* provides expanded surface area and greater heat dissipation than traditional cast iron housings. This allows for higher thermal capacity and reduced internal pressure build up.

Variodrive units have two bearings along the input shaft. This helps prevent leaks and increases flexibility in mounting options versus reducers with a bushing on the input.

Variodrive units are available with standard NEMA motor flange as well as optional IEC motor flanges to fit your needs.

Variodrive units utilize O-rings on the input flange and output cover to prevent leaks. Units are sealed more effectively than similar units using paper gaskets.

All Variodrive units come standard as a hollow output bore design with optional plug-in shafts. This allows you to lower inventory levels and improve profitability.

Due to the improved heat dissipation of the Variodrive unit, no breather plug or ventilation is required. Our units are sealed for life which greatly reduces the opportunity for outside contaminants to enter lubricant and reduce reducer life.

Variodrive units are available in ratios up to 100:1 in a single reduction stage and 10,000:1 in a double reduction unit.

Variodrive units are painted with high quality epoxy paint. This, along with the aluminum housings, help keep these units free from corrosion.

**Units 030-090.*



Variodrive Features and Benefits

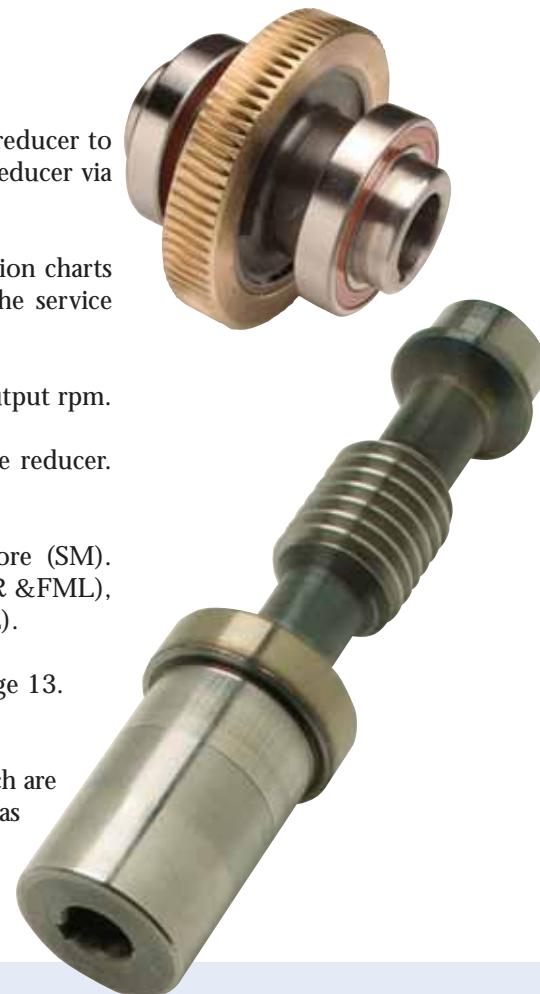


Variodrive Nomenclature

BMQ	075	80	56C	SM	B3	TA
Model	Size	Ratio	Input Size	Output Design	Mounting	Accessories
BMQ Motor	030	5		Shaft Mount Standard—Hollow Output Bore SM	B3	<i>Torque Arm</i> TA
	040	7.5	48C		B6	
Input Flange	050	10	56C	Foot Mount Single or Double Output Shaft	B7	<i>Baseplate</i> BP (A/B)
	063	15	140TC		B8	
	075	20	180TC		V5	
B Input Shaft	090	25	210TC	FMR (Single Right) FML (Single Left) FMD (Double)	V6	<i>Double Extended Input</i> DI
	110	40	250TC			
	130	50				
	150	60				
	80					
	100					
				Flange Mount Optional Mounting Flange and Hollow Bore FL		<i>Protective Cover</i> PC
						<i>Special</i> SP

Determining Your Variodrive Part Number

- Model:** Your Variodrive model is based on whether you require the reducer to be direct coupled to a motor (BMQ) or will be driving the reducer via an external input shaft (B).
- Size:** Select the size of your Variodrive reducer by using our selection charts on pages 6-8. Be sure to select the reducer size that fits the service factor and horsepower requirements of your application.
- Ratio:** Select the appropriate ratio that will give you your desired output rpm.
- Input Size:** Input size is based on the motor that will be coupled to the reducer. This only applies to BMQ style reducers.
- Output Design:** The Variodrive unit comes standard as a hollow output bore (SM). This unit may also be ordered with a single output shaft (FMR & FML), double output shaft (FMD), or as a flange mount design (FL).
- Mounting Position:** Select the appropriate Variodrive mounting position from page 13.
- Accessories:** Variodrive accessories can be found on pages 14-15. Units which are outside of the standard Variodrive design should be designated as "special" and should be submitted for quote. Quote requests should be accompanied by a detailed explanation of the special characteristics of your requested unit.



Variodrive Quick Select Guide

Using the Variodrive Quick Select Guide

Input HP	Service Factor										Model Size		
	5	7.5	10	15	20	25	30	40	50	60	80	100	
0.13	030	030	030	030	030	030	030	030	030	030	040	040	
0.16	030	030	030	030	030	030	030	030	040	040	040	050	
0.25	030	030	030	030	030	030	030	040	040	040	050	050	
0.33	030	030	030	030	040	040	040	040	050	050	050	063	
0.50	030	030	030	040	040	040	040	050	050	063	063	063	
0.75	030	040	040	040	050	050	050	063	063	063	075	075	
1.00	030	040	040	050	050	063	063	063	063	075	090	090	
1.50	040	040	050	063	063	063	063	075	075	090	110	110	
2.00	050	050	050	063	063	075	075	090	090	110	110	130	
3.00	050	063	063	075	075	090	090	110	110	110	130	150	
5.00	-	075	075	090	090	110	110	130	130	130	150	-	
7.50	-	090	090	110	110	130	130	130	150	-	-	-	
10.00	-	090	110	110	130	130	130	150	-	-	-	-	
15.00	-	110	130	130	150	-	-	-	-	-	-	-	
20.00	-	130	130	150	-	-	-	-	-	-	-	-	
30.00	-	150	150	-	-	-	-	-	-	-	-	-	

To use the Variodrive Quick Select Guide*:

1. Select the appropriate service factor for your application (see the Superior Gearbox Service Factor Guide on pgs. 28-34).
2. Select your input horsepower on the appropriate chart.
3. Read across the selected horsepower line until you get to the ratio of the gearbox that you will be using.
4. Upon reaching the appropriate ratio column you will find the Superior Gearbox Variodrive model number that best suits your selected application.
5. The example above shows how you would select the proper gearbox for an application that requires a 0.25 hp motor and a 50:1 ratio with a 1.0 service factor. The model that would be selected is a size 040 reducer.

*The Variodrive Quick Selection Guide is to be used as a selection aid only. The customer is responsible for certifying that the gearbox selected is appropriate for their application.

Variodrive Quick Select Guide



Variodrive Quick Select Guide

Variodrive Quick Select Guide

Service Factor 1.00 Ratio

Input HP	5	7.5	10	15	20	25	30	40	50	60	80	100
0.13	030	030	030	030	030	030	030	030	030	030	040	040
0.16	030	030	030	030	030	030	030	030	040	040	040	050
0.25	030	030	030	030	030	030	030	040	040	040	050	050
0.33	030	030	030	030	040	040	040	040	050	050	050	063
0.50	030	030	030	040	040	040	040	050	050	063	063	063
0.75	030	040	040	040	050	050	050	063	063	063	075	075
1.00	030	040	040	050	050	063	063	063	063	075	090	090
1.50	040	040	050	063	063	063	063	075	075	090	110	110
2.00	050	050	050	063	063	075	075	090	090	110	110	130
3.00	050	063	063	075	075	090	090	110	110	110	130	150
5.00	-	075	075	090	090	110	110	130	130	130	150	-
7.50	-	090	090	110	110	130	130	130	150	-	-	-
10.00	-	090	110	110	130	130	130	150	-	-	-	-
15.00	-	110	130	130	150	-	-	-	-	-	-	-
20.00	-	130	130	150	-	-	-	-	-	-	-	-
30.00	-	150	150	-	-	-	-	-	-	-	-	-

Service Factor 1.25 Ratio

Input HP	5	7.5	10	15	20	25	30	40	50	60	80	100
0.13	030	030	030	030	030	030	030	030	040	040	040	050
0.16	030	030	030	030	030	030	030	030	040	040	040	050
0.25	030	030	030	030	030	030	040	040	040	050	050	063
0.33	030	030	030	040	040	040	040	050	050	050	063	063
0.50	030	030	040	040	040	050	050	050	063	063	063	075
0.75	040	040	040	050	050	063	050	063	063	075	075	090
1.00	040	040	050	050	063	063	063	063	075	075	090	110
1.50	040	050	050	063	063	075	075	075	090	090	110	130
2.00	050	050	063	063	075	075	075	090	110	110	130	130
3.00	-	063	075	075	090	090	090	110	110	130	150	150
5.00	-	075	090	090	110	110	110	130	130	150	-	-
7.50	-	090	110	110	130	110	130	150	-	-	-	-
10.00	-	110	130	130	130	150	-	-	-	-	-	-
15.00	-	130	130	150	150	-	-	-	-	-	-	-
20.00	-	130	150	-	-	-	-	-	-	-	-	-
30.00	-	150	-	-	-	-	-	-	-	-	-	-

Service Factor 1.40 Ratio

Input HP	5	7.5	10	15	20	25	30	40	50	60	80	100
0.13	030	030	030	030	030	030	030	030	040	040	040	050
0.16	030	030	030	030	030	030	030	040	040	040	050	050
0.25	030	030	030	030	040	040	040	040	050	050	050	063
0.33	030	030	030	040	040	040	040	050	050	050	063	063
0.50	030	040	040	040	050	050	050	050	063	063	075	075
0.75	040	040	040	050	050	063	063	063	075	075	090	090
1.00	040	040	050	050	063	063	063	075	075	090	110	110
1.50	050	050	063	063	075	075	075	090	090	110	110	130
2.00	050	063	063	075	075	090	090	090	110	110	130	130
3.00	-	063	075	090	090	110	090	110	130	130	150	-
5.00	-	090	090	110	110	130	130	130	150	150	-	-
7.50	-	090	110	110	130	130	130	150	-	-	-	-
10.00	-	110	110	130	150	150	-	-	-	-	-	-
15.00	-	130	130	150	-	-	-	-	-	-	-	-
20.00	-	150	150	-	-	-	-	-	-	-	-	-
30.00	-	150	-	-	-	-	-	-	-	-	-	-

Service Factor 1.50 Ratio

Input HP	5	7.5	10	15	20	25	30	40	50	60	80	100
0.13	030	030	030	030	030	030	030	030	040	040	040	050
0.16	030	030	030	030	030	030	030	040	040	040	050	050
0.25	030	030	030	030	040	040	040	040	050	050	050	063
0.33	030	030	030	040	040	040	040	050	050	050	063	063
0.50	030	040	040	040	050	050	050	063	063	063	075	075
0.75	040	040	050	050	050	063	063	063	075	075	090	090
1.00	040	040	050	050	063	063	063	075	075	090	110	110
1.50	050	050	063	063	075	075	075	090	090	110	110	130
2.00	050	063	063	075	075	090	090	090	110	110	130	150
3.00	-	063	075	090	090	110	110	110	130	130	150	-
5.00	-	090	090	110	110	130	130	130	150	150	-	-
7.50	-	110	110	130	130	150	150	150	-	-	-	-
10.00	-	110	130	130	150	-	-	-	-	-	-	-
15.00	-	130	130	150	-	-	-	-	-	-	-	-
20.00	-	150	150	-	-	-	-	-	-	-	-	-

Variodrive Quick Select Guide



Variodrive Quick Select Guide

Service Factor 1.75 Ratio

Table with 13 columns: Input HP, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100. Rows include input HP values from 0.13 to 20.00.

Service Factor 2.00 Ratio

Table with 13 columns: Input HP, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100. Rows include input HP values from 0.13 to 20.00.

Variodrive Ratings

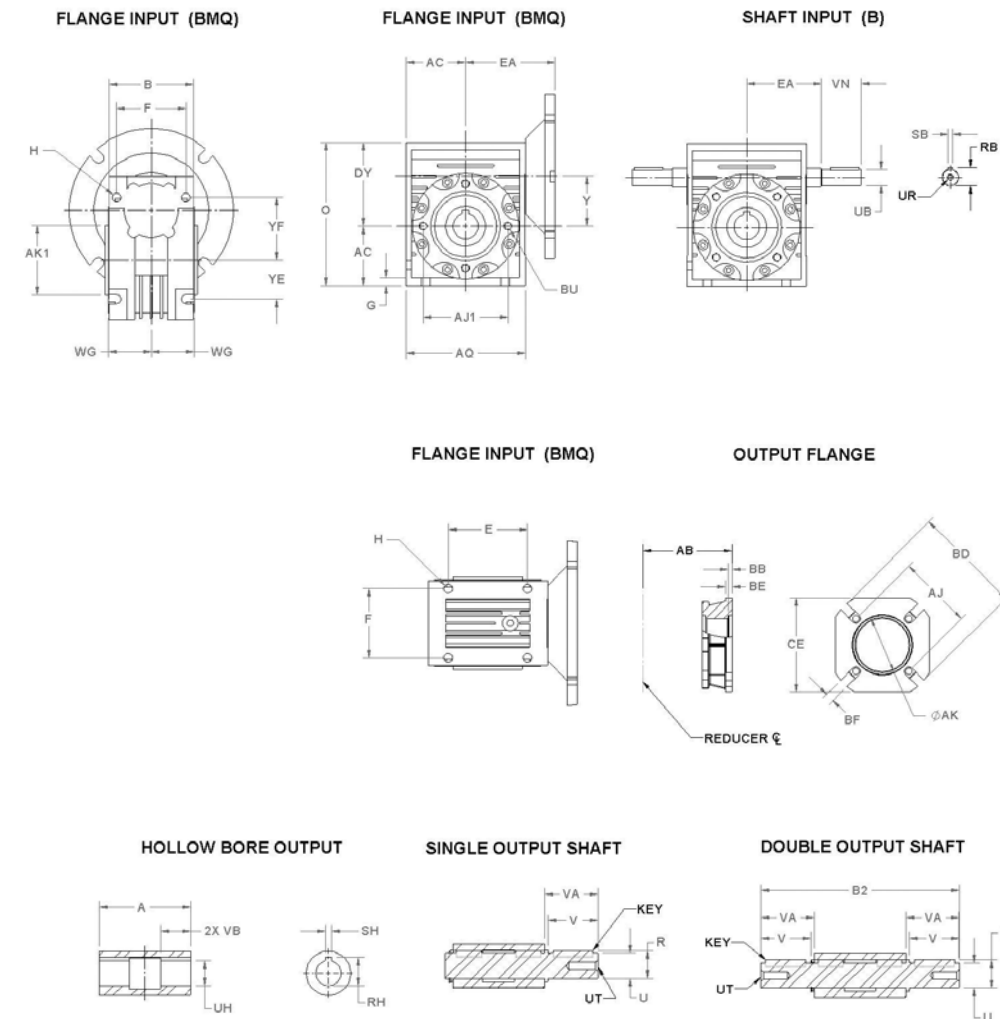
Large table with 13 columns: Ratio, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100. Rows include model numbers (e.g., BMQ030, B030) and output metrics (Torque, RPM, OHL) for various ratios.

NOTE: All ratings are based on 1.0 Service Factor.



Variodrive Dimensions

Variodrive Dimensions



Input Key	30	40	50	63	75	90	110	130	150
Length	0.875	0.875	1.125	1.500	1.875	1.875	2.250	2.500	2.875
Square	0.094	0.125	0.188	0.188	0.188	0.188	0.250	0.250	0.313

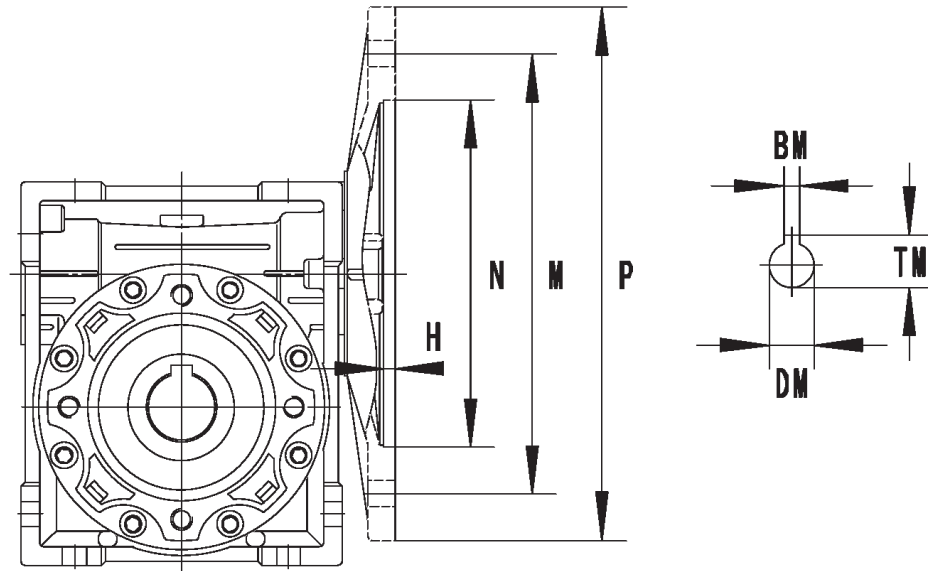
Output Key	30	40	50	63	75	90	110	130	150
Length	1.125	1.500	1.500	1.875	2.250	2.500	2.750	2.750	3.563
Square	0.188	0.188	0.250	0.250	0.250	0.313	0.375	0.375	0.500

	30	40	50	63	75	90	110	130	150
A	2.48	3.07	3.62	4.41	4.72	5.51	6.10	6.69	7.87
AB	2.15	2.64	3.54	3.23	4.37	4.37	5.16	5.51	6.10
AC	1.57	1.97	2.36	2.83	3.39	4.06	5.02	5.81	6.69
AJ	2.68	2.95	3.35	5.91	6.49	6.89	9.06	10.03	10.03
AJ1	2.56	2.95	3.35	3.74	4.53	5.12	6.50	8.46	8.46
AK	1.970/1.976	2.360/2.366	2.760/2.766	4.530/4.536	5.120/5.126	5.980/5.986	6.690/6.696	7.090/7.096	7.090/7.096
AK1	2.16/2.17	2.35/2.36	2.75/2.76	3.14/3.15	3.73/3.74	4.32/4.33	5.11/5.12	7.08/7.09	7.08/7.09
AQ	3.15	3.94	4.72	5.67	6.77	8.11	9.94	11.52	13.39
B	2.20	2.80	3.35	4.06	4.41	5.12	5.67	6.10	7.28
B2	5.83	7.24	7.83	9.41	10.51	12.13	16.14	14.17	16.14
BB	0.16	0.16	0.20	0.24	0.24	0.24	0.24	0.28	0.28
BD	3.15	4.33	4.92	7.09	7.87	8.27	11.02	12.60	12.60
BE	0.24	0.28	0.35	0.39	0.51	0.51	0.59	0.59	0.59
BF	4x .26	4x .35	4x .43	4x .43	4x .55	4x .55	8x .55	8x .63	8x .63
BU	4x M6 ∇ .40	4x M6 ∇ .32	4x M8 ∇ .26	8x M8 ∇ .27	8x M8 ∇ .35	8x M10 ∇ .42	8x M10 ∇ .52	8x M12 ∇ .60	8x M12 ∇ .77
CE	2.76	3.74	4.33	5.60	6.69	7.87	10.24	11.42	11.42
DY	2.24	2.81	3.31	4.02	4.69	5.32	6.59	7.38	9.06
E	2.13	2.76	3.15	3.94	4.72	5.51	6.69	7.87	9.45
EA	2.64	3.15	3.54	4.13	4.96	5.63	6.81	7.60	8.27
F	1.73	2.36	2.76	3.35	3.54	3.94	4.53	4.72	5.71
G	0.22	0.26	0.28	0.32	0.39	0.43	0.57	0.61	0.71
H	0.26	0.26	0.34	0.33	0.45	0.51	0.55	0.63	0.71
O	3.82	4.78	5.67	6.85	8.07	9.37	11.61	13.19	15.75
R	0.70	0.83	1.11	1.23	1.36	1.51	1.79	1.92	2.50
RB	0.42	0.55	0.70	0.83	0.96	0.96	1.23	1.36	1.51
RH	0.71	0.84	1.12	1.24	1.37	1.52	1.80	1.93	2.20
S	0.188	0.188	0.250	0.250	0.250	0.313	0.375	0.375	0.500
SB	0.094	0.125	0.188	0.188	0.188	0.188	0.250	0.250	0.313
SH	0.188	0.188	0.250	0.250	0.250	0.313	0.375	0.375	0.710
U	.621/.626	.746/.751	.996/1.001	1.121/1.126	1.246/1.251	1.371/1.376	1.621/1.626	1.746/1.751	1.996/2.001
UB	.3745/.3780	.4995/.5030	.6245/.6280	.7495/.7530	.8745/.8780	.8745/.8780	1.1245/1.1280	1.2495/1.2530	1.3745/1.3780
UH	.624/.628	.749/.753	.999/1.003	1.124/1.128	1.249/1.253	1.374/1.378	1.624/1.628	1.749/1.753	1.999/2.003
UR		1/4-20	1/4-20	1/4-20	1/4-20	1/4-20	3/8-16	1/2-13	1/2-13
UT	1/4-20	1/4-20	3/8-16	3/8-16	1/2-13	1/2-13	5/8-11	5/8-11	3/4-10
V	1.58	1.97	1.97	2.36	2.76	3.15	3.54	3.54	4.02
VA	1.67	2.09	2.11	2.50	2.89	3.33	4.13	3.74	4.57
VB	0.827	1.024	1.181	1.417	1.575	1.772	1.969	2.362	2.850
VN	1.18	1.18	1.58	1.97	2.36	2.36	2.76	3.15	3.15
WG	1.14	1.44	1.71	2.09	2.24	2.64	2.91	3.19	3.78
Y	1.18	1.58	1.97	2.48	2.95	3.54	4.33	5.12	5.91
YE	1.06	1.38	1.58	1.97	2.36	2.76	3.35	3.94	4.72
YF	1.73	2.17	2.52	3.15	3.66	4.02	4.92	5.51	7.09
Wt. (lbs)	3	5	8	14	20	29	77	106	185



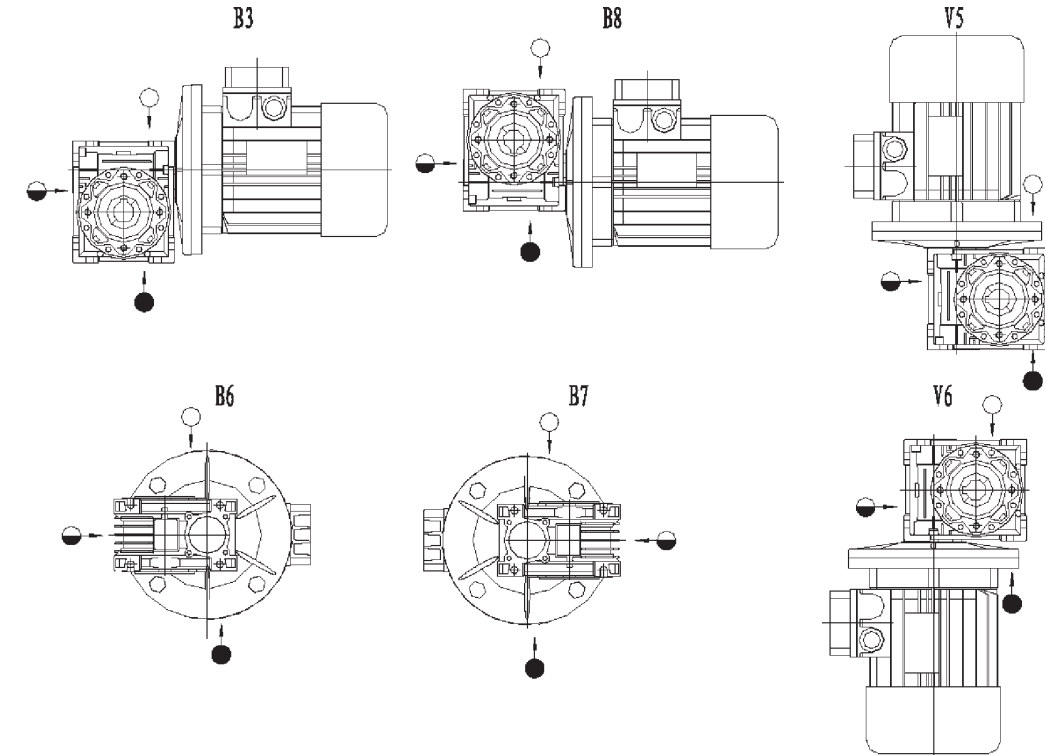
Variodrive NEMA Input Dimensions

Variodrive NEMA Input Dimensions



NEMA Flange	Dimensions								Available Ratios											
	N	M	P	H	TM	BM	DM	5	7.5	10	15	20	25	30	40	50	60	80	100	
BMQ030	48C	3.00	3.75	5.63	0.20	0.56	0.125	0.500	.	.	.	.	.	.	.	.	.	.	.	.
BMQ040	56C	4.50	5.88	6.50	0.20	0.71	0.188	0.625	.	.	.	.	.	.	.	.	.	.	.	.
BMQ050	56C	4.50	5.88	6.50	0.20	0.71	0.188	0.625	.	.	.	.	.	.	.	.	.	.	.	.
BMQ063	56C	4.50	5.88	6.50	0.20	0.71	0.188	0.625	.	.	.	.	.	.	.	.	.	.	.	.
	140TC	4.50	5.88	6.50	0.20	0.97	0.188	0.875	.	.	.	.	.	.	.	.	.	.	.	.
BMQ075	56C	4.50	5.88	6.50	0.20	0.71	0.188	0.625	.	.	.	.	.	.	.	.	.	.	.	.
	140TC	4.50	5.88	6.50	0.20	0.97	0.188	0.875	.	.	.	.	.	.	.	.	.	.	.	.
	180TC	8.50	7.25	9.00	0.22	1.24	0.250	1.125	.	.	.	.	.	.	.	.	.	.	.	.
BMQ090	56C	4.50	5.88	6.50	0.20	0.71	0.188	0.625	.	.	.	.	.	.	.	.	.	.	.	.
	140TC	4.50	5.88	6.50	0.20	0.97	0.188	0.875	.	.	.	.	.	.	.	.	.	.	.	.
	180TC	8.50	7.25	9.00	0.22	1.24	0.250	1.125	.	.	.	.	.	.	.	.	.	.	.	.
BMQ110	140TC	4.50	5.88	6.50	0.20	0.97	0.188	0.875	.	.	.	.	.	.	.	.	.	.	.	.
	180TC	8.50	7.25	9.00	0.22	1.24	0.250	1.125	.	.	.	.	.	.	.	.	.	.	.	.
	210TC	8.50	7.25	9.00	0.22	1.52	0.313	1.375	.	.	.	.	.	.	.	.	.	.	.	.
BMQ130	140TC	4.50	5.88	6.50	0.20	0.97	0.188	0.875	.	.	.	.	.	.	.	.	.	.	.	.
	180TC	8.50	7.25	9.00	0.22	1.24	0.250	1.125	.	.	.	.	.	.	.	.	.	.	.	.
	210TC	8.50	7.25	9.00	0.22	1.52	0.313	1.375	.	.	.	.	.	.	.	.	.	.	.	.
BMQ150	180TC	8.50	7.25	9.00	0.22	1.24	0.250	1.125	.	.	.	.	.	.	.	.	.	.	.	.
	210TC	8.50	7.25	9.00	0.22	1.52	0.313	1.375	.	.	.	.	.	.	.	.	.	.	.	.
	250TC	8.50	7.25	9.00	0.22	1.80	0.375	1.625	.	.	.	.	.	.	.	.	.	.	.	.

Variodrive Mounting Positions



Note: Mounting a worm gear reducer with the input shaft down (B8 or V6) will reduce the life of the input seals due to increased heat and pressure. This can lead to premature seal failure. Superior Gearbox Company always recommends that worm gear units be mounted such that oil pressure on the high speed shaft seal is minimized.

Please contact Superior Gearbox Engineering for V5 or V6 mount.

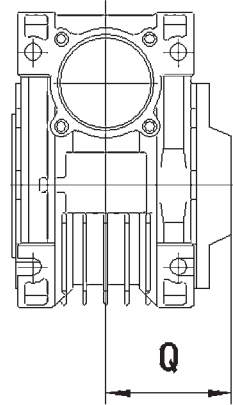
Variodrive Mounting Positions



Variodrive Accessories

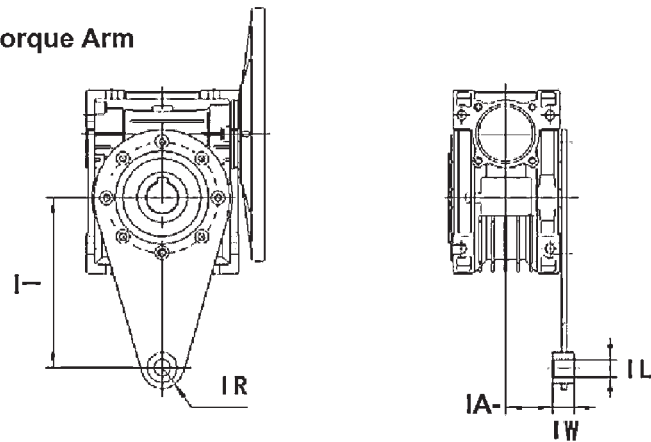
Variodrive Accessories

Protective Cover



	Q
40	1.97
50	2.28
63	2.72
75	2.91
90	3.39
110	3.70
130	4.02
150	4.45

Torque Arm

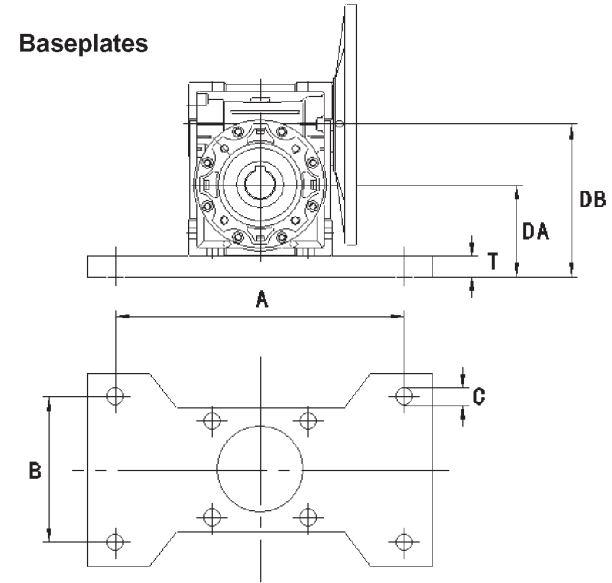


	30	40	50	63	75	90	110	130	150
I	3.35	3.94	3.94	5.91	7.87	7.87	9.84	9.84	9.84
IA	0.94	1.24	1.52	1.93	1.87	2.26	2.44	2.72	3.31
IL	0.31	0.39	0.39	0.39	0.79	0.79	0.98	0.98	0.98
IR	0.59	0.71	0.71	0.71	1.18	1.18	1.38	1.38	1.38
IW	0.55	0.55	0.55	0.55	0.98	0.98	1.18	1.18	1.18

Variodrive Accessories

Variodrive Accessories

Baseplates



	30	040-A	040-B	50	063-A	063-B	75	90
A	4.38	4.38	5.75	6.38	7.06	8.00	8.44	9.50
B	3.31	3.31	4.50	4.69	4.88	5.25	5.88	6.13
C	0.34	0.34	0.41	0.50	0.50	0.50	0.50	0.50
DA	2.25	2.65	2.75	3.00	3.50	3.68	4.00	4.63
DB	3.43	4.22	4.32	4.97	5.97	6.16	6.95	8.17
T	0.68	0.68	0.78	0.64	0.66	0.85	0.61	0.57

Baseplate Competitive Cross Reference

Size	Baldor 900	Boston	Browning / Morse	Grove Gear	Ohio	Dodge	Sterling
030	913	713	133	1133	2133	133	133
040-A	913	713	133	1133	2133	133	133
040-B	918	718	175	1175	2175	175	175
050	921	721	206	1206	2206	200	206
063-A	924	724	237	1238	2238	N/A	237
063-B	924	726	262	1262	2262	262	262
075	932	N/A	300	1300	2300	N/A	300
090	N/A	732	325	1325	2325	350	325

Note: Base footprints are designed to match our competitors units. Other gearbox dimensions may be different from competitor's models. Please contact Superior Gearbox for further information.



Variodrive Competitor Cross Reference

Variodrive Competitor Cross Reference

	Variodrive Model										
	030	040	040	050	063	063	075	090	110	130	150
Baldor	133	133	175	200	225	258	300	350	400	500	N/A
Baldor 900	913	913	918	921	924	924	932	N/A	N/A	N/A	N/A
Bonfiglioli	30	44	44	49	63	63	72	86	110	130	150
Boston Gear	713	713	718	721	724	726	N/A	732	N/A	752	760
Morse Raider	133	133	154, 175	206	237	262	300	325	450	516	600
Electra	13	13	17	21	N/A	26	30	35	400	500	600
Morse Cobra	13	13	18	21	26	26	N/A	38	N/A	N/A	N/A
Grove (Old)	1133	1133	1154, 1175	1206	1238	1262	1300	1325	1425	1525	1600
Grove (New)	213	213	215, 218	206	224	226	230	232	242	252	2600
Hampton	34	45	45	50	60	60	70	80	100, 120	135	155
Hub City	130	130	180	210	N/A	260	N/A	320	450	520	60
Leeson Iron Man	613	613, 618	618	621	624	624, 626	626	632	638	652	660
Morse Invader	13	13	15,18	21	N/A	24,26	30	32	38,45	52	60
Motovario	030	040	040	050	063	063	075	090	110	130	150
Ohio Gear	2133	2133	2175	2206	2238	2262	2300	2325	2425	2525	2600
Dodge	133	133	150, 175	200	N/A	262	N/A	350	N/A	N/A	N/A
Sterling	133	133	175	206	238	262	300	325	425	525	600
Winsmith	913D	913D	917D	920D	924D	926D	930D	6C	72C	9C	10C

Note: This cross reference is based on competitor's published torque ratings. Gearbox dimensions may vary. It is the customer's responsibility to verify fit and function.



Dimension 3000 Cast Iron Reducer Nomenclature

Dimension 3000

DMQ	3325	60	LH	180TC
Model	Size	Ratio	Assembly	Frame Size
D (Basic Unit)	3133 3154 3175	5 10 15	LH (Left Hand Out)	56C 140TC 180TC
DMQ (Basic - Motor Flange)	3206 3238 3262	20 30 40	RH (Right Hand Out)	210TC 250TC
U (Horizontal Base)	3300 3325	50 60	D (Double Output)	
UMQ (Horizontal Base-Motor Flange)				

Determining Your Dimension 3000 Part Number

Model: Your Dimension 3000 model is based on four configurations. Our basic unit (D) has a solid input shaft, solid output shaft and no base. If you add a solid horizontal base to the basic unit, it becomes a (U) configuration. The base plate can be mounted to either the top or bottom. A basic unit that has a motor flange is a (DMQ) unit. A unit with a motor flange and a horizontal base is a (UMQ) unit.



Size: Select the size of your cast iron Dimension 3000 reducer by using our selection charts on pages 19-21 or our rating chart on page 22. Please be sure to select a reducer that fits the service factor and horsepower requirements of your application.

Ratio: Select the appropriate ratio that will give you your desired output rpm.

Assembly: The Dimension 3000 gearbox is available in three configurations, single output extending on the right side (RH), single output extending on the left side (LH) and a double output shaft extending on both sides (D).

Frame Size: Frame size selection only applies to DMQ and UMQ style reducers. Please select the appropriate frame size to correspond to the motor that will be coupled to the reducer.



Dimension 3000 Quick Select Guide

Dimension 3000 Quick Select Guide

Using the Dimension 3000 Quick Select Guide

Input HP	Service Factor 1.00							Ratio	Model Size
	5	10	15	20	30	40	50		
0.13	3133	3133	3133	3133	3133	3133	3133	3133	
0.16	3133	3133	3133	3133	3133	3133	3133	3154	
0.25	3133	3133	3133	3133	3133	3154	3175	3175	
0.33	3133	3133	3133	3133	3154	3175	3175	3206	
0.50	3133	3133	3154	3154	3154	3206	3206	3262	
0.75	3133	3154	3175	3175	3206	3238	3262	3262	
1.00	3133	3175	3206	3206	3238	3262	3300	3300	
1.50	3154	3206	3238	3238	3300	3300	3325	3325	
2.00	3206	3238	3262	3262	3300	3325	3325	-	
3.00	3206	3262	3300	3300	-	-	-	-	
5.00	3262	3325	-	-	-	-	-	-	
7.50	3325	-	-	-	-	-	-	-	

To use the Dimension 3000 Quick Select Guide*:

1. Select the appropriate service factor for your application (see the Superior Gearbox Service Factor Guide on pgs. 28-34).
2. Select your input horsepower on the appropriate chart.
3. Read across the selected horsepower line until you get to the ratio of the gearbox that you will be using.
4. Upon reaching the appropriate ratio column you will find the Superior Gearbox Dimension 3000 model number that best suits your selected application.
5. The example above shows how you would select the proper gearbox for an application that requires a 0.25 hp motor and a 50:1 ratio with a 1.0 service factor. The model that would be selected is a size 3175 reducer.

*The Dimension 3000 Quick Selection Guide is to be used as a selection aid only. The customer is responsible for certifying that the gearbox selected is appropriate for their application.



Dimension 3000 Quick Select Guide

Dimension 3000 Quick Select Guide

Input HP	Service Factor 1.00							
	5	10	15	20	30	40	50	60
0.13	3133	3133	3133	3133	3133	3133	3133	3133
0.16	3133	3133	3133	3133	3133	3133	3133	3154
0.25	3133	3133	3133	3133	3133	3154	3154	3175
0.33	3133	3133	3133	3133	3154	3175	3175	3206
0.50	3133	3133	3154	3154	3154	3206	3206	3238
0.75	3133	3154	3175	3175	3206	3238	3262	3262
1.00	3133	3175	3206	3206	3238	3262	3300	3300
1.50	3154	3206	3238	3238	3300	3300	3325	3325
2.00	3206	3238	3262	3262	3300	3325	3325	-
3.00	3206	3262	3300	3300	-	-	-	-
5.00	3262	3325	-	-	-	-	-	-
7.50	3325	-	-	-	-	-	-	-

Input HP	Service Factor 1.25							
	5	10	15	20	30	40	50	60
0.13	3133	3133	3133	3133	3133	3133	3133	3154
0.16	3133	3133	3133	3133	3133	3133	3133	3154
0.25	3133	3133	3133	3133	3154	3154	3175	3206
0.33	3133	3133	3133	3133	3154	3175	3206	3206
0.50	3133	3133	3154	3175	3206	3238	3238	3238
0.75	3133	3154	3206	3206	3238	3262	3262	3300
1.00	3154	3175	3206	3238	3262	3300	3300	3325
1.50	3175	3206	3262	3262	3300	3325	3325	3325
2.00	3206	3238	3300	3300	3325	-	-	-
3.00	3262	3300	3325	3325	-	-	-	-
5.00	3325	3325	-	-	-	-	-	-



Dimension 3000
Quick
Select
Guide

Dimension 3000
Quick
Select
Guide

Service Factor 1.40
Ratio

Input HP	5	10	15	20	30	40	50	60
0.13	3133	3133	3133	3133	3133	3133	3154	3154
0.16	3133	3133	3133	3133	3133	3154	3154	3175
0.25	3133	3133	3133	3133	3154	3175	3206	3206
0.33	3133	3133	3133	3154	3175	3206	3206	3206
0.50	3133	3154	3175	3175	3206	3238	3238	3262
0.75	3133	3175	3206	3206	3238	3262	3300	3300
1.00	3154	3206	3238	3238	3300	3300	3300	3325
1.50	3206	3238	3262	3262	3300	3325	-	-
2.00	3206	3262	3300	3300	3325	-	-	-
3.00	3262	3300	-	-	-	-	-	-
5.00	3325	-	-	-	-	-	-	-

Service Factor 1.50
Ratio

Input HP	5	10	15	20	30	40	50	60
0.13	3133	3133	3133	3133	3133	3154	3154	3175
0.16	3133	3133	3133	3133	3133	3154	3175	3175
0.25	3133	3133	3133	3154	3175	3175	3206	3206
0.33	3133	3133	3154	3154	3206	3206	3238	3238
0.50	3133	3154	3206	3206	3238	3238	3262	3300
0.75	3154	3175	3206	3238	3262	3300	3300	3325
1.00	3175	3206	3238	3262	3300	3325	3325	3325
1.50	3206	3238	3300	3300	3325	-	-	-
2.00	3238	3300	3300	3325	-	-	-	-
3.00	3300	3325	-	-	-	-	-	-

Service Factor 1.50
Ratio

Input HP	5	10	15	20	30	40	50	60
0.13	3133	3133	3133	3133	3133	3133	3154	3154
0.16	3133	3133	3133	3133	3133	3154	3154	3175
0.25	3133	3133	3133	3133	3154	3175	3206	3206
0.33	3133	3133	3133	3154	3175	3206	3206	3238
0.50	3133	3154	3175	3175	3206	3238	3238	3262
0.75	3154	3175	3206	3206	3262	3262	3300	3300
1.00	3154	3206	3238	3238	3300	3300	3325	3325
1.50	3206	3238	3300	3300	3325	3325	-	-
2.00	3206	3262	3300	3300	-	-	-	-
3.00	3262	3300	-	-	-	-	-	-
5.00	3325	-	-	-	-	-	-	-

Service Factor 2.00
Ratio

Input HP	5	10	15	20	30	40	50	60
0.13	3133	3133	3133	3133	3133	3154	3154	3175
0.16	3133	3133	3133	3133	3154	3154	3175	3206
0.25	3133	3133	3133	3154	3175	3206	3206	3238
0.33	3133	3133	3154	3175	3206	3238	3238	3238
0.50	3133	3154	3206	3206	3238	3262	3300	3300
0.75	3154	3206	3238	3238	3300	3300	3325	3325
1.00	3206	3238	3300	3300	3325	-	-	-
1.50	3206	3262	3300	3300	-	-	-	-
2.00	3262	3300	3325	-	-	-	-	-
3.00	3325	3325	-	-	-	-	-	-

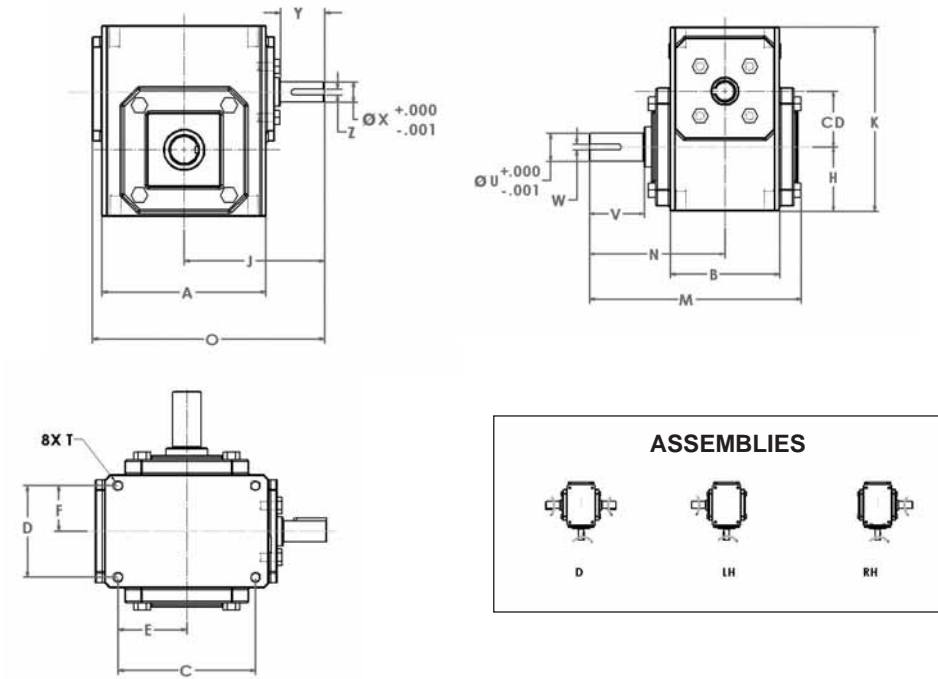


Dimension 3000 Ratings

1750 RPM		Ratio	5	10	15	20	30	40	50	60
3133	Input HP		1.10	0.66	0.49	0.40	0.28	0.21	0.17	0.15
	Output Torque (in. lbs.)		152	182	196	198	198	194	179	151
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		160	160	160	160	160	160	160	160
3154	Input HP		1.54	0.94	0.64	0.56	0.40	0.30	0.24	0.19
	Output Torque (in. lbs.)		211	257	277	283	281	276	263	211
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		285	285	285	285	285	285	285	285
3175	Input HP		1.84	1.26	0.80	0.77	0.47	0.41	0.33	0.28
	Output Torque (in. lbs.)		253	345	317	383	330	375	350	330
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		285	285	285	285	285	285	285	285
3206	Input HP		2.96	1.89	1.24	1.10	0.71	0.60	0.48	0.44
	Output Torque (in. lbs.)		405	518	485	566	510	553	515	520
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		500	500	500	500	500	500	500	500
3238	Input HP		3.67	2.65	1.72	1.56	1.01	0.85	0.70	0.62
	Output Torque (in. lbs.)		506	726	675	802	735	784	776	734
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		535	535	535	535	535	535	535	535
3262	Input HP		4.91	3.20	2.18	2.03	1.32	1.09	0.92	0.80
	Output Torque (in. lbs.)		675	886	863	1055	975	1031	1031	975
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		725	725	725	725	725	725	725	725
3300	Input HP		5.96	4.84	3.59	2.99	2.06	1.66	1.38	1.17
	Output Torque (in. lbs.)		855	1350	1458	1580	1515	1544	1544	1481
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		900	900	900	900	900	900	900	900
3325	Input HP		8.00	6.23	3.96	4.18	2.71	2.25	1.91	1.68
	Output Torque (in. lbs.)		1148	1730	1583	2194	2025	2145	2154	2063
	Output RPM		350	175	117	88	58	44	35	29
	Output OHL (lbs.)		1150	1150	1150	1150	1150	1150	1150	1150

NOTE: All ratings are based on 1.0 Service Factor.

D Style



D Style Shaft Input

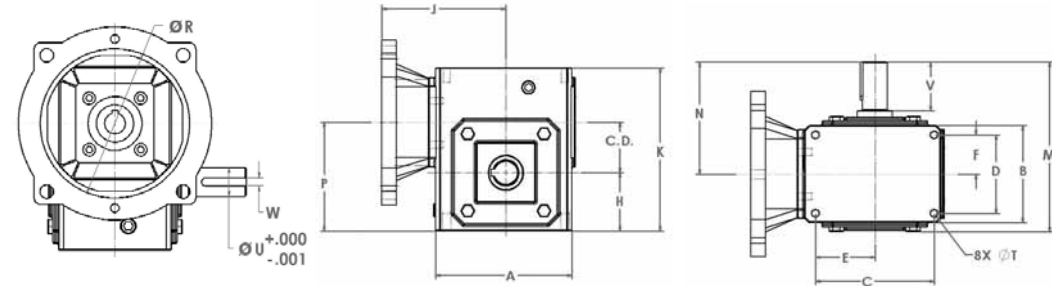
	3133	3154	3175	3206	3238	3262	3300	3325
CD	1.333	1.540	1.750	2.062	2.375	2.625	3.000	3.250
A	4.00	5.13	4.81	5.50	6.13	7.12	8.50	8.50
B	2.88	3.69	3.38	3.75	4.06	4.44	5.50	5.00
C	3.25	4.19	4.19	5.00	5.00	6.38	7.00	7.50
D	2.00	2.75	2.75	2.88	2.88	3.38	4.00	4.00
E	1.63	2.10	2.10	2.50	2.50	3.19	3.50	3.75
F	1.00	1.38	1.38	1.44	1.44	1.69	2.00	2.00
H	1.72	1.91	2.06	2.28	2.50	2.94	3.25	3.50
J	4.03	4.69	4.69	5.06	5.44	6.23	7.00	7.06
K	4.66	5.38	5.75	6.38	6.94	8.00	8.88	9.38
M	6.03	6.76	6.75	7.25	7.78	8.50	10.25	10.50
N	4.00	4.31	4.31	4.69	5.08	5.63	6.75	7.06
O	6.15	7.44	7.44	8.06	9.00	9.92	11.50	11.56
T	5/16-18 X .50	5/16-18 X .50	5/16-18 X .60	3/8-16 X .60	3/8-16 X .60	3/8-16 X .60	7/16-14 X .80	7/16-14 X .80
U	0.625	0.750	0.875	1.000	1.125	1.125	1.250	1.375
V	2.00	1.78	1.88	2.00	2.37	2.50	3.25	3.25
W	3/16 SQ X 1.31	3/16 SQ X 0.88	3/16 SQ X 1.00	1/4 SQ X 1.75	1/4 SQ X 1.38	1/4 SQ X 2.00	1/4 SQ X 2.25	5/16 SQ X 2.41
X	0.500	0.625	0.625	0.625	0.750	0.750	0.875	0.875
Y	1.81	1.69	1.81	1.81	1.94	2.31	2.26	2.31
Z	1/8 SQ X 1.38	3/16 SQ X 0.94	3/16 SQ X 1.50	3/16 SQ X 1.50	3/16 SQ X 1.31	3/16 SQ X 1.88	3/16 SQ X 1.31	3/16 SQ X 1.65

Dimension 3000 Dimensions

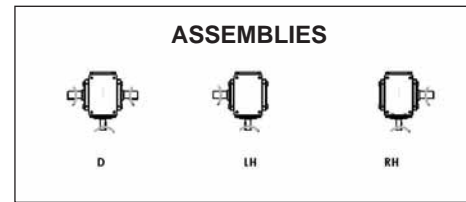


Dimension 3000 Dimensions

DMQ Style



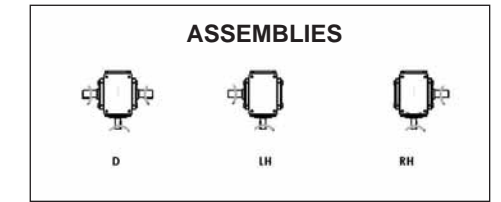
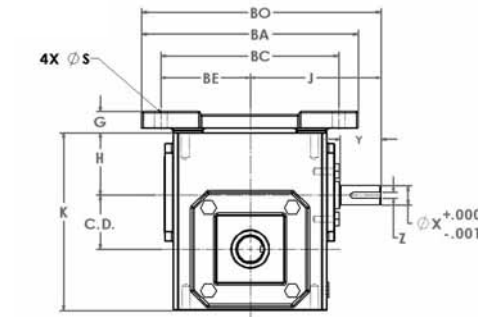
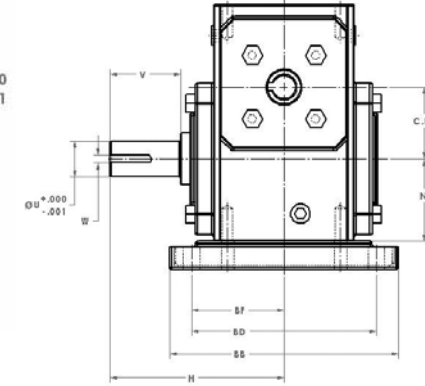
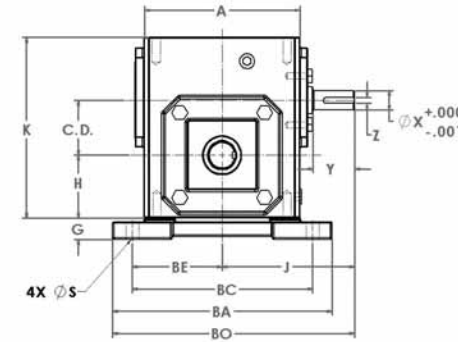
SIZE	BORE	KEYWAY
56C	0.625	3/16
140TC	0.875	3/16
180TC	1.125	1/4
210TC	1.375	5/16



DMQ Style Quill Input

	3133	3154	3175	3206	3238	3262	3300	3325	NEMA
CD	1.333	1.540	1.750	2.062	2.375	2.625	3.000	3.250	
A	4.00	5.13	4.81	5.50	6.13	7.12	8.50	8.50	
B	2.88	3.69	3.38	3.75	4.06	4.44	5.50	5.00	
C	3.25	4.19	4.19	5.00	5.00	6.38	7.00	7.50	
D	2.00	2.75	2.75	2.88	2.88	3.38	4.00	4.00	
E	1.63	2.10	2.10	2.50	2.50	3.19	3.50	3.75	
F	1.00	1.38	1.38	1.44	1.44	1.69	2.00	2.00	
H	1.72	1.91	2.06	2.28	2.50	2.94	3.25	3.50	
J	3.96	4.50	4.37	4.76	5.10	5.69	5.67	5.69	56C
	N/A	N/A	N/A	N/A	5.10	5.69	5.67	5.69	140TC
	N/A	N/A	N/A	N/A	N/A	5.69	6.45	6.47	180TC
K	4.66	5.38	5.75	6.38	6.94	8.00	8.88	9.38	
M	6.03	6.76	6.75	7.25	7.78	8.50	10.25	10.50	
N	4.00	4.31	4.31	4.69	5.08	5.63	6.75	7.06	
P	3.05	3.45	3.81	4.34	4.88	5.57	6.25	6.75	
R	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	56C/140TC
	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	180TC/210TC
T	5/16-18 X .50	5/16-18 X .50	5/16-18 X .60	3/8-16 X .60	3/8-16 X .60	3/8-16 X .60	7/16-14 X .80	7/16-14 X .80	
U	0.625	0.750	0.875	1.000	1.125	1.125	1.250	1.375	
V	2.00	1.78	1.88	2.00	2.37	2.50	3.25	3.25	
W	3/16 SQ X 1.31	3/16 SQ X 0.88	3/16 SQ X 1.00	1/4 SQ X 1.75	1/4 SQ X 1.38	1/4 SQ X 2.00	1/4 SQ X 2.25	5/16 SQ X 2.41	

U Style



U Style Shaft Input

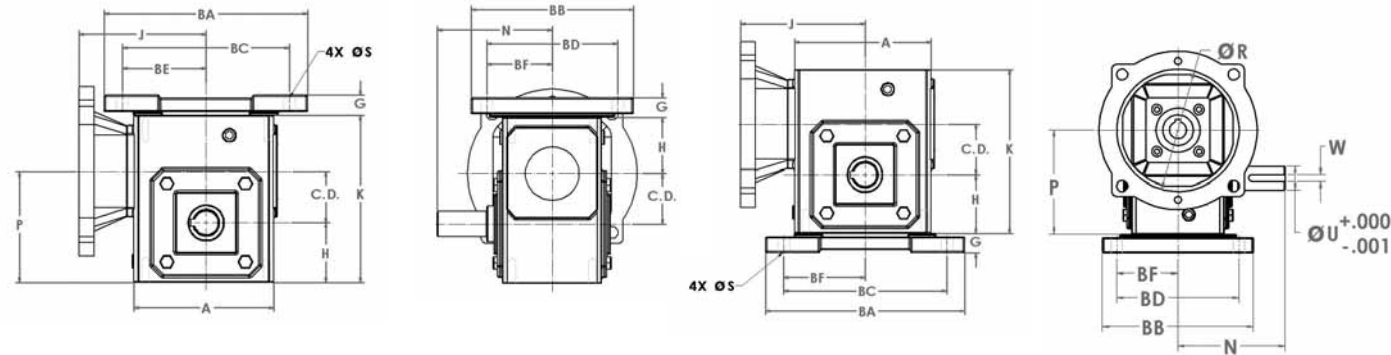
	3133	3154	3175	3206	3238	3262	3300	3325
CD	1.333	1.540	1.750	2.062	2.375	2.625	3.000	3.250
A	4.00	5.13	4.81	5.50	6.13	7.12	8.50	8.50
G	0.53	0.59	0.69	0.72	0.75	0.75	0.88	0.88
H	1.72	1.91	2.06	2.28	2.50	2.94	3.25	3.50
J	4.03	4.69	4.69	5.06	5.44	6.23	7.00	7.06
K	4.66	5.38	5.75	6.38	6.94	8.00	8.88	9.38
N	4.00	4.31	4.31	4.69	5.08	5.63	6.75	7.06
S	4 X Ø.34	4 X Ø.41	4 X Ø.41	4 X Ø.47	4 X Ø.47	4 X Ø.53	4 X Ø.53	4 X Ø.53
V	2.00	1.78	1.88	2.00	2.37	2.50	3.25	3.25
W	3/16 SQ X 1.31	3/16 SQ X 0.88	3/16 SQ X 1.00	1/4 SQ X 1.75	1/4 SQ X 1.38	1/4 SQ X 2.00	1/4 SQ X 2.25	5/16 SQ X 2.41
X	0.500	0.625	0.625	0.625	0.750	0.750	0.875	0.875
Y	1.81	1.69	1.81	1.81	1.94	2.31	2.26	2.31
Z	1/8 SQ X 1.38	3/16 SQ X 0.94	3/16 SQ X 1.50	3/16 SQ X 1.50	3/16 SQ X 1.31	3/16 SQ X 1.88	3/16 SQ X 1.31	3/16 SQ X 1.65
BA	5.38	6.44	7.00	7.69	8.50	9.25	10.16	11.12
BB	4.19	5.44	5.56	5.76	6.19	6.50	7.36	7.75
BC	4.38	5.25	5.75	6.38	7.06	8.00	8.44	9.50
BD	3.31	4.31	4.50	4.69	4.88	5.25	5.88	6.13
BE	2.19	2.63	2.88	3.19	3.53	4.00	4.22	4.75
BF	1.66	2.16	2.25	2.35	2.44	2.63	2.94	3.07

Dimension 3000 Dimensions



Dimension 3000 Dimensions

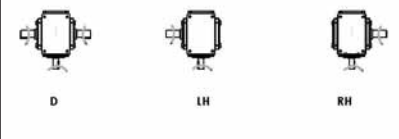
UMQ Style



UMQ Style Quill Input

SIZE	BORE	KEYWAY
56C	0.625	3/16
140TC	0.875	3/16
180TC	1.125	1/4
210TC	1.375	5/16

ASSEMBLIES



	3133	3154	3175	3206	3238	3262	3300	3325	NEMA
CD	1.333	1.540	1.750	2.062	2.375	2.625	3.000	3.250	
A	4.00	5.13	4.81	5.50	6.13	7.12	8.50	8.50	
G	0.53	0.59	0.69	0.72	0.75	0.75	0.88	0.88	
H	1.72	1.91	2.06	2.28	2.50	2.94	3.25	3.50	
J	3.96	4.50	4.37	4.76	5.10	5.69	5.67	5.69	56C
	N/A	N/A	N/A	N/A	5.10	5.69	5.67	5.69	140TC
	N/A	N/A	N/A	N/A	N/A	5.69	6.45	6.47	180TC
K	4.66	5.38	5.75	6.38	6.94	8.00	8.88	9.38	
N	4.00	4.31	4.31	4.69	5.08	5.63	6.75	7.06	
P	3.05	3.45	3.81	4.34	4.88	5.57	6.25	6.75	
R	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	56C/140TC
	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	180TC/210TC
S	4 X Ø.34	4 X Ø.41	4 X Ø.41	4 X Ø.47	4 X Ø.47	4 X Ø.53	4 X Ø.53	4 X Ø.53	
U	0.625	0.750	0.875	1.000	1.125	1.125	1.250	1.375	
W	3/16 SQ X 1.31	3/16 SQ X 0.88	3/16 SQ X 1.00	1/4 SQ X 1.75	1/4 SQ X 1.38	1/4 SQ X 2.00	1/4 SQ X 2.25	5/16 SQ X 2.41	
BA	5.38	6.44	7.00	7.69	8.50	9.25	10.16	11.12	
BB	4.19	5.44	5.56	5.76	6.19	6.50	7.36	7.75	
BC	4.38	5.25	5.75	6.38	7.06	8.00	8.44	9.50	
BD	3.31	4.31	4.50	4.69	4.88	5.25	5.88	6.13	
BE	2.19	2.63	2.88	3.19	3.53	4.00	4.22	4.75	
BF	1.66	2.16	2.25	2.35	2.44	2.63	2.94	3.07	

Dimensional Comparison Guide

Dimension 3000 Dimensions

1 1/3" Center Distance						
Reducer Manufacturer	Model Number	Input Shaft Diameter	Output Shaft Diameter	Base to Centerline of Input Shaft	Base to Centerline of Output Shaft	Horizontal Base Mounting Holes Center to Center LengthxWidth
Superior	U3133	1/2"	5/8"	3.58"	2 1/4"	4 3/8" x 3 5/16"
Boston	713B	✓	✓	✓	✓	✓
Morse Raider	133	✓	✓	✓	✓	✓
Grove Flex	T213	✓	✓	✓	✓	4 3/8" x 4 3/8"-3 5/16"
Leeson Iron	613	✓	✓	✓	✓	✓
Ohio	2133	✓	✓	✓	✓	✓
Hub City	131	✓	✓	4"	2 11/16"	Slotted
1.54" Center Distance						
Superior	U3154	5/8"	3/4"	4.04"	2 1/2"	5 1/4" x 4.31"
Boston	715B	✓	✓	✓	✓	✓
Morse Raider	154	✓	✓	✓	✓	✓
Grove Flex	T215	✓	✓	✓	✓	4 3/8" x 4 3/8"-3 5/16"
Leeson Iron	NA	NA	NA	NA	NA	NA
Ohio	NA	NA	NA	NA	NA	NA
Hub City	NA	NA	NA	NA	NA	NA
1 3/4" Center Distance						
Superior	U3175	5/8"	7/8"	4 1/2"	2 3/4"	5 3/4" x 4 1/2"
Boston	718B	✓	✓	✓	✓	✓
Morse Raider	175	✓	✓	✓	✓	✓
Grove Flex	T218	✓	✓	✓	✓	✓
Leeson Iron	618	✓	✓	✓	✓	✓
Ohio	2175	✓	✓	✓	✓	✓
Hub City	181	1/2"	3/4"	4 3/4"	3"	Slotted
2 1/16" Center Distance						
Superior	U3206	5/8"	1"	5 1/16"	3"	6 3/8" x 4 11/16"
Boston	721B	✓	✓	✓	✓	✓
Morse Raider	206	✓	✓	✓	✓	✓
Grove Flex	T220	✓	✓	✓	✓	✓
Leeson Iron	621	✓	✓	✓	✓	✓
Ohio	2206	✓	✓	✓	✓	✓
Hub City	211	✓	7/8"	5 5/8"	3 9/16"	Slotted
2 3/8" Center Distance						
Superior	U3238	3/4"	1 1/8"	5 5/8"	3 1/4"	7 1/16" x 4 7/8"
Boston	724B	✓	✓	✓	✓	✓
Morse Raider	238	✓	✓	✓	✓	✓
Grove Flex	T224	✓	✓	✓	✓	✓
Leeson Iron	624	✓	✓	✓	✓	✓
Ohio	2238	✓	✓	✓	✓	✓
Hub City	NA	NA	NA	NA	NA	NA
2 5/8" Center Distance						
Superior	U3262	3/4"	1 1/8"	6 5/16"	3 11/16"	8 x 5 1/4"
Boston	726B	✓	✓	✓	✓	✓
Morse Raider	262	✓	✓	✓	✓	✓
Grove Flex	T226	✓	✓	✓	✓	✓
Leeson Iron	624	✓	✓	✓	✓	✓
Ohio	2262	✓	✓	✓	✓	✓
Hub City	261	5/8"	1 1/4"	7 3/16"	4 9/16"	Slotted
3 1/4" Center Distance						
Superior	U3325	7/8"	1 3/8"	7 5/8"	4 3/8"	9 1/2" x 6 1/8"
Boston	732B	✓	✓	✓	✓	✓
Morse Raider	325	✓	✓	✓	✓	✓
Grove Flex	T232	✓	1 1/2"	✓	✓	✓
Leeson Iron	632	✓	✓	✓	✓	✓
Ohio	2325	✓	✓	✓	✓	✓
Hub City	321	✓	✓	7 7/8"	4 5/8"	Slotted

* All units compared include an attached horizontal base. Reference Only - product designs may change and should be verified by customer.



Service Factors for Enclosed Gear Drives

Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Agitators (Mixers)			
Pure Solids	-	1.00	1.25
Liquids and Solids			
Liquids- Variable Density	1.00	1.25	1.50
Blowers			
Centrifugal	1.00	1.25	-
Lobe	1.00	1.25	1.50
Vane	-	1.00	1.25
Brewing and Distilling			
Bottling Machinery	-	1.00	1.25
Brew Kettles, Continuous Duty	-	1.00	1.25
Cookers, Continuous Duty	-	1.00	1.25
Mash Tubs, Continuous Duty	-	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
Can Filling Machines	-	1.00	1.25
Car Dumpers	1.25	1.50	1.75
Car Pullers	1.00	1.25	1.50
Clarifiers	-	1.00	1.25
Classifiers	1.00	1.25	1.50
Clay Working Machinery			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
Compactors	1.50	1.75	2.00
Compressors			
Centrifugal	-	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
Conveyors-General Purpose			
Uniformly Loaded or Fed	-	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
Cranes			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxilliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50



Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Container			
Main Hoist	See Tech. Services		
Boom Hoist	See Tech. Services		
Trolley Drive	See Tech. Services		
Mill Duty			
Main Hoist	See Tech. Services		
Auxilliary	See Tech. Services		
Bridge and Trolley Travel	See Tech. Services		
Industrial Duty			
Main Hoist	1.00	1.25	1.50
Auxilliary	See Tech. Services		
Bridge and Trolley Travel	See Tech. Services		
Crusher			
Stone or Ore	1.50	1.75	2.00
Dredges			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
Elevators			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	-	1.00	1.25
Escalators	See Tech. Services		
Freight	See Tech. Services		
Gravity Discharge	-	1.00	1.25
Extruders			
General	1.25	1.25	1.25
Plastics			
a) Variable Speed Drive	1.50	1.50	1.50
b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
a) Continuous Screw Operation	1.50	1.50	1.50
b) Intermittent Screw Operation	1.75	1.75	1.75
Fans			
Centrifugal	-	1.00	1.25
Cooling Towers	See Tech. Services		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial and Mine	1.00	1.25	1.50
Feeders			
Apron	-	1.00	1.25
Belt	1.00	1.25	1.50
Disc	-	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50



Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Food Industry			
Cereal Cooker	-	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
Generators and Exciters	-	1.00	1.25
Hammer Mills	1.50	1.50	1.75
Hoists			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
Laundry Tumblers	1.00	1.25	1.50
Laundry Washers	1.25	1.25	1.50
Lumber Industry			
Barkers			
Spindle Feed	1.25	1.25	1.25
Main Drive	1.50	1.50	1.50
Conveyors			
Burner	1.25	1.25	1.50
Main or Heavy Duty	1.50	1.50	1.50
Main Log	1.50	1.50	1.50
Re-Saw, Merry-Go-Round	1.25	1.25	1.50
Slab	1.50	1.50	1.75
Transfer	1.25	1.25	1.50
Chains			
Floor	1.50	1.50	1.50
Green	1.50	1.50	1.50
Cut-Off Saws			
Chain	1.50	1.50	1.50
Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
Edger	1.25	1.25	1.50
Gang	1.50	1.50	1.50
Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planar Tilting Hoists	1.50	1.50	1.50
Rolls-Live-Off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
Chain	1.50	1.50	1.50
Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Vaneer Lathe Drives	See Tech. Services		



Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Metal Mills			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table	1.00	1.25	1.50
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
Metal Strip Processing Machinery			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers (Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50
Mills-Rotary Type			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
Mixers, Concrete	1.00	1.25	1.50
Paper Mills			
Agitator (Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log (Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25



Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses - Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps - Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
AC Motor	1.50	1.50	1.50
DC Motor	1.25	1.25	1.25
Washer			
AC Motor	1.50	1.50	1.50
DC Motor	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
Yankee Dryers	1.25	1.25	1.25
Plastics Industry - Primary Processing			
Intensive Internal Mixers			
Batch Mixers	1.75	1.75	1.75
Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Componding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
Plastics Industry - Secondary Processing			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
Pullers-Barge Haul	1.00	1.50	1.75



Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Pumps			
Centrifugal	-	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or more cylinders	1.00	1.25	1.50
Double Acting, 2 or more cylinders	1.00	1.25	1.50
Rotary			
Gear Type	-	1.00	1.50
Lobe	-	1.00	1.25
Vane	-	1.00	1.25
Rubber Industry			
Intensive Internal Mixers			
a) Batch Mixers	1.50	1.50	1.75
b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
Sand Miller	1.00	1.25	1.50
Sewage Disposal Equipment			
Bar Screens	-	1.00	1.25
Chemical Feeders	-	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
Screens			
Air Washing	-	1.00	1.25
Rotary - Stone or Gravel	1.00	1.25	1.50
Traveling - Water Intake	-	1.00	1.25
Sugar Industry			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crusher	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50



Service Factors for Enclosed Gear Drives

Application	Up to 3 Hours/day	3-10 Hours/Day	Over 10 Hours/Day
Textile Industry			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

Enclosed Gear Drive Service Factor Chart

Service Factor	Operating Conditions
1.00	Moderate Shock - not more than 15 minutes in 2 hours Uniform Load - not more than 10 hours per day
1.25	Moderate Shock - not more than 10 hours per day Uniform Load - more than 10 hours per day
1.50	Heavy Shock - not more than 15 minutes in 2 hours Moderate Shock - more than 10 hours per day
1.75	Heavy Shock - not more than 10 hours per day
2.00	Heavy Shock - more than 10 hours per day

Service Factors for Electric and Hydraulic Motors

Duration of Service (Hours per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	-	-	1.00	1.25
Less than 3 Hours	1.00	1.00	1.25	1.50
3-10 Hours	1.00	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00



Limited Warranty

Superior Gearbox Company warrants its products to be free from defects in materials and workmanship for one year from date of shipment, or in-service date. The start of the in-service date cannot exceed ship date by more than one year. It is the responsibility of the customer to provide proof of in-service date. Superior Gearbox Company will repair or replace, at its option, any item found to be defective upon inspection at our factory. Warranty claims must be made in writing to Superior Gearbox Company, and authorization for return of defective items must be obtained prior to shipment. All shipments must be prepaid. Superior's responsibility under this warranty shall be limited to the repair or replacement of our product. The manufacturer disclaims any liability of consequential or special damages or economic loss resulting from the failure of the product.

Warranted Product Limited Warranty

In the event that a product is repaired or replaced under the warranty policy, that unit's warranty will extend to the original warranty date or sixty days from the date of shipment from Superior Gearbox Company, whichever is longer.

Contact the sales department to get a return authorization number. This number needs to be on the outside of the returned package. Send the package to: Superior Gearbox Company, 201 Industrial Drive, Buffalo, MO 65622. The gearbox warranty will be void if the gearbox has been opened. Items returned for restock will have a 15% restock fee issued once they are determined to be in new condition.



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