

Maximum Rating Tables

Size 842 • GR, NH & EL Series

CAST IRON
GR SERIES
CAST IRON
NH SERIES
ALUMINUM
EL SERIES

Style B

Style H



Size 842

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	20.79	19.87	2589	_8420001	_8420013	_8420025	_8420501.XX
	1750	350	18.08	17.25	3209				
	1170	234	15.18	14.43	4016				
	100	20	2.751	2.376	7738				
7.5	2500	333	18.84	17.83	3372	_8420002	_8420014	_8420026	_8420502.XX
	1750	233	16.27	15.36	4148				
	1170	156	13.42	12.61	5094				
	100	13	2.342	1.931	9126				
10	2500	250	17.39	16.37	4127	_8420003	_8420015	_8420027	_8420503.XX
	1750	175	14.93	14.00	5042				
	1170	117	12.31	11.47	6180				
	100	10	2.051	1.629	10629				
15	2500	166	12.94	11.92	4507	_8420004	_8420016	_8420028	_8420504.XX
	1750	116	11.13	10.20	5508				
	1170	78	9.193	8.357	6752				
	100	6.7	1.608	1.190	11245				
20	2500	125	11.02	9.91	4999	_8420005	_8420017	_8420029	_8420505.XX
	1750	87	9.462	8.458	6092				
	1170	58	7.816	6.913	7447				
	100	5.0	1.407	0.956	12056				
25	2500	100	9.256	8.164	5145	_8420006	_8420018	_8420030	_8420506.XX
	1750	70	7.940	6.946	6254				
	1170	46	6.551	5.658	7619				
	100	4.0	1.210	0.764	12038				
30	2500	83	7.517	6.455	4882	_8420007	_8420019	_8420031	_8420507.XX
	1750	58	6.481	5.517	5960				
	1170	39	5.384	4.518	7300				
	100	3.3	1.066	0.636	12026				
40	2500	62	6.101	5.013	5055	_8420008	_8420020	_8420032	_8420508.XX
	1750	43	5.262	4.274	6156				
	1170	29	4.379	3.490	7520				
	100	2.5	0.920	0.480	12090				
50	2500	50	5.088	4.029	5078	_8420009	_8420021	_8420033	_8420509.XX
	1750	35	4.389	3.426	6170				
	1170	23	3.655	2.788	7510				
	100	2.0	0.804	0.375	11809				
60	2500	41	4.333	3.317	5017	_8420010	_8420022	_8420034	_8420510.XX
	1750	29	3.681	2.772	5989				
	1170	19	3.116	2.285	7386				
	100	1.7	0.715	0.302	11439				
80	2500	31	2.019	1.486	2995	_8420011	_8420023	_8420035	_8420511.XX
	1750	21	1.760	1.257	3620				
	1170	14	1.585	1.049	4519				
	100	1.3	0.290	0.135	6804				
100	2500	25	1.341	0.933	2351	_8420012	_8420024	_8420036	_8420512.XX
	1750	17	1.201	0.792	2852				
	1170	11	1.062	0.655	3527				
	100	1.0	0.197	0.083	5219				

How To Build a Part Number For Size GR842, NH842, EL842

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output
 GR-B842-5-L
 GR8420001

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
182-4TC 213-5TC 254-6TC	8420109 8420145 8420181	8420121 8420157 8420193	8420133 8420169 8420205	8420537.XX 8420549.XX 8420561.XX	8420289 8420325 8420361	8420301 8420337 8420373	8420313 8420349 8420385	8420597.XX 8420609.XX 8420621.XX	5
182-4TC 213-5TC 254-6TC	8420110 8420146 8420182	8420122 8420158 8420194	8420134 8420170 8420206	8420538.XX 8420550.XX 8420562.XX	8420290 8420326 8420362	8420302 8420338 8420374	8420314 8420350 8420386	8420598.XX 8420610.XX 8420622.XX	7.5
182-4TC 213-5TC 254-6TC	8420111 8420147 8420183	8420123 8420159 8420195	8420135 8420171 8420207	8420539.XX 8420551.XX 8420563.XX	8420291 8420327 8420363	8420303 8420339 8420375	8420315 8420351 8420387	8420599.XX 8420611.XX 8420623.XX	10
182-4TC 213-5TC	8420112 8420148	8420124 8420160	8420136 8420172	8420540.XX 8420552.XX	8420292 8420328	8420304 8420340	8420316 8420352	8420600.XX 8420612.XX	15
182-4TC 213-5TC	8420113 8420149	8420125 8420161	8420137 8420173	8420541.XX 8420553.XX	8420293 8420329	8420305 8420341	8420317 8420353	8420601.XX 8420613.XX	20
143-5TC 182-4TC 213-5TC	8420078 8420114 8420150	8420090 8420126 8420162	8420102 8420138 8420174	8420530.XX 8420542.XX 8420554.XX	8420258 8420294 8420330	8420270 8420306 8420342	8420282 8420318 8420354	8420590.XX 8420602.XX 8420614.XX	25
143-5TC 182-4TC	8420079 8420115	8420091 8420127	8420103 8420139	8420531.XX 8420543.XX	8420259 8420295	8420271 8420307	8420283 8420319	8420591.XX 8420603.XX	30
143-5TC 182-4TC	8420080 8420116	8420092 8420128	8420104 8420140	8420532.XX 8420544.XX	8420260 8420296	8420272 8420308	8420284 8420320	8420592.XX 8420604.XX	40
143-5TC 182-4TC	8420081 8420117	8420093 8420129	8420105 8420141	8420533.XX 8420545.XX	8420261 8420297	8420273 8420309	8420285 8420321	8420593.XX 8420605.XX	50
56C 143-5TC 182-4TC	8420046 8420082 8420118	8420058 8420094 8420130	8420070 8420106 8420142	8420522.XX 8420534.XX 8420546.XX	8420226 8420262 8420298	8420238 8420274 8420310	8420250 8420286 8420322	8420582.XX 8420594.XX 8420606.XX	60
56C 143-5TC	8420047 8420083	8420059 8420095	8420071 8420107	8420523.XX 8420535.XX	8420227 8420263	8420239 8420275	8420251 8420287	8420583.XX 8420595.XX	80
56C 143-5TC	8420048 8420084	8420060 8420096	8420072 8420108	8420524.XX 8420536.XX	8420228 8420264	8420240 8420276	8420252 8420288	8420584.XX 8420596.XX	100

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

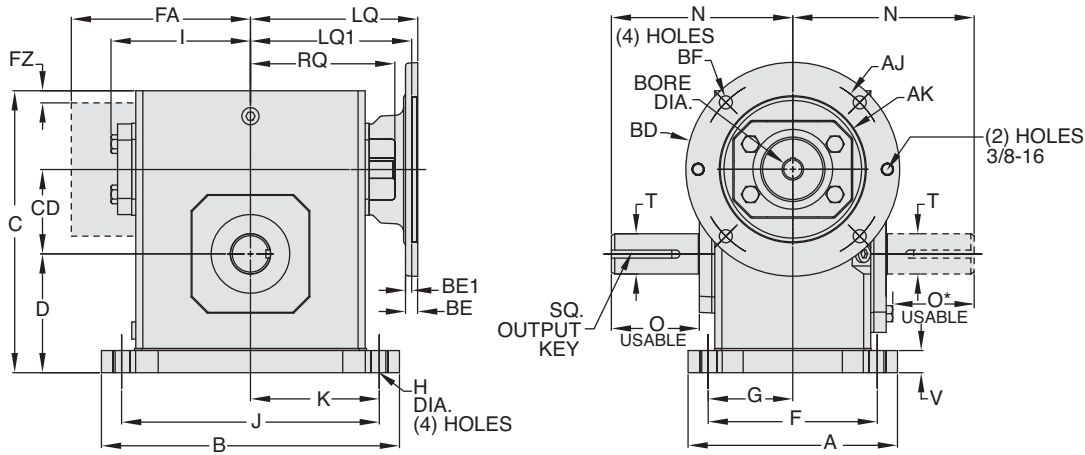
Fraction Size	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	23	24	26	27	28	30	31	32	35



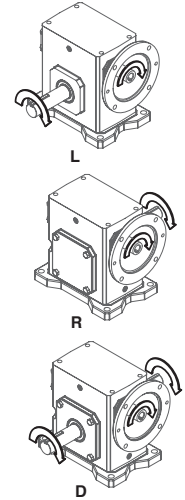
GR Series Dimensions Styles: TMQ, TM, T

**CAST IRON
GR SERIES**

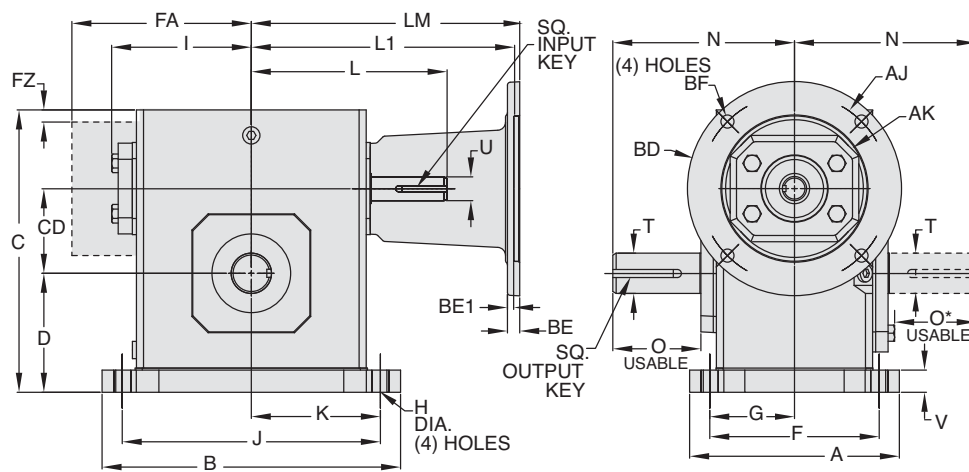
Style TMQ



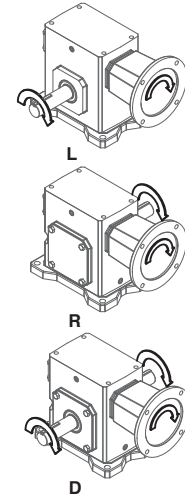
ASSEMBLIES



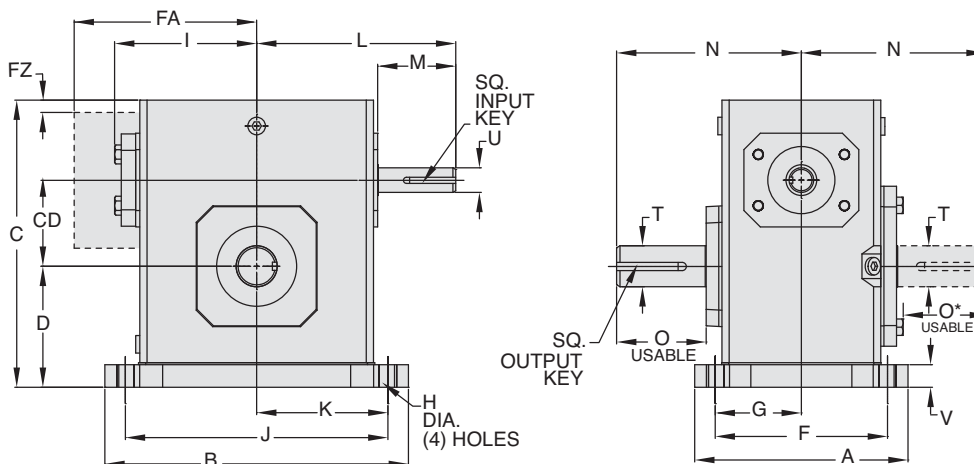
Style TM



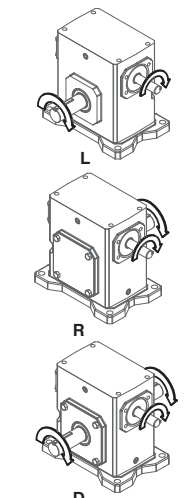
ASSEMBLIES



Style T



ASSEMBLIES



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

STYLE TMQ, TM, T DIMENSIONS (Inches)

Size	A	B	C	D	CD	F	FA ▼	FZ ▼	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
GR813	5.38	5.37	5.19	2.25	1.33	3.31	N/A	N/A	1.66	.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	0.53	.625	.500	1/8 X 1.00	3/16 X 1.50
GR815	5.56	6.50	5.97	2.50	1.54	4.31	N/A	N/A	2.16	.41	3.14	5.25	2.63	4.35	1.76	4.31	2.11	1.90	0.59	.750	.625	3/16 X 1.38	3/16 X 1.50
GR818	5.75	6.99	6.44	2.75	1.75	4.50	N/A	N/A	2.25	.41	3.24	5.75	2.88	4.45	1.76	4.31	2.05	1.84	0.69	.875	.625	3/16 X 1.38	3/16 X 1.38
GR821	6.00	7.69	7.09	3.00	2.06	4.69	N/A	N/A	2.34	.47	3.61	6.38	3.19	4.82	1.76	4.68	2.29	2.08	0.72	1.000	.625	3/16 X 1.38	1/4 X 1.44
GR824	6.19	8.37	7.69	3.25	2.38	4.88	N/A	N/A	2.44	.49	3.77	7.06	3.53	5.51	2.38	5.14	2.66	2.44	0.75	1.125	.750	3/16 X 1.63	1/4 X 1.75
GR826	6.50	9.25	8.75	3.69	2.63	5.25	N/A	N/A	2.63	.53	4.34	8.00	4.00	6.07	2.38	5.63	2.73	2.52	0.75	.750	.750	3/16 X 1.63	1/4 X 1.75
GR830	7.50	10.00	9.63	4.00	3.00	5.88	N/A	N/A	2.94	.53	4.84	8.44	4.22	6.57	2.38	6.75	3.60	3.36	0.75	1.250	.875	3/16 X 1.63	1/4 X 1.75
GR832	7.75	11.12	10.25	4.38	3.25	6.13	N/A	N/A	3.06	.53	5.02	9.50	4.75	6.76	2.38	7.06	3.66	3.42	0.81	.875	.875	3/16 X 1.63	3/8 X 2.25
GR842	9.75	13.24	12.38	5.44	4.25	7.63	N/A	N/A	3.81	.66	6.10	11.12	5.56	9.57	3.47	8.12	4.50	4.21	1.00	1.875	1.250	1/4 X 2.50	1/2 X 3.06
GR852	10.50	16.24	15.13	6.25	5.25	8.38	N/A	N/A	4.19	.78	7.50	14.12	7.06	10.88	3.38	9.06	4.78	4.53	1.13	2.000	1.250	1/4 X 3.00	1/2 X 3.50
GR860	12.00	18.99	17.75	7.75	6.00	9.50	11.13	0.33	4.75	.91	N/A	16.49	8.25	11.78	3.41	10.00	4.65	4.65	1.25	2.500	1.500	3/8 X 3.00	5/8 X 4.00
GR870	13.38	15.38	20.33	9.00	7.00	11.25	11.37	0.35	5.63	1.13	N/A	13.00	6.50	11.50	2.97	11.76	5.65	5.65	1.42	2.750	1.625	3/8 x 2.87**	5/8 x 4.00**
GR880	13.50	17.37	22.61	10.50	8.00	11.50	12.52	0.57	5.75	1.13	N/A	14.75	7.38	12.50	2.84	12.25	5.98	5.98	1.65	3.000	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	16.88	21.14	27.12	12.00	10.00	14.00	14.69	0.51	7.00	1.44	N/A	17.00	8.50	15.50	3.76	14.75	6.76	6.76	1.65	3.750	2.250	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 52-53 (B, BM, BMQ).

Motor Mounting Dimensions
NEMA DIMENSIONS (Inches)

Size	48CZ LM	56C/ 140TC	180TC/ 210TC	L1 250TC	LQ 48CZ/ 56C/140TC	180TC	LQ1 210TC	250TC	48CZ/ 56C/140TC	RQ 180TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A
GR826*	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A
GR830	N/A	8.82	9.82	N/A	5.95	6.15	6.56	N/A	5.32	5.63	N/A
GR832*	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	N/A
GR842	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45	9.33	9.33	9.94	10.01	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJb	AK	BD	BE	BE1	Bore Dia.	Keyway ♦	BFb
48CZ	3.75	3.00	4.36	0.38	N/A	.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches) ♦

Size	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	5.57	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

♦ Keyway width by depth

⬢ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style TM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

♦ Metric IEC B5 input flange options are available only on quill input styles.

* Dimensions same for GRG and GRL Series

* Style T and TM only.

▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.



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