

Maximum Rating Tables

GR, NH & EL Series • All Stock Styles

CAST IRON
GR SERIES

CAST IRON
NH SERIES

ALUMINUM
EL SERIES



Select and order
double reduction
reducers with
model number.
Refer to page 112
for Model Number
System.

SIZES 830, 832 • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	SIZE GR830 & EL830			SIZE NH830			SIZE GR832 & EL832			SIZE NH832		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	1.811	1.338	3615	1.610	1.190	3206	2.005	1.482	4002	1.610	1.190	3214
	1170	15.60	1.312	0.932	3764	1.190	0.845	3412	1.569	1.109	4481	1.320	0.933	3770
100	1750	17.50	1.528	1.063	3830	1.310	0.912	3284	1.984	1.405	5059	1.610	1.140	4114
	1170	11.70	1.108	0.741	3990	0.950	0.635	3420	1.528	1.038	5592	1.250	0.849	4574
150	1750	11.70	1.075	0.714	3844	0.970	0.644	3482	1.537	0.973	5243	1.330	0.842	4547
	1170	7.80	0.766	0.486	3925	0.694	0.440	3552	1.136	0.679	5485	0.984	0.588	4755
200	1750	8.75	0.904	0.566	4076	0.775	0.485	3491	1.208	0.768	5534	1.020	0.649	4673
	1170	5.85	0.649	0.386	4163	0.556	0.331	3563	0.870	0.525	5658	0.734	0.443	4773
250	1750	7.00	0.770	0.458	4128	0.665	0.396	3563	1.016	0.617	5557	0.838	0.509	4581
	1170	4.68	0.557	0.314	4213	0.479	0.270	3633	0.735	0.423	5675	0.603	0.347	4673
300	1750	5.83	0.638	0.365	3967	0.580	0.332	3589	0.931	0.517	5615	0.811	0.450	4865
	1170	3.90	0.462	0.248	4010	0.417	0.224	3625	0.680	0.356	5747	0.589	0.308	4975
400	1750	4.38	0.549	0.294	4209	0.467	0.250	3599	0.735	0.399	5722	0.616	0.335	4824
	1170	2.93	0.389	0.196	4254	0.336	0.169	3636	0.523	0.266	5786	0.444	0.226	4876
500	1750	3.50	0.466	0.236	4257	0.402	0.204	3669	0.591	0.302	5440	0.528	0.270	4855
	1170	2.34	0.330	0.157	4301	0.290	0.138	3705	0.414	0.197	5400	0.382	0.182	4896
600	1750	2.92	0.409	0.195	4235	0.357	0.170	3671	0.571	0.268	5817	0.497	0.233	5032
	1170	1.95	0.297	0.132	4279	0.258	0.115	3707	0.419	0.182	5886	0.361	0.157	5088
750	1750	2.33	0.359	0.157	4301	0.313	0.137	3705	0.484	0.214	5858	0.429	0.188	5066
	1170	1.56	0.274	0.110	4331	0.229	0.092	3729	0.370	0.150	5914	0.313	0.127	5111
900	1750	1.94	0.315	0.129	4279	0.278	0.114	3707	0.440	0.177	5886	0.389	0.157	5088
	1170	1.30	0.234	0.089	4309	0.203	0.077	3731	0.330	0.122	5933	0.286	0.106	5127
1000	1750	1.75	0.314	0.123	4324	0.262	0.103	3723	0.411	0.165	5776	0.334	0.134	4821
	1170	1.17	0.234	0.083	4346	0.195	0.069	3741	0.301	0.111	5827	0.244	0.090	4861
1200	1750	1.46	0.277	0.102	4302	0.233	0.086	3725	0.378	0.136	5731	0.327	0.118	5117
	1170	0.975	0.200	0.067	4324	0.174	0.058	3743	0.258	0.085	5503	0.241	0.079	5146
1500	1750	1.17	0.206	0.067	3537	0.211	0.069	3741	0.282	0.093	4905	0.287	0.095	5134
	1170	0.780	0.148	0.043	3395	0.158	0.046	3754	0.201	0.059	4684	0.216	0.064	5158
1800	1750	0.972	0.193	0.059	3746	0.188	0.058	3743	0.221	0.067	4221	0.261	0.079	5146
	1170	0.650	0.145	0.040	3580	0.142	0.039	3755	0.169	0.045	4045	0.199	0.053	5165
2400	1750	0.729	0.173	0.046	4136	0.158	0.042	3646	0.183	0.051	4565	0.206	0.057	4892
	1170	0.488	0.133	0.031	3900	0.120	0.028	3659	0.141	0.034	4318	0.156	0.038	4909
3000	1750	0.583	0.168	0.041	4261	0.137	0.033	3588	0.182	0.046	4823	0.170	0.043	4620
	1170	0.390	0.149	0.027	4276	0.104	0.019	3600	0.129	0.029	4553	0.129	0.029	4636
3600	1750	0.486	0.151	0.033	4128	0.120	0.026	3406	0.174	0.040	5064	0.143	0.033	4300
	1170	0.325	0.100	0.020	4142	0.091	0.018	3417	0.112	0.023	4767	0.109	0.022	4314

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
Refer to page 131 for exact ratio of worm gear primary stage and worm gear secondary stage.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation,
limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

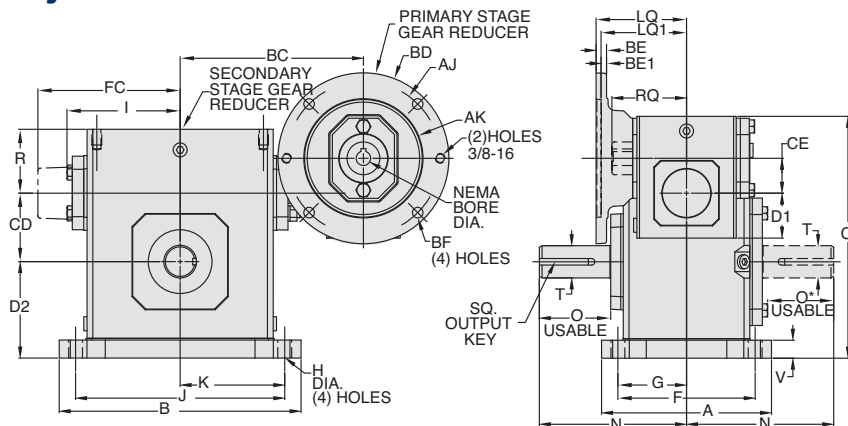
For input/output shaft overhung load and thrust load ratings, refer to pages 419-422.



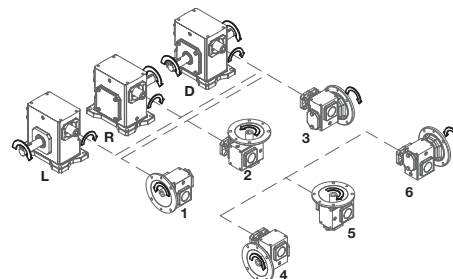
GR Series Dimensions Styles: DTMQ, DTM, DT

**CAST IRON
GR SERIES**

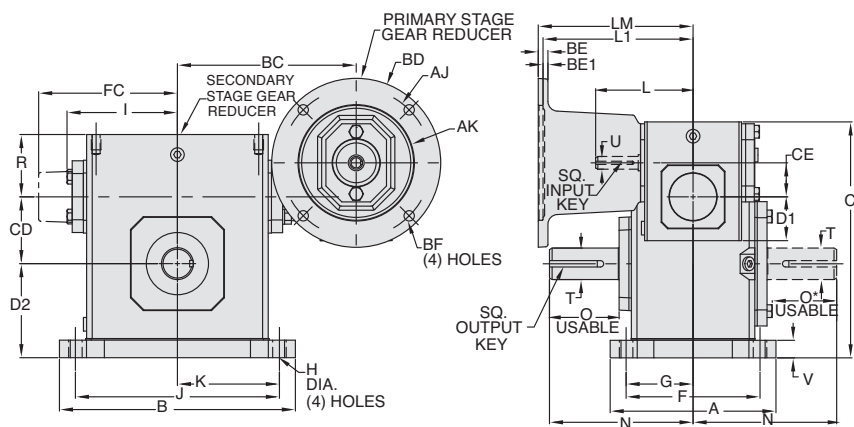
Style DTMQ



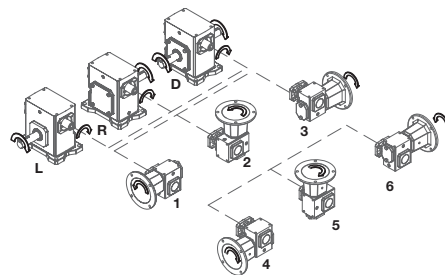
ASSEMBLIES



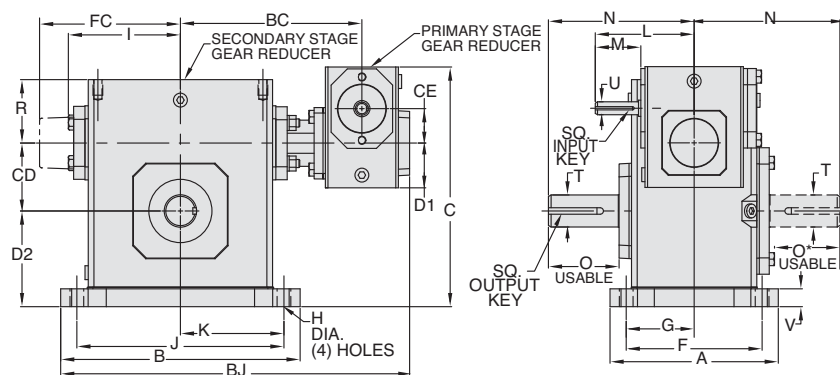
Style DTM



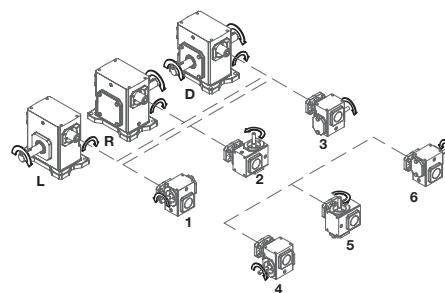
ASSEMBLIES



Style DT



ASSEMBLIES



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



STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	FC*	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	4.24	5.37	5.32	9.85	6.52	1.33	1.33	4.66	1.72	2.25	3.31	N/A	1.66	.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	1.61	0.53	.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	5.56	6.50	5.85	10.94	6.98	1.54	1.33	4.66	1.72	2.50	4.31	N/A	2.16	.41	3.14	5.25	2.63	3.82	1.76	4.31	2.11	1.90	1.93	0.59	.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	5.75	6.99	5.94	11.28	7.44	1.75	1.33	4.66	1.72	2.75	4.50	N/A	2.25	.41	3.24	5.75	2.88	3.82	1.76	4.31	2.05	1.84	1.94	0.69	.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	6.00	7.69	6.32	12.01	8.00	2.06	1.33	4.66	1.72	3.00	4.69	N/A	2.34	.47	3.61	6.38	3.19	3.82	1.76	4.68	2.29	2.08	2.03	0.72	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	6.19	8.37	6.44	12.48	8.56	2.38	1.33	4.66	1.72	3.25	4.88	N/A	2.44	.49	3.77	7.06	3.53	3.82	1.76	5.14	2.66	2.44	2.06	0.75	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	6.50	9.25	7.01	13.48	9.25	2.63	1.33	4.66	1.72	3.69	5.25	N/A	2.63	.53	4.34	8.00	4.00	3.82	1.76	5.63	2.73	2.52	2.44	0.75	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	7.50	10.00	7.86	15.08	9.94	3.00	1.75	5.38	2.06	4.00	5.88	N/A	2.94	.53	4.84	8.44	4.22	4.35	1.76	6.75	3.60	3.36	2.63	0.75	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	7.75	11.12	8.05	15.81	10.44	3.25	1.75	5.38	2.06	4.38	6.13	N/A	3.06	.53	5.02	9.50	4.75	4.35	1.76	7.06	3.66	3.42	2.63	0.81	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	9.75	13.24	9.18	18.19	13.78	4.25	2.06	6.38	2.28	5.44	7.63	N/A	3.81	.66	6.10	11.12	5.56	4.82	1.76	8.12	4.50	4.21	2.69	1.00	1.875	0.625	3/16 x 1.38	1/2 X 3.06
GR852	10.50	16.24	11.57	22.59	16.56	5.25	2.63	8.00	2.94	6.25	8.38	N/A	4.19	.78	7.50	14.12	7.06	6.07	2.38	9.06	4.78	4.53	3.63	1.13	2.000	0.750	3/16 x 1.63	1/2 X 3.50
GR860	12.00	18.99	13.30	26.19	19.63	6.00	3.25	9.38	3.50	7.75	9.50	10.24	4.75	.91	N/A	16.49	8.25	6.76	2.38	10.00	4.65	4.65	4.00	1.25	2.500	0.875	3/16 x 1.63	5/8 X 4.00
GR870	13.38	15.38	12.96	24.58	21.88	7.00	3.25	9.38	3.50	9.00	11.25	10.63	5.63	1.13	N/A	13.00	6.50	6.76	2.38	11.76	5.65	5.65	4.33	1.42	2.750	0.875	3/16 x 1.75**	5/8 x 4.00**
GR880	13.50	17.37	13.94	26.88	25.44	8.00	4.25	11.38	4.44	10.50	11.50	11.93	5.75	1.13	N/A	14.75	7.38	9.57	3.47	12.25	5.98	5.98	4.11	1.65	3.000	1.250	1/4 X 2.88**	3/4 x 4.50**
GR8100	16.88	21.14	17.05	32.92	30.88	10.00	5.25	14.00	5.12	12.00	14.00	14.34	7.00	1.44	N/A	17.00	8.50	10.88	3.38	14.75	6.76	6.76	5.12	1.65	3.750	1.250	1/4 X 3.00**	7/8 x 5.00**

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
							GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
							GRL

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages 132-133 (DMQ, DM, D).

▲ See feature comparison chart.

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM 48CZ 56C/140TC	L1 180TC/210TC	LQ 48CZ/56C/140TC	180TC	LQ1 210TC	250TC	RQ 48CZ/56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	3.59	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	3.59	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	4.06	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	4.82■	5.13	N/A
GR860	N/A	9.01	10.01	N/A	6.14■	6.34	N/A	5.51■	5.81	6.25
GR870	N/A	9.01	10.01	N/A	6.14■	6.34	N/A	5.51■	5.81	6.25
GR880	N/A	11.81	12.90	13.46	6.45■	7.21	7.77	6.04■	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85■	8.61	9.17	7.35■	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BFC
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
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	LQ1				RQ							
	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	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BFTAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

* Applies to double output shaft

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

◆ Keyway width by depth

■ 48CZ not available

* Style DT and DTM only.

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

* Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap 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.