

## How To Use Maximum Rating Tables

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages 22-48. Selection of the appropriate gear reducer can be made using these tables or the Quick Selection Tables (pages 18-19).

### BEFORE YOU START:

**Identify the Service Factor** of the application (see page 658).

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

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

**Identify the mounting style** required by your application from the style charts shown on pages 10-17. Note the basic mounting style (BMQ, BM, etc.).

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

Single Reduction  
Worm Gear Reducers

### MAXIMUM RATING TABLES

SIZE 813 • GR, NH, EL SERIES

CAST IRON  
GR SERIES

CAST IRON  
NH SERIES

ALUMINUM  
EL SERIES

**1 Find the appropriate Maximum Rating Tables pages** for your basic mounting style. The tables begin on page 22.

**4 Select motor frame size.**

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

**5 Identify the model number and catalog number** of the basic reducer by continuing to the right. See page 9 for detailed information on building an exact model number.

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

**6 Verify physical dimensions** using the dimensional drawings shown on pages 52-109.

Size 813						Style B				Style H			
Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
5	2500	500	1.528	1.429	180	_8130001	_8130013	_8130025	_8130501.10	_8130003	_8130015	_8130027	_8130503.10
	1750	350	1.248	1.158	209								
	1170	234	0.952	0.872	235								
7.5	100	20	0.140	0.095	298	_8130002	_8130014	_8130026	_8130502.10	_8130004	_8130016	_8130028	_8130504.10
	2500	500	1.281	1.178	223								
	1750	350	1.025	0.933	252								
10	1170	156	0.770	0.689	278	_8130005	_8130017	_8130029	_8130505.10	_8130006	_8130018	_8130030	_8130506.10
	100	13	0.248	0.072	309								
	30	1750	58	0.395	0.290								
1170	39	0.308	0.215	348									
100	3.3	0.071	0.023	429									
40	2500	62	0.400	0.283	285	_8130009	_8130021	_8130033	_8130509.10	_8130010	_8130022	_8130034	_8130510.10
	1750	43	0.329	0.223	322								
	1170	29	0.258	0.165	355								
50	100	2.5	0.066	0.017	432	_8130011	_8130023	_8130035	_8130511.10	_8130012	_8130024	_8130036	_8130512.10
	2500	50	0.346	0.232	292								
	1750	35	0.285	0.182	327								
60	1170	23	0.224	0.133	359	_8130013	_8130025	_8130037	_8130513.10	_8130014	_8130026	_8130038	_8130514.10
	100	2.0	0.061	0.014	431								
	2500	41	0.297	0.184	279								
80	1750	29	0.246	0.145	313	_8130015	_8130027	_8130039	_8130515.10	_8130016	_8130028	_8130040	_8130516.10
	1170	19	0.195	0.107	345								
	100	1.7	0.058	0.011	415								
100	2500	31	0.144	0.081	183	_8130017	_8130029	_8130041	_8130517.10	_8130018	_8130030	_8130042	_8130518.10
	1750	21	0.121	0.064	183								
	1170	14	0.092	0.047	201								
125	100	1.5	0.048	0.008	237	_8130019	_8130031	_8130043	_8130519.10	_8130019	_8130031	_8130043	_8130519.10
	2500	39	0.288	0.168	128								
	1750	27	0.232	0.133	143								
150	1170	17	0.172	0.093	156	_8130021	_8130033	_8130044	_8130521.10	_8130021	_8130033	_8130044	_8130521.10
	100	1.4	0.045	0.007	184								
	2500	33	0.264	0.156	128								
175	1750	25	0.212	0.121	143	_8130023	_8130035	_8130045	_8130523.10	_8130023	_8130035	_8130045	_8130523.10
	1170	15	0.156	0.081	156								
	100	1.3	0.042	0.006	184								

**Style BM**

NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.
48CZ 56C	_8130109	_8130121	_8130133
	_8130037	_8130049	_8130061
48CZ 56C	_8130110	_8130122	_8130134
	_8130038	_8130050	_8130062
48CZ 56C	_8130111	_8130123	_8130135
	_8130039	_8130051	_8130063
48CZ 56C	_8130112	_8130124	_8130136
	_8130040	_8130052	_8130064
48CZ 56C	_8130113	_8130125	_8130137
	_8130041	_8130053	_8130065
48CZ 56C	_8130114	_8130126	_8130138
	_8130042	_8130054	_8130066
48CZ 56C	_8130115	_8130127	_8130139
	_8130043	_8130055	_8130067
48CZ 56C	_8130116	_8130128	_8130140
	_8130044	_8130056	_8130068
48CZ 56C	_8130117	_8130129	_8130141
	_8130045	_8130057	_8130069
48CZ 56C	_8130118	_8130130	_8130142
	_8130046	_8130058	_8130070
48CZ 56C	_8130119	_8130131	_8130143
	_8130047	_8130059	_8130071
48CZ 56C	_8130120	_8130132	_8130144
	_8130048	_8130060	_8130072

▲ Consult Factory for other motor frames available.

**Part Number For Size GR813, NH813, EL813**

1. Select the correct gear reducer size from the selection table. 2. Replace leading “\_” with series code (GR, NH, EL).

**Example:**  
Grove Gear IRONMAN, style B, 5:1 ratio, left hand output

GROVE GEAR

www.grovegear.com

ELECTRA-GEAR

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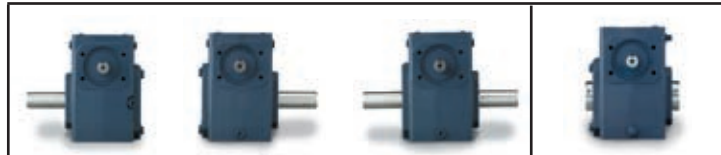
# MAXIMUM RATING TABLES

SIZE 813 • GR, NH, EL SERIES



Style B

Style H



**Size 813**





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.
<b>5</b>	2500	500	1.528	1.429	180	__8130001	__8130013	__8130025	__8130501.10
	1750	350	1.248	1.158	209				
	1170	234	0.952	0.872	235				
	100	20	0.140	0.095	298				
<b>7.5</b>	2500	333	1.281	1.178	223	__8130002	__8130014	__8130026	__8130502.10
	1750	233	1.025	0.933	252				
	1170	156	0.770	0.689	278				
	100	13	0.118	0.072	339				
<b>10</b>	2500	250	1.016	0.912	230	__8130003	__8130015	__8130027	__8130503.10
	1750	175	0.823	0.729	263				
	1170	117	0.626	0.543	293				
	100	10	0.103	0.058	363				
<b>15</b>	2500	166	0.790	0.678	257	__8130004	__8130016	__8130028	__8130504.10
	1750	116	0.642	0.541	292				
	1170	78	0.491	0.402	325				
	100	6.7	0.090	0.042	401				
<b>20</b>	2500	125	0.681	0.562	283	__8130005	__8130017	__8130029	__8130505.10
	1750	87	0.551	0.445	320				
	1170	58	0.422	0.328	354				
	100	5.0	0.084	0.034	431				
<b>25</b>	2500	100	0.544	0.431	272	__8130006	__8130018	__8130030	__8130506.10
	1750	70	0.445	0.344	309				
	1170	46	0.344	0.255	344				
	100	4.0	0.074	0.027	423				
<b>30</b>	2500	83	0.481	0.364	276	__8130007	__8130019	__8130031	__8130507.10
	1750	58	0.395	0.290	314				
	1170	39	0.308	0.215	348				
	100	3.3	0.071	0.023	429				
<b>40</b>	2500	62	0.400	0.283	285	__8130008	__8130020	__8130032	__8130508.10
	1750	43	0.329	0.223	322				
	1170	29	0.258	0.165	355				
	100	2.5	0.066	0.017	432				
<b>50</b>	2500	50	0.346	0.232	292	__8130009	__8130021	__8130033	__8130509.10
	1750	35	0.285	0.182	327				
	1170	23	0.224	0.133	359				
	100	2.0	0.061	0.014	431				
<b>60</b>	2500	41	0.297	0.184	279	__8130010	__8130022	__8130034	__8130510.10
	1750	29	0.246	0.145	313				
	1170	19	0.195	0.107	345				
	100	1.7	0.058	0.011	415				
<b>80</b>	2500	31	0.144	0.081	163	__8130011	__8130023	__8130035	__8130511.10
	1750	21	0.121	0.064	183				
	1170	14	0.096	0.047	201				
	100	1.3	0.014	0.005	237				
<b>100</b>	2500	25	0.100	0.051	128	__8130012	__8130024	__8130036	__8130512.10
	1750	17	0.084	0.040	143				
	1170	11	0.067	0.029	156				
	100	1.0	0.010	0.003	184				

**How To Build a Part Number For Size GR813, NH813, EL813**

1. Select partial catalog number from the selection table      2. Replace leading “\_\_” with series code (GR, NH, EL)

**Example:**

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output  
GR-B813-5-L  
GR8130001

	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
48CZ 56C	__8130109 __8130037	__8130121 __8130049	__8130133 __8130061	__8130537.10 __8130513.10	__8130181 __8130073	__8130193 __8130085	__8130205 __8130097	__8130561.10 __8130525.10	<b>5</b>
48CZ 56C	__8130110 __8130038	__8130122 __8130050	__8130134 __8130062	__8130538.10 __8130514.10	__8130182 __8130074	__8130194 __8130086	__8130206 __8130098	__8130562.10 __8130526.10	<b>7.5</b>
48CZ 56C	__8130111 __8130039	__8130123 __8130051	__8130135 __8130063	__8130539.10 __8130515.10	__8130183 __8130075	__8130195 __8130087	__8130207 __8130099	__8130563.10 __8130527.10	<b>10</b>
48CZ 56C	__8130112 __8130040	__8130124 __8130052	__8130136 __8130064	__8130540.10 __8130516.10	__8130184 __8130076	__8130196 __8130088	__8130208 __8130100	__8130564.10 __8130528.10	<b>15</b>
48CZ 56C	__8130113 __8130041	__8130125 __8130053	__8130137 __8130065	__8130541.10 __8130517.10	__8130185 __8130077	__8130197 __8130089	__8130209 __8130101	__8130565.10 __8130529.10	<b>20</b>
48CZ 56C	__8130114 __8130042	__8130126 __8130054	__8130138 __8130066	__8130542.10 __8130518.10	__8130186 __8130078	__8130198 __8130090	__8130210 __8130102	__8130566.10 __8130530.10	<b>25</b>
48CZ 56C	__8130115 __8130043	__8130127 __8130055	__8130139 __8130067	__8130543.10 __8130519.10	__8130187 __8130079	__8130199 __8130091	__8130211 __8130103	__8130567.10 __8130531.10	<b>30</b>
48CZ 56C	__8130116 __8130044	__8130128 __8130056	__8130140 __8130068	__8130544.10 __8130520.10	__8130188 __8130080	__8130200 __8130092	__8130212 __8130104	__8130568.10 __8130532.10	<b>40</b>
48CZ 56C	__8130117 __8130045	__8130129 __8130057	__8130141 __8130069	__8130545.10 __8130521.10	__8130189 __8130081	__8130201 __8130093	__8130213 __8130105	__8130569.10 __8130533.10	<b>50</b>
48CZ 56C	__8130118 __8130046	__8130130 __8130058	__8130142 __8130070	__8130546.10 __8130522.10	__8130190 __8130082	__8130202 __8130094	__8130214 __8130106	__8130570.10 __8130534.10	<b>60</b>
48CZ 56C	__8130119 __8130047	__8130131 __8130059	__8130143 __8130071	__8130547.10 __8130523.10	__8130191 __8130083	__8130203 __8130095	__8130215 __8130107	__8130571.10 __8130535.10	<b>80</b>
48CZ 56C	__8130120 __8130048	__8130132 __8130060	__8130144 __8130072	__8130548.10 __8130524.10	__8130192 __8130084	__8130204 __8130096	__8130216 __8130108	__8130572.10 __8130536.10	<b>100</b>

▲ Consult Factory for other motor flanges available.

**QUICK REFERENCE**

**DIMENSIONS**

**GR SERIES** ..... Pages 52-73

**NH SERIES** ..... Pages 74-93

**EL SERIES** ..... Pages 94-109

**ACCESSORIES** ..... Pages 284-295

**OVERHUNG LOADS** ..... Pages 660-662