



# GR Series Dimensions

Styles: HMQ, HM, H

**CAST IRON**  
**GR SERIES**

Single Reduction  
Worm Gear Reducers

Double Reduction  
Worm - Worm Gear Reducers

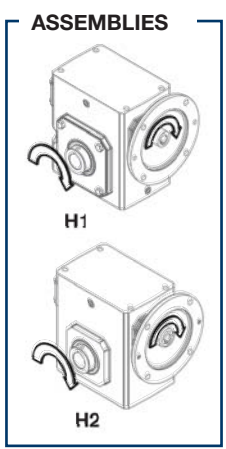
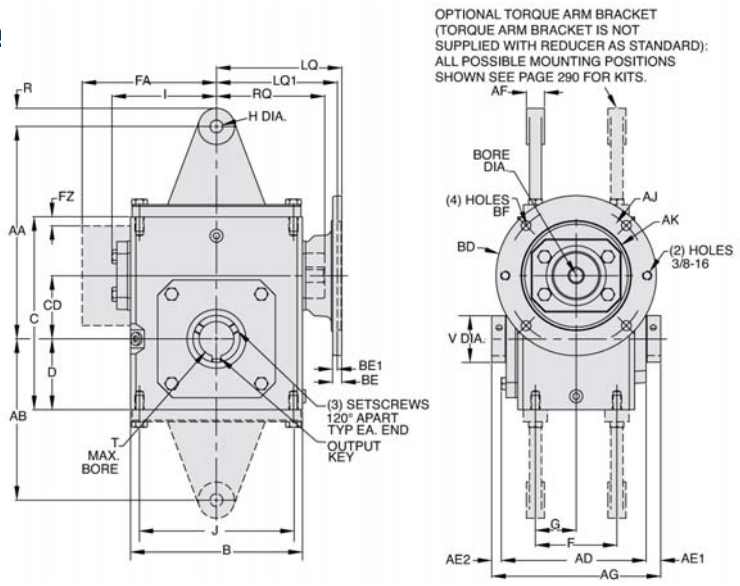
Double Reduction  
Helical - Worm Gear Reducers

WASHGUARD® Reducers  
and GEAR+MOTOR™

Ratio Multipliers

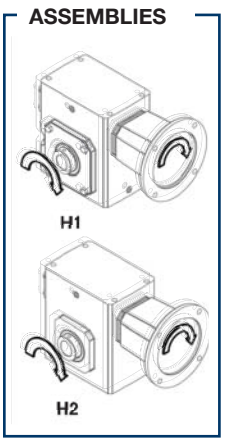
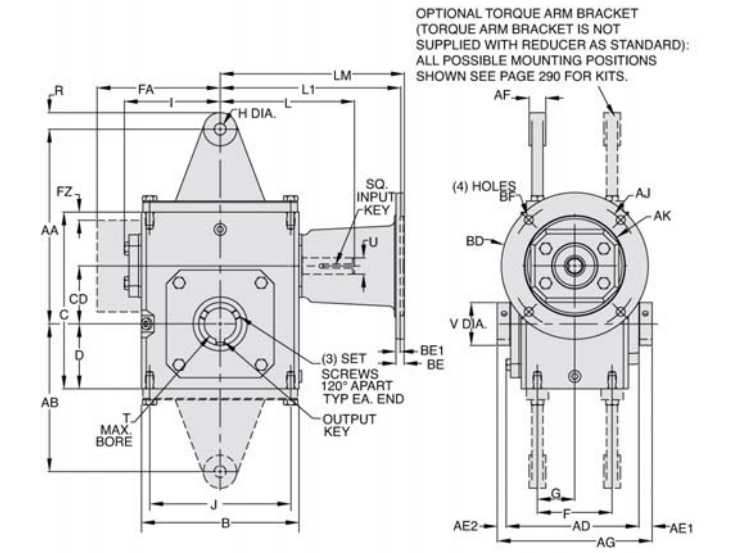
Accessories and  
Additional Capabilities

## Style HMQ



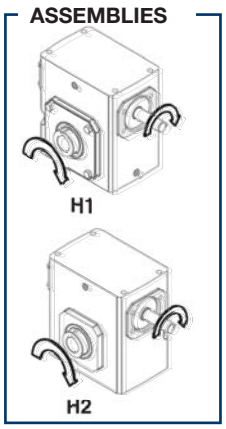
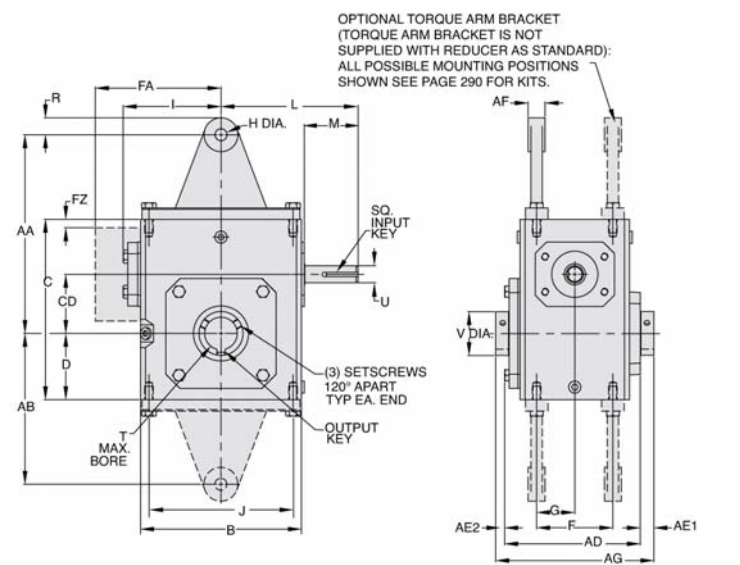
H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.

## Style HM



H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.

## Style H



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

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.



**STYLE HMQ, HM, H DIMENSIONS (Inches)**

Series	AD	AE1	AE2	AG	B	C	D	CD	F	FA▼	FZ▼	G	I	J	L	M	V	T MAX -0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key +
GR813	3.90	0.53	0.32	4.75	3.80	4.66	1.72	1.33	2.00	N/A	N/A	1.00	2.61	3.25	3.82	1.76	1.000	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR815	4.61	0.51	0.30	5.42	5.19	5.38	1.91	1.54	2.75	N/A	N/A	1.38	3.14	4.19	4.35	1.76	1.000	0.625	0.625	3/16 x 1.38	3/16 x 1.50
GR818	4.73	0.49	0.28	5.50	5.19	5.75	2.06	1.75	2.75	N/A	N/A	1.38	3.24	4.19	4.45	1.76	1.440	1.000	0.625	3/16 x 1.38	1/4 x 3.00
GR821	4.99	0.61	0.40	6.00	5.80	6.38	2.28	2.06	▲	N/A	N/A	1.44	3.61	▲	4.82	1.76	1.940	1.500	0.625	3/16 x 1.38	3/8 x 3.00
GR824	5.18	0.51	0.31	6.00	6.12	6.94	2.50	2.38	2.88	N/A	N/A	1.44	3.77	5.00	5.51	2.38	1.940	1.500	0.750	3/16 x 1.63	3/8 x 3.00
GR826x	6.01	0.60	0.39	7.00	7.38	8.00	2.94	2.63	3.38	N/A	N/A	1.69	4.34	6.38	6.07	2.38	1.940	1.500	0.750	3/16 x 1.63	3/8 x 3.00
GR830	6.53	0.60	0.36	7.50	8.12	8.88	3.25	3.00	4.00	N/A	N/A	2.00	4.84	7.00	6.57	2.38	2.756	2.188	0.875	3/16 x 1.63	1/2 x 3.00
GR832x	7.04	0.54	0.29	7.88	8.75	9.38	3.50	3.25	4.00	N/A	N/A	2.00	5.02	7.50	6.76	2.38	2.756	2.188	0.875	3/16 x 1.63	1/2 x 3.00
GR842	7.53	0.63	0.34	8.50	10.25	11.38	4.44	4.25	5.00	N/A	N/A	2.50	6.10	8.50	9.57	3.47	2.756	2.188	1.250	1/4 x 2.50	1/2 x 3.00
GR852	8.85	0.97	0.68	10.50	13.00	14.00	5.12	5.25	5.81	N/A	N/A	2.91	7.50	11.00	10.88	3.38	4.260	3.438	1.250	1/4 x3.00	7/8 x3.44
GR860	10.52	0.52	0.52	11.50	14.50	16.50	6.50	6.00	6.38	11.13	0.33	3.19	N/A	12.75	11.78	3.41	4.256	3.438	1.500	3/8 x 3.00	7/8 x 3.44
GR870	11.36	1.09	1.09	13.50	14.88	18.91	7.59	7.00	5.50	11.37	0.35	2.75	N/A	12.50	11.50	2.97	4.928	3.938	1.625	3/8 x 2.87**	1 x 1/2**
GR880	12.48	1.03	1.03	14.50	17.00	20.96	8.86	8.00	6.50	12.52	0.57	3.25	N/A	14.25	12.50	2.84	5.553	4.438	1.875	1/2 x 2.81**	1 x 1/2**
GR8100	15.78	1.39	1.39	18.50	20.88	25.47	10.36	10.00	6.88	14.69	0.51	3.44	N/A	14.75	15.50	3.76	4.256	5.438	2.250	1/2 x 3.69**	1-1/4 x 5/8**

▲ See feature comparison chart.

**FEATURE COMPARISON (821)**

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:
GR821	Identical	(F)3.00" x (J)4.75" (F)2.88" x (J)5.00"	Identical	Identical	✓	✓	GRG GRL

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	LM	56C/140TC	180TC/210TC	L1	LQ	48CZ/56C/140TC	180TC	LQ1	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC	RQ
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	N/A	N/A	3.09	N/A	N/A	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	N/A	N/A	3.62	N/A	N/A	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	N/A	N/A	3.59	N/A	N/A	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	N/A	N/A	4.06	N/A	N/A	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	N/A	N/A	4.09	4.56	N/A	N/A	N/A
GR826*	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	N/A	N/A	4.82	5.13	N/A	N/A	N/A
GR830	N/A	8.82	9.82	N/A	5.95	6.15	6.56	N/A	N/A	N/A	5.32	5.63	6.06	N/A	N/A
GR832*	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	N/A	N/A	5.51	5.81	6.25	N/A	N/A
GR842	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24	N/A	N/A	N/A
GR852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54	N/A	N/A	N/A
GR860	N/A	N/A	15.88	16.50	10.45	9.33	9.33	9.94	10.01	8.69	8.69	8.69	N/A	N/A	N/A
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A

**NEMA DIMENSIONS (Inches)**

Frame	AjB	AK	BD	BE	BE1	Bore Dia.	Keyway♦	BfB
	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	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	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	3.46	3.71	N/A	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

\* Max bore dimensions shown. For additional bores available, refer to page 20.

\* 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 HM with frame sizes 180TC-250TC.

■ 48CZ not available

● 180TC not available

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

**IEC B5 & B3/B5 METRIC DIMENSIONS (MM)**

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway♦	Bf TAP	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

\* Dimensions same for GRG and GRL Series

\* Style H and HM only.

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

Note: Torque arm bracket available separately. Refer to page 274 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.



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

Single Reduction  
Worm Gear Reducers

Double Reduction  
Worm - Worm Gear Reducers

Double Reduction  
Helical - Worm Gear Reducers

WASHGARD® Reducers  
and GEAR-HMOTOR™

Ratio Multipliers

Accessories and  
Additional Capabilities

Style WBMQ

Style WHMQ



**815 Series**

Ratio	Input RPM	Output RPM+	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
<b>5</b>	1750	350.0	1.939	1.794	323	56C	__8153001	__8153013	__8153025	__8153501.10
						140TC	__8153037	__8153049	__8153061	__8153513.10
<b>7.5</b>	1750	233.3	1.522	1.368	370	56C	__8153002	__8153014	__8153026	__8153502.10
						140TC	__8153038	__8153050	__8153062	__8153514.10
<b>10</b>	1750	175.0	1.279	1.116	402	56C	__8153003	__8153015	__8153027	__8153503.10
						140TC	__8153039	__8153051	__8153063	__8153515.10
<b>15</b>	1750	116.7	1.003	0.826	446	56C	__8153004	__8153016	__8153028	__8153504.10
						140TC	__8153040	__8153052	__8153064	__8153516.10
<b>20</b>	1750	87.5	0.919	0.719	518	56C	__8153005	__8153017	__8153029	__8153505.10
						140TC	__8153041	__8153053	__8153065	__8153517.10
<b>25</b>	1750	70.0	0.752	0.559	503	56C	__8153006	__8153018	__8153030	__8153506.10
						140TC	__8153042	__8153054	__8153066	__8153518.10
<b>30</b>	1750	58.3	0.630	0.442	478	56C	__8153007	__8153019	__8153031	__8153507.10
						140TC	__8153043	__8153055	__8153067	__8153519.10
<b>40</b>	1750	43.8	0.560	0.361	520	56C	__8153008	__8153020	__8153032	__8153508.10
						140TC	__8153044	__8153056	__8153068	__8153520.10
<b>50</b>	1750	35.0	0.464	0.274	494	56C	__8153009	__8153021	__8153033	__8153509.10
						140TC	__8153045	__8153057	__8153069	__8153521.10
<b>60</b>	1750	29.2	0.391	0.214	462	56C	__8153010	__8153022	__8153034	__8153510.10
						140TC	__8153046	__8153058	__8153070	__8153522.10
<b>80</b>	1750	21.9	0.204	0.093	269	56C	__8153011	__8153023	__8153035	__8153511.10
						140TC	__8153047	__8153059	__8153071	__8153523.10
<b>100</b>	1750	17.5	0.145	0.059	213	56C	__8153012	__8153024	__8153036	__8153512.10
						140TC	__8153048	__8153060	__8153072	__8153524.10

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

\*\* Size 815 is not available in EL Series.

▲ Contact Factory for other motor flanges available.

+ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages 24-25.

**How To Build a Part Number For Size GR815, EL815**

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

**Example:**

GR Series Style WBMQ, 10:1 Left Hand Output, 56C  
GR-WBMQ815-10-L-56  
GR8153003

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Worm Gear Reducers

Double Reduction  
Worm - Worm Gear Reducers

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