

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 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	8420109	8420121	8420133	8420537.XX	8420289	8420301	8420313	8420597.XX	5
213-5TC	8420145	8420157	8420169	8420549.XX	8420325	8420337	8420349	8420609.XX	
254-6TC	8420181	8420193	8420205	8420561.XX	8420361	8420373	8420385	8420621.XX	
182-4TC	8420110	8420122	8420134	8420538.XX	8420290	8420302	8420314	8420598.XX	7.5
213-5TC	8420146	8420158	8420170	8420550.XX	8420326	8420338	8420350	8420610.XX	
254-6TC	8420182	8420194	8420206	8420562.XX	8420362	8420374	8420386	8420622.XX	
182-4TC	8420111	8420123	8420135	8420539.XX	8420291	8420303	8420315	8420599.XX	10
213-5TC	8420147	8420159	8420171	8420551.XX	8420327	8420339	8420351	8420611.XX	
254-6TC	8420183	8420195	8420207	8420563.XX	8420363	8420375	8420387	8420623.XX	
182-4TC	8420112	8420124	8420136	8420540.XX	8420292	8420304	8420316	8420600.XX	15
213-5TC	8420148	8420160	8420172	8420552.XX	8420328	8420340	8420352	8420612.XX	
182-4TC	8420113	8420125	8420137	8420541.XX	8420293	8420305	8420317	8420601.XX	20
213-5TC	8420149	8420161	8420173	8420553.XX	8420329	8420341	8420353	8420613.XX	
143-5TC	8420078	8420090	8420102	8420530.XX	8420258	8420270	8420282	8420590.XX	25
182-4TC	8420114	8420126	8420138	8420542.XX	8420294	8420306	8420318	8420602.XX	
213-5TC	8420150	8420162	8420174	8420554.XX	8420330	8420342	8420354	8420614.XX	
143-5TC	8420079	8420091	8420103	8420531.XX	8420259	8420271	8420283	8420591.XX	30
182-4TC	8420115	8420127	8420139	8420543.XX	8420295	8420307	8420319	8420603.XX	
143-5TC	8420080	8420092	8420104	8420532.XX	8420260	8420272	8420284	8420592.XX	40
182-4TC	8420116	8420128	8420140	8420544.XX	8420296	8420308	8420320	8420604.XX	
143-5TC	8420081	8420093	8420105	8420533.XX	8420261	8420273	8420285	8420593.XX	50
182-4TC	8420117	8420129	8420141	8420545.XX	8420297	8420309	8420321	8420605.XX	
56C	8420046	8420058	8420070	8420522.XX	8420226	8420238	8420250	8420582.XX	60
143-5TC	8420082	8420094	8420106	8420534.XX	8420262	8420274	8420286	8420594.XX	
182-4TC	8420118	8420130	8420142	8420546.XX	8420298	8420310	8420322	8420606.XX	
56C	8420047	8420059	8420071	8420523.XX	8420227	8420239	8420251	8420583.XX	80
143-5TC	8420083	8420095	8420107	8420535.XX	8420263	8420275	8420287	8420595.XX	
56C	8420048	8420060	8420072	8420524.XX	8420228	8420240	8420252	8420584.XX	100
143-5TC	8420084	8420096	8420108	8420536.XX	8420264	8420276	8420288	8420596.XX	

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

# Maximum Rating Tables

## Size 852 • GR, NH & EL Series



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Style B

Style H



### Size 852

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	37.08	35.61	4601	_8520085	_8520090	_8520095	_8520501.XX
	1750	350	32.51	31.17	5753				
	1170	234	27.55	26.35	7276				
	100	20	5.390	4.794	15484				
7.5	2500	333	32.21	30.68	5800	_8520086	_8520091	_8520096	_8520502.XX
	1750	233	28.10	26.70	7213				
	1170	156	23.67	22.42	9058				
	100	13	4.442	3.821	18062				
10	2500	250	26.55	24.99	6300	_8520001	_8520008	_8520015	_8520503.XX
	1750	175	23.15	21.73	7827				
	1170	117	19.50	18.23	9818				
	100	10	3.701	3.073	19367				
15	2500	166	20.77	19.05	7204	_8520002	_8520009	_8520016	_8520504.XX
	1750	116	18.11	16.55	8941				
	1170	78	15.26	13.86	11201				
	100	6.7	2.997	2.309	21826				
20	2500	125	16.89	14.95	7538	_8520003	_8520010	_8520017	_8520505.XX
	1750	87	14.56	12.98	9351				
	1170	58	12.29	10.87	11709				
	100	5.0	2.499	1.802	22716				
25	2500	100	13.95	12.18	7674	_8520087	_8520092	_8520097	_8520506.XX
	1750	70	12.19	10.57	9517				
	1170	46	10.298	8.848	11915				
	100	4.0	2.176	1.464	23068				
30	2500	83	12.056	10.264	7763	_8520004	_8520011	_8520018	_8520507.XX
	1750	58	10.538	8.910	9627				
	1170	39	8.918	7.457	12051				
	100	3.3	1.949	1.233	23305				
40	2500	62	9.258	7.533	7596	_8520005	_8520012	_8520019	_8520508.XX
	1750	43	8.105	6.538	9419				
	1170	29	6.878	5.471	11789				
	100	2.5	1.592	0.903	22772				
50	2500	50	7.727	5.990	7550	_8520006	_8520013	_8520020	_8520509.XX
	1750	35	6.777	5.199	9362				
	1170	23	5.766	4.350	11717				
	100	2.0	1.411	0.718	22622				
60	2500	41	6.621	4.912	7429	_8520007	_8520014	_8520021	_8520510.XX
	1750	29	5.816	4.263	9212				
	1170	19	4.961	3.567	11528				
	100	1.7	1.270	0.588	22251				
80	2500	31	3.226	2.217	4469	_8520088	_8520093	_8520098	_8520511.XX
	1750	21	2.906	1.902	5478				
	1170	14	2.618	1.600	6894				
	100	1.3	0.744	0.280	14089				
100	2500	25	2.285	1.504	3790	_8520089	_8520094	_8520099	_8520512.XX
	1750	17	2.072	1.291	4646				
	1170	11	1.820	1.052	5663				
100	1.0	0.515	0.180	11331					

### How To Build a Part Number For Size GR852, NH852, EL852

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-B852-5-L  
GR8520085



# NH Series Dimensions

Styles: HMQ, HM, H

**CAST IRON**  
**NH SERIES**

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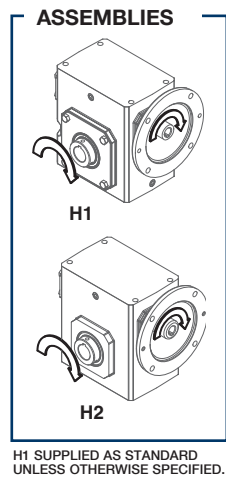
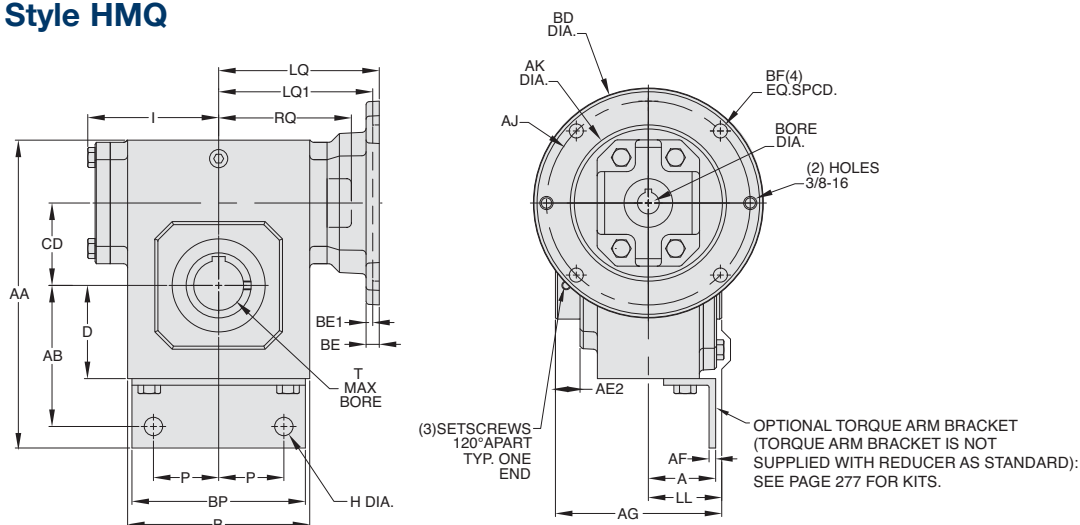
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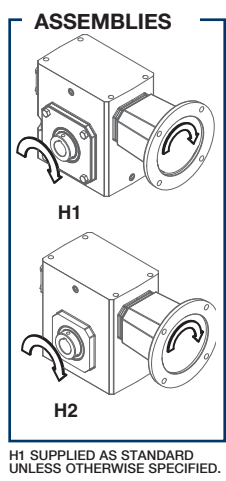
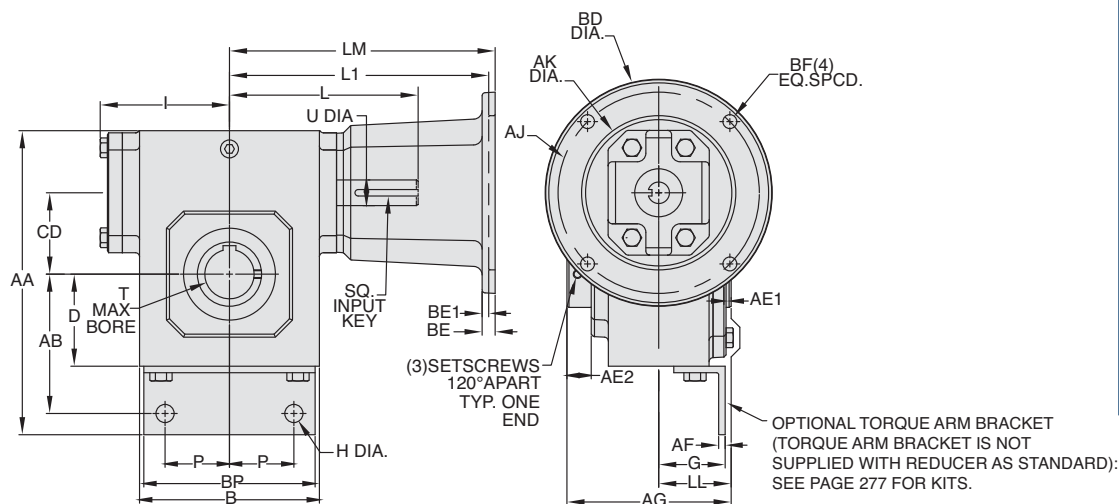
Ratio Multipliers

Accessories and  
Additional Capabilities

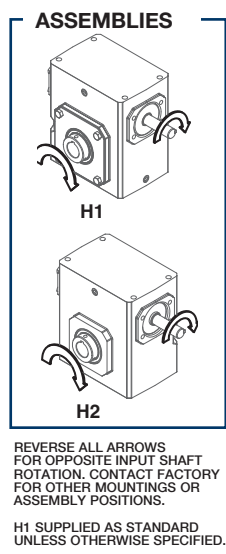
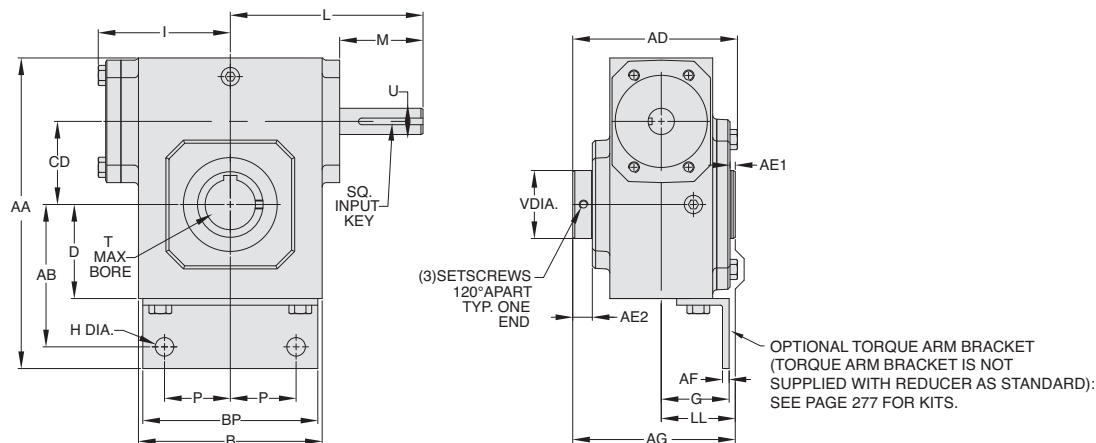
## Style HMQ



## Style HM



## Style H





# NH Series Dimensions

Styles: HMQ, HM, H



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

Size	AA	AB	AD	AE1	AE2	AF	AG	B	C	CD	D	G	H	I	L	LL	M	P	V	T MAX +0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key
NH813	6.660	3.100	3.900	0.500	0.530	0.190	4.750	3.800	4.660	1.330	1.720	1.880	0.530	2.610	3.820	2.380	1.760	1.380	1.000	0.625	0.500	1/8 x 1.00	3/16 x 1.50
NH815	7.000	3.260	3.590	0.376	0.510	0.190	4.080	4.060	5.000	1.540	1.880	1.820	0.530	3.140	4.350	1.880	1.760	1.380	1.000	0.625	0.625	3/16 x 1.38	3/16 x 1.50
NH818	7.440	3.440	3.830	0.551	0.560	0.190	4.290	4.500	5.440	1.750	2.060	1.820	0.530	3.240	4.450	1.980	1.760	1.380	1.440	1.000	0.625	3/16 x 1.38	1/4 x 3.00
NH821	8.000	3.690	3.570	0.300	0.850	0.190	4.650	4.500	6.000	2.060	2.310	1.820	0.530	3.610	4.820	2.120	1.760	1.380	1.940	1.500	0.625	3/16 x 1.38	3/8 x 3.00
NH824	8.880	4.070	4.160	0.180	0.560	0.190	4.650	5.250	6.880	2.380	2.690	1.940	0.530	3.770	5.510	2.120	2.380	1.880	1.940	1.500	0.750	3/16 x 1.38	3/8 x 3.00
NH826	9.380	4.320	4.150	0.595	0.560	0.190	4.650	5.750	7.380	2.630	2.940	1.940	0.530	4.340	6.070	2.120	2.380	1.880	1.940	1.500	0.750	3/16 x 1.63	3/8 x 3.00
NH830	10.250	4.760	4.670	0.460	0.560	0.250	5.160	6.620	8.250	3.380	3.380	2.320	0.530	4.840	6.570	2.380	2.380	2.380	2.510	1.938	0.875	3/16 x 1.63	1/2 x 3.00
NH832	12.060	5.570	5.830	0.490	0.570	0.250	6.310	8.000	10.060	3.250	4.190	2.870	0.530	5.020	6.760	2.950	2.380	3.510	2.510	1.938	0.875	3/16 x 1.63	1/2 x 3.00
NH842	14.000	6.380	7.530	1.000	0.630	0.380	8.500	9.750	11.500	4.250	4.500	3.260	0.530	6.100	9.570	4.250	3.470	3.690	2.750	2.188	1.250	1/4 x 2.50	1/2 x 3.00
NH852	15.190	6.760	8.810	1.620	0.970	0.380	10.500	11.000	12.690	5.250	4.880	3.630	0.530	7.500	10.880	5.250	3.380	4.620	4.260	3.438	1.250	1/4 x 3.00	7/8 x 3.44

## Motor Mounting Dimensions

### NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	180TC	LQ1		250TC	RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC			180TC	210TC		250TC	48CZ/ 56C/140TC	180TC	210TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A	N/A
NH842	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54	8.54

### NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
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
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	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	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

- Max bore dimensions shown. For additional bores available, refer to page 20.
- ◆ Keyway width by depth
- 48CZ not available
- ◇ Metric IEC B5 input flange options are available only on quill input styles.
- \* Style H and HM only.

Note: Torque arm bracket available separately. Refer to page 277 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.

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

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
YF	HMQ
YFC	HM
Y	H

Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.