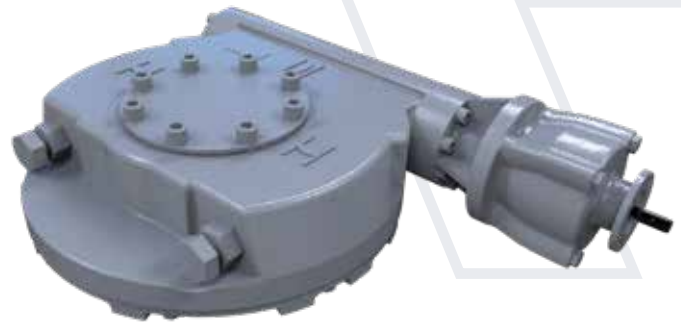




Keeping the World Flowing  
for Future Generations



## HOW/MPR Series

### Hand Operated Worm Gearbox

The HOW/MPR gear operators include low lead angle gearing designed to be inherently self-locking. The gearboxes feature a removable output sleeve to facilitate bore and keyway machining, and an indexable baseplate to allow on or off centre mounting to the valve flange without special machining.

HOW/MPR gear operators are manufactured from high quality materials and life tested ensuring that maximum performance, quality and reliability are consistently maintained.

Operating temperature normally ranges from -40 to +250 °F, although other temperature ranges are available on request.

#### Application

Designed for manual applications, the HOW/MPR worm gear operators are part-turn devices intended for the operation of ball, plug and butterfly valves.

#### Environmental Specification

- Sealed to IP67 for standard environment
- Optional IP68

#### Features

- Carefully chosen ratios to meet manual rim effort requirements
- Protected steel input shaft
- Removable output sleeve
- Ductile iron gearcase
- Totally enclosed gearing
- Angular contact bearings supporting worm shaft
- Repositionable baseplate facility
- Grease filled for life and fully sealed
- Maintenance free
- Adjustable mechanical stops (at 0° and 90° ±5°)
- Primed finish

#### Options

- High temperature to +302 °F or +392 °F
- Low temperature to -76 °F
- Stainless steel input shaft
- Coating for aggressive environments
- Limit switches
- Fixed and flexible extensions
- Interlock safety system
- Padlockable handwheels
- Travelling nut for applications requiring less than 90° travel
- Lever arms
- Gloss paint finish
- Chain wheels

## HOW/MPR Series

### Gearbox Selection Chart

Gearbox	Output Torque (lbf-ft)	Ratio:1	Mechanical Advantage* $\pm 10\%$
HOW8	28,765	1229	307
HOW82	35,477	1766	442
HOW9	42,594	1601	464
HOW92	50,080	2081	603
HOW10	73,756	2655	689
HOW11	93,855	2619	746
HOW112	103,996	2619	746
HOW115	125,385	4712	1359
HOW13	194,716	7171	2240

\*The published M.A. is achieved after a few cycles.

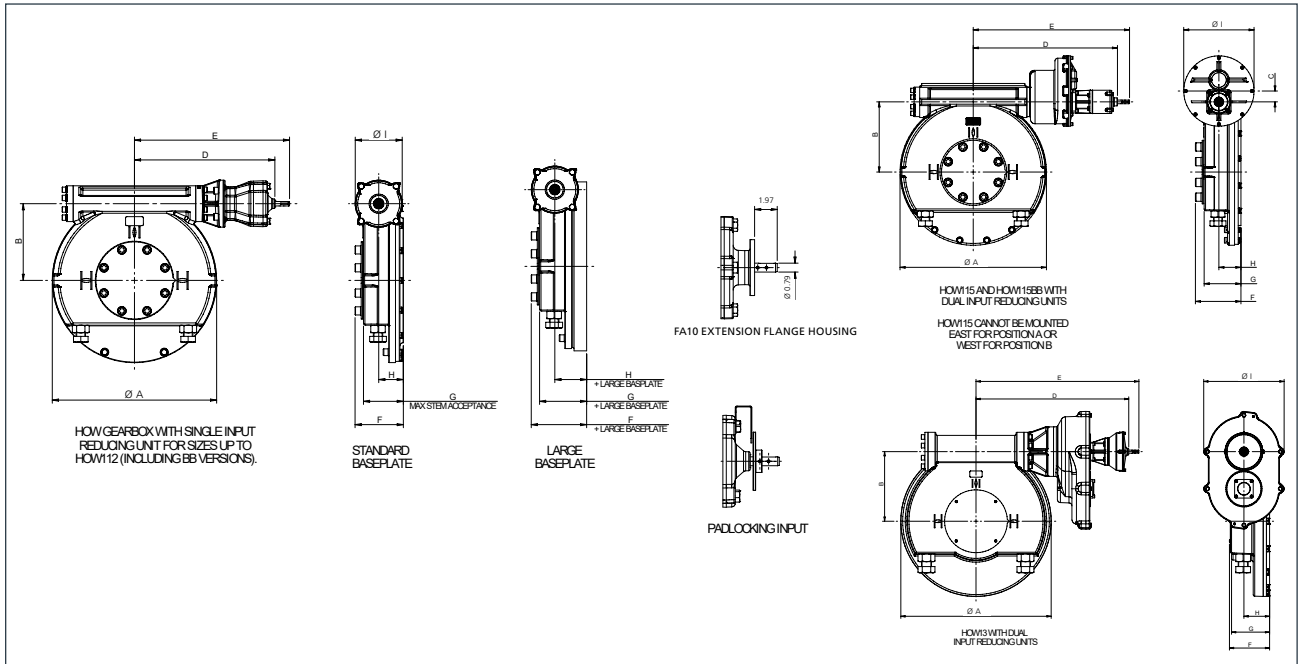
### Material Specification

Component	Material	USA Standard
Gearcase	SG Iron	ASTM A536 65-45-12
Baseplate	SG Iron Cast Iron	ASTM A536 65-45-12 ASTM A48 35B/40B
Worm shaft	Steel	AISI/SAE 4140
Quadrant	SG Iron	ASTM A536 100-70-03
Position Indicator	Steel	AISI/SAE 1023
Output Sleeve	Steel	AISI/SAE 1023 AISI/SAE 1040 AISI/SAE 1055
Input Flange	SG Iron	ASTM A536 65-45-12
Input Shaft	Protected Steel	AISI/SAE 4340
Reducer Gearcase	SG Iron	ASTM A536 80-60-03 ASTM A536 65-45-12
Fasteners	Protected Steel	
Bearings	Angular Contact Bearings	
Seals	Nitrile Rubber	
Grease	Renolit CLX2	

Materials of construction are those listed above or equivalents.

Note: Because of the company's policy of continuous improvement, Rotork reserves the right to change specification details without prior notice.

# HOW/MPR Series



## Dimensions and Weights

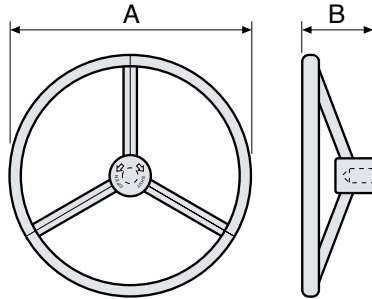
Gearbox	Ratio:1	ØA Standard Baseplate	ØA Large Baseplate	B	C	D	E	Key Details	F	G	H	ØI	Weight (lbs)
HOW8	1229	20.47	21.65	9.69	0	19.02	21.61	0.24 x 0.24 x 1.42	7.56	6.30	3.90	8.27	439
HOW82	1766	20.47	21.65	9.69	0	19.17	21.77	0.24 x 0.24 x 1.42	7.56	6.30	3.90	8.27	454
HOW9	1601	23.46	24.41	10.98	0	21.73	24.33	0.24 x 0.24 x 1.42	7.87	6.61	3.90	8.27	657
HOW92	2081	23.46	24.41	10.98	0	23.70	26.30	0.24 x 0.24 x 1.42	7.87	6.61	3.90	8.27	681
HOW10	2655	28.94	29.72	13.50	0	24.72	27.32	0.24 x 0.24 x 1.42	8.50	7.09	4.33	8.27	933
HOW11	2619	31.30	31.30	15	0	25.39	27.99	0.24 x 0.24 x 1.42	9.72	7.87	4.72	8.27	1,131
HOW112	2619	31.30	31.30	15	0	25.39	27.99	0.24 x 0.24 x 1.42	9.72	7.87	4.72	8.27	1,131
HOW115	4712	31.30	31.30	15	2.32	30.83	33.43	0.24 x 0.24 x 1.42	9.72	7.87	4.72	15.04	1,307
HOW11BB	2619	31.30	31.30	15	0	25.39	27.99	0.24 x 0.24 x 1.42	9.72	7.87	4.72	8.27	1,213
HOW112BB	2619	31.30	31.30	15	0	25.39	27.99	0.24 x 0.24 x 1.42	9.72	7.87	4.72	8.27	1,213
HOW115BB	4712	31.30	31.30	15	2.32	30.83	33.43	0.24 x 0.24 x 1.42	9.72	7.87	4.72	15.04	1,307
HOW13	7171	38.27	38.27	17.72	0	38.90	41.46	0.24 x 0.24 x 1.42	10.24	9.88	6.54	20.47	2,513

## Mounting Options

Gearbox	Ratio:1	Max Bore ANSI B17.1 Key		Max Square Bore AF	MSS Flange Standard Baseplate	MSS Flange Large Baseplate	Large Baseplate Additional Thickness
		Square	Rectangular				
HOW8	1229	5.625	6	4.84	FA25 - FA30 - FA35 - FA40	FA40 - FA48	1.50
HOW82	1766	5.625	6	4.84	FA25 - FA30 - FA35 - FA40	FA40 - FA48	1.50
HOW9	1601	6.5	6.5	5.20	FA30 - FA35 - FA40	FA40 - FA48	1.06
HOW92	2081	6.5	6.5	5.20	FA30 - FA35 - FA40	FA40 - FA48	1.06
HOW10	2655	7.375	7.625	6	FA35 - FA40 - FA48	FA60	1.26
HOW11	2619	7.375	7.625	6	FA40 - FA48	FA60	0
HOW112	2619	7.375	7.625	6	FA40 - FA48	FA60	0
HOW115	4712	7.375	7.625	6	FA40 - FA48	FA60	0
HOW11BB	2619	9.875	10.125	7.5	FA40 - FA48	FA60	0
HOW112BB	2619	9.875	10.125	7.5	FA40 - FA48	FA60	0
HOW115BB	4712	9.875	10.125	7.5	FA40 - FA48	FA60	0
HOW13	7171	9.5	10.25	7	FA35 - FA48 - FA60	-	-
HOW13	7171	11.75	12	9	FA48 - FA60	-	-

All dimensions in inches.

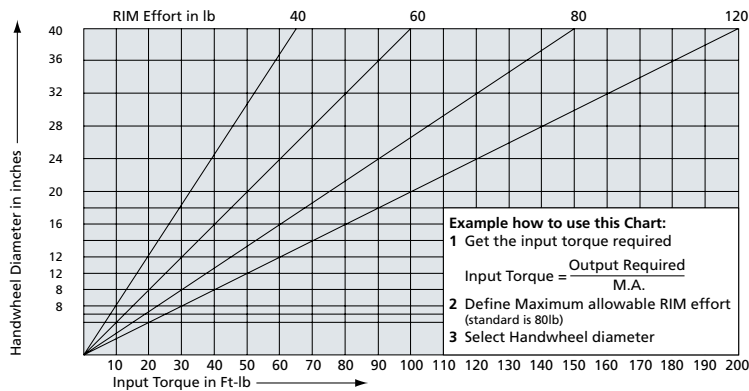
#### Handwheel Selection Chart



SG series handwheel

#### Handwheel Dimensions

Type	A	B
SG200	Ø8"	3,15"
SG250	Ø10"	4,33"
SG300	Ø12"	4,53"
SG350	Ø14"	4,72"
SG400	Ø16"	5,12"
SG450	Ø18"	5,91"
SG500	Ø20"	5,91"
SG600	Ø24"	5,91"
SG700	Ø28"	5,91"
SG800	Ø32"	5,91"
SG900	Ø36"	6,30"
SG1000	Ø40"	6,30"



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