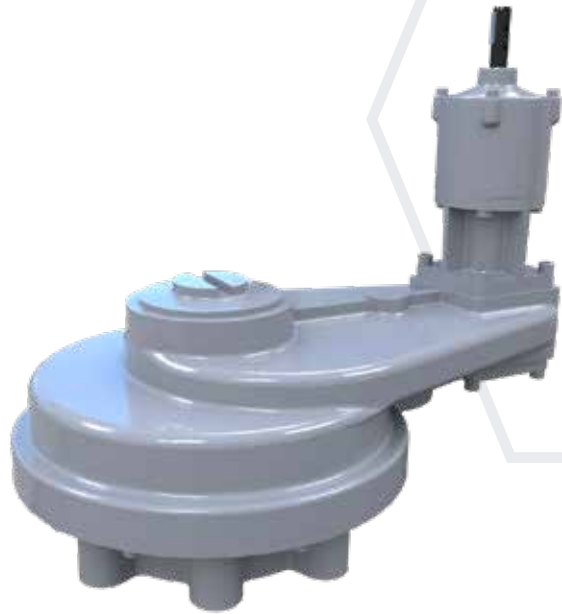




Keeping the World Flowing  
for Future Generations



## HOS/MPR Series

### Hand Operated Spur Gearbox

Rotork HOS/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°C to +120°C (-40°F to +250°F), although other temperature ranges are available on request.

#### Application

HOS/MPR series operators are multi-turn devices intended for the operation of gate, globe, sluice and penstock valves. These gearboxes can be used above and underground with upward or downward input orientation.

#### Environmental Specification

- Sealed to IP67 for standard environment
- Optional IP68

#### Features

- Carefully chosen ratios to meet manual rim effort requirements
- Protected steel input shaft
- Totally enclosed gearing
- Ductile iron baseplate
- Grease filled for life
- Maintenance free
- Protected steel fasteners
- Primed finish

#### Options

- High temperature to +150°C (+302°F) or +200°C (+392°F)
- Low temperature to -60°C (-76°F)
- Stainless steel input shaft
- Coating for aggressive environments
- Mechanical and electrical position indicators
- Fixed & flexible extensions
- Interlock Safety System
- Padlockable handwheels
- Two speed input reducers
- Form A, B & C available
- Gloss paint finish

# HOS/MPR Series

## Gearbox Selection Chart

Gearbox	Output Torque (Nm)	Max Thrust (kN)	Ratio			Mechanical Advantage*		
HOS2	508	54	2:1	3:1		1.83	2.70	
HOS4	850	54	4:1	6:1	17.1:1	3.69	5.40	13.10
HOS5	850	178	4:1	6:1	17.1:1	3.69	5.40	13.10
HOS6	1700	178	8:1	16.7:1	25.1:1	7.20	12.80	19.20
HOS7	1700	356	8:1	16.7:1	25.1:1	7.20	12.80	19.20
HOS8	2550	356	15:1	25.5:1	33.2:1	13.52	19.50	25.40
HOS9	2550	445	15:1	25.5:1	33.2:1	13.52	19.50	25.40
HOS10	5423	445	50.6:1	61.3:1	88:1	38.8	46.90	67.30
HOS11	5423	670	61.3:1	88:1		46.90	67.30	
HOS12	6638	670	63.3:1			48.50		
HOS12	9525	670	90.9:1			69.50		
HOS12	10846	670	119.8:1			91.60		
HOS13	6638	1000	63.3:1			48.50		
HOS13	9525	1000	90.9:1			69.50		
HOS13	10846	1000	119.8:1			91.60		
HOS15	15917	1000	151.9:1			116.20		
HOS15	19000	1000	230.4:1			166.30		
HOS16	15917	1557	151.9:1			116.20		
HOS16	19000	1557	230.4:1			166.30		
HOS17	46100	1112	662.4:1			479.10		
HOS18	46100	1557	662.4:1			479.10		
HOS19	46100	2224	662.4:1			479.10		
HOS20	46100	3342	662.4:1			479.10		
HOS21	46100	4350	662.4:1			479.10		

\*\*\*Other ratios are possible.\*\*\*

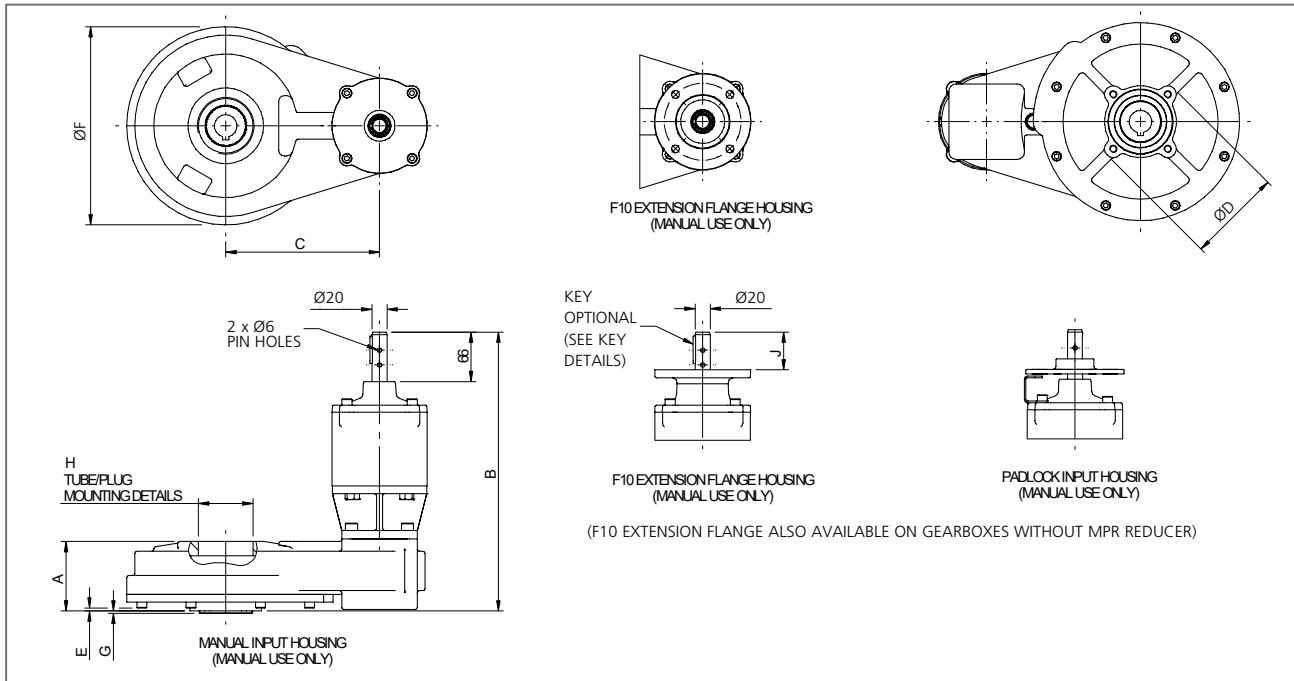
\*The published M.A. is achieved after a few cycles.

## Material Specification

Description	Material	UK Standard	USA Standard	DIN Standard	ISO Standard
Gearcase (HOS2 to HOS7 & HOS12/13)	Cast Iron	BS1561 EN-GJL-250	ASTM A48 35B/40B	GG-25	ISO 185 JL/250
Gearcase (HOS8 to HOS11 & HOS15 to 21)	SG Iron	BS1563 EN-GJS-450-10	ASTM A536 65-45-12	GGG-40	ISO 1083 JS 450-10
Baseplate	SG Iron	BS1561 EN-GJS-450-10	ASTM A536 65-45-12	GGG-40	ISO 1083 JS 450-10
Gears	SG Iron or Steel	BS1563 EN-GJS-700-2 or BS970 605M36T	ASTM A536 100-70-03 or AISI/SAE 4340	GGG-70	ISO 1083 JS 700-2
Output Sleeve B	Steel	BS970 070M20	AISI/SAE 1023	C22	ISO 683 C20
Output Sleeve A	Aluminium Bronze	BS1400 AB2	ASTM B505 C95800	G-CuAl10Ni	ISO 4382 CuAl10Fe5Ni5
Seals	Nitrile Rubber				
Input Shaft Bearings	Ball Bearings				
Output Thrust Bearings	Needle Roller Bearings (except sizes 16, 18, 19, 20 & 21 which have roller thrust bearings)				
Input Shaft	Steel	BS970 605M36T	AISI/SAE 4340	42 MnMo 7	ISO 683 42 MnMo 7
Fasteners	Steel	BS3692 & BS4168			
Input Housing	Cast Iron	BS1561 EN-GJL-250	ASTM A48 35B/40B	GG-25	ISO 185 JL/250
Grease	Renolit CL-X2				
Finish	PE3 Grey Primer (other finishes available on request)				
Planet Gear	Carbon Steel	EN 10083 C45	ASTM A29 1045	C45	ISO 683 C45E4
Planet Carrier	Ductile Iron	BS EN 1563 EN-GJS-400-15	ASTM A536 60-40-18	GGG-40	ISO 1083 JS 400-15
Planetary Gearcase	Ductile Iron	BS EN 1563 EN-GJS-400-15	ASTM A536 60-40-18	GGG-40	ISO 1083 JS 400-15

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

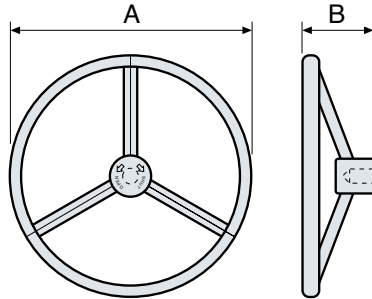
# HOS/MPR Series



Gearbox	Ratio	Output	A	B	C	ØD	E	Key Details	ØF	G	H	J	Max Bore Rect. Key (mm)	Max Thread (Inch)	Max Thread (mm)	Weight (kg)
HOS2	2:1 & 3:1	F10	87	221	153	125	-5	6 x 6 x 40	172	3	2.5 BSP or NPT	-	40	1.75	45	15
HOS4	4:1 & 6:1	F10	92	217	204	125	4	6 x 6 x 40	262	3	2.5 BSP or NPT	-	40	1.75	45	27
HOS4	17.1:1	F10	92	367	204	125	4	6 x 6 x 36	262	3	2.5 BSP or NPT	50	40	1.75	45	36
HOS5	4:1 & 6:1	F14	115	239	204	175	27	6 x 6 x 40	262	4	2.5 BSP or NPT	-	52	2.125	55	29
HOS5	17.1:1	F14	115	390	204	175	27	6 x 6 x 36	262	4	2.5 BSP or NPT	50	52	2.125	55	38
HOS6	8:1	F14	120	236	305	166	5	6 x 6 x 40	330	4	3.5 BSP or NPT	-	52	2.125	55	41
HOS6	16.7:1 & 25.1:1	F14	120	387	305	166	5	6 x 6 x 36	330	4	3.5 BSP or NPT	50	52	2.125	55	50
HOS7	8:1	F16	120	236	305	200	5	6 x 6 x 40	330	5	3.5 BSP or NPT	-	68	2.75	73	45
HOS7	16.7:1 & 25.1:1	F16	120	387	305	200	5	6 x 6 x 36	330	5	3.5 BSP or NPT	50	68	2.75	73	54
HOS8	15:1	F16	183	342	333	210	38	6 x 6 x 40	330	5	4 BSP or NPT	-	68	2.75	73	64
HOS8	25.5:1 & 33.2:1	F16	183	484	333	210	38	6 x 6 x 36	330	5	4 BSP or NPT	50	68	2.75	73	73
HOS9	15:1	F25	189	349	333	300	44	6 x 6 x 40	330	5	4 BSP or NPT	-	76	3.375	86	75
HOS9	25.5:1 & 33.2:1	F25	189	491	333	300	44	6 x 6 x 36	330	5	4 BSP or NPT	50	76	3.375	86	84
HOS10	50.6:1, 61.3:1 & 88:1	F25	224	520	356	300	41	6 x 6 x 36	412	5	5 BSP or NPT	50	76	3.375	86	111
HOS11	61.3:1 & 88:1	F30	245	541	356	350	62	6 x 6 x 36	412	5	5 BSP or NPT	50	96	3.875	100	132
HOS12	63.3:1 & 90.9:1	F30	282	581	407	350	62	6 x 6 x 36	520	5	Ø195 Bore (4 x M10 on 220 PCD)	50	96	3.875	100	183
HOS12	119.8:1	F30	282	579	407	350	62	6 x 6 x 36	520	5	Ø195 Bore (4 x M10 on 220 PCD)	50	96	3.875	100	195
HOS13	63.3:1 & 90.9:1	F35	298	595	407	410	78	6 x 6 x 36	520	5	Ø195 Bore (4 x M10 on 220 PCD)	50	121	5	127	206
HOS13	119.8:1	F35	298	595	407	410	78	6 x 6 x 36	520	5	Ø195 Bore (4 x M10 on 220 PCD)	50	121	5	127	223
HOS15	151.9:1	F35	413	706	454	410	72	6 x 6 x 36	520	5	Ø195 Bore (4 x M10 on 220 PCD)	50	121	5	127	298
HOS15	151.9:1	F40	413	706	454	476	72	6 x 6 x 36	520	8	Ø195 Bore (4 x M10 on 220 PCD)	50	121	5	127	320
HOS15	230.4:1	F35	413	747	454	410	72	6 x 6 x 36	520	5	Ø195 Bore (4 x M10 on 220 PCD)	50	121	5	127	291
HOS15	230.4:1	F40	413	747	454	476	72	6 x 6 x 36	520	8	Ø195 Bore (4 x M10 on 220 PCD)	50	121	5	127	314
HOS16	151.9:1	F40	525	818	454	476	184	6 x 6 x 36	520	8	Ø195 Bore (4 x M10 on 220 PCD)	50	130	5.875	150	404
HOS16	230.4:1	F40	525	859	454	476	184	6 x 6 x 36	520	8	Ø195 Bore (4 x M10 on 220 PCD)	50	130	5.875	150	394
HOS17	662.4:1	F35	496	563	610	410	72	6 x 6 x 36	705	5	Ø220 Bore (4 x M10 on 265 PCD)	51	121	5	127	569
HOS18	662.4:1	F40	609	563	610	476	184	6 x 6 x 36	705	8	Ø220 Bore (4 x M10 on 265 PCD)	51	130	5.875	150	676
HOS19	662.4:1	F40	661	563	610	476	236	6 x 6 x 36	705	8	Ø220 Bore (4 x M10 on 265 PCD)	51	170	7.375	190	735
HOS19	662.4:1	F49	721	563	610	560	296	6 x 6 x 36	705	8	Ø220 Bore (4 x M10 on 265 PCD)	51	170	7.375	190	828
HOS20	662.4:1	F48	723	563	610	555	299	6 x 6 x 36	705	8	Ø245 Bore (4 x M10 on 280 PCD)	51	206	8.75	225	965
HOS20	662.4:1	F60	783	563	610	703	359	6 x 6 x 36	705	8	Ø245 Bore (4 x M10 on 280 PCD)	51	206	8.75	225	1105
HOS21	662.4:1	F60	793	563	610	678	369	6 x 6 x 36	705	8	Ø245 Bore (4 x M10 on 280 PCD)	51	206	8.75	225	1090

All dimensions in mm, unless otherwise stated.

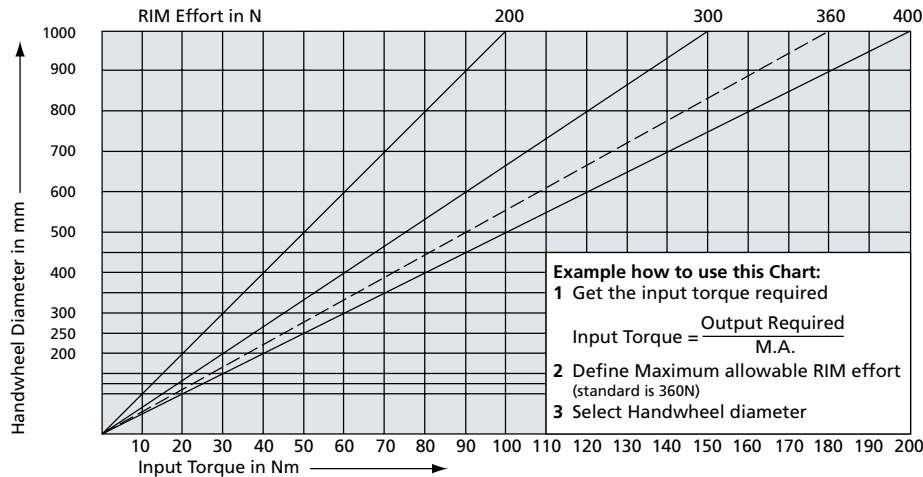
### Handwheel Selection Chart



SG series handwheel

#### Handwheel Dimensions

Type	A	B
SG200	Ø200 (8")	80 (3,15")
SG250	Ø250 (10")	110 (4,33")
SG300	Ø300 (12")	115 (4,53")
SG350	Ø350 (14")	120 (4,72")
SG400	Ø400 (16")	130 (5,12")
SG450	Ø450 (18")	150 (5,91")
SG500	Ø500 (20")	150 (5,91")
SG600	Ø600 (24")	150 (5,91")
SG700	Ø700 (28")	150 (5,91")
SG800	Ø800 (32")	150 (5,91")
SG900	Ø900 (36")	160 (6,30")
SG1000	Ø1000 (40")	160 (6,30")



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