



Keeping the World Flowing
for Future Generations



IW Quarter-turn Gearbox Series Sizes 14 - 17

The IW14 and above large worm quadrant operators have been designed to withstand twice their torque to accommodate actuator stall torques. Due to their large size and the logistics involved these gearboxes were designed for low or no maintenance.

The design also takes care of installation with the ability to have the input from either side of the gearbox and caters also for both clock and anti-clock valve actuation. All inputs and outputs can be supplied to ISO standards and can also be adapted to any other standards or variations.

Application

The IW series gearboxes are quarter-turn operators intended for the operation of quarter-turn ball, butterfly and plug valves and any other quarter-turn device requiring a reduction for its operation. They are used mainly for motorised applications but can also be used manually or with power tools.

Features

- Designed with a minimum safety factor twice the maximum output torque to cater for stall torques and site variations
- High quality tapered roller bearings are used to support the worm screw, with a pre-load adjusted one by one with ground spacers
- The worm screw is in alloy steel 18 NiCrMo5Pb, casehardened and ground to give a minimum friction with the quadrant creating a high efficiency and a larger number of operations unlike the traditional worm screws

IW Quarter-turn

Sizes 14 - 17 Ductile Iron Housing Gearboxes

- Tighter and controlled tolerances obtained through grinding give a negligible backlash between the worm and the quadrant resulting in a better accuracy in the movements and reduced vibrations during travel or partial open movement
- The housing is a much stronger ductile iron
- All the input reducer gears are in carbon steel with the pinions in alloy steel
- The planetary gears use planet carrier machined from solid carbon steel
- Grease filled for life and fully sealed with o-rings
- Comprehensive gear ratio with combination spur and planetary gear reducers
- Adjustable mechanical stops at 0° and 90° +/- 5°

Environmental specification

- IP67 enclosure
- -20 to +80 °C

Options

- IP68 enclosure
- AWWA application
- High and low temperature
- Padlockable kits
- Limit switches
- All types of environments
- Flexible extensions

IW Quarter-turn Sizes 14 - 17 Ductile Iron Housing Gearboxes



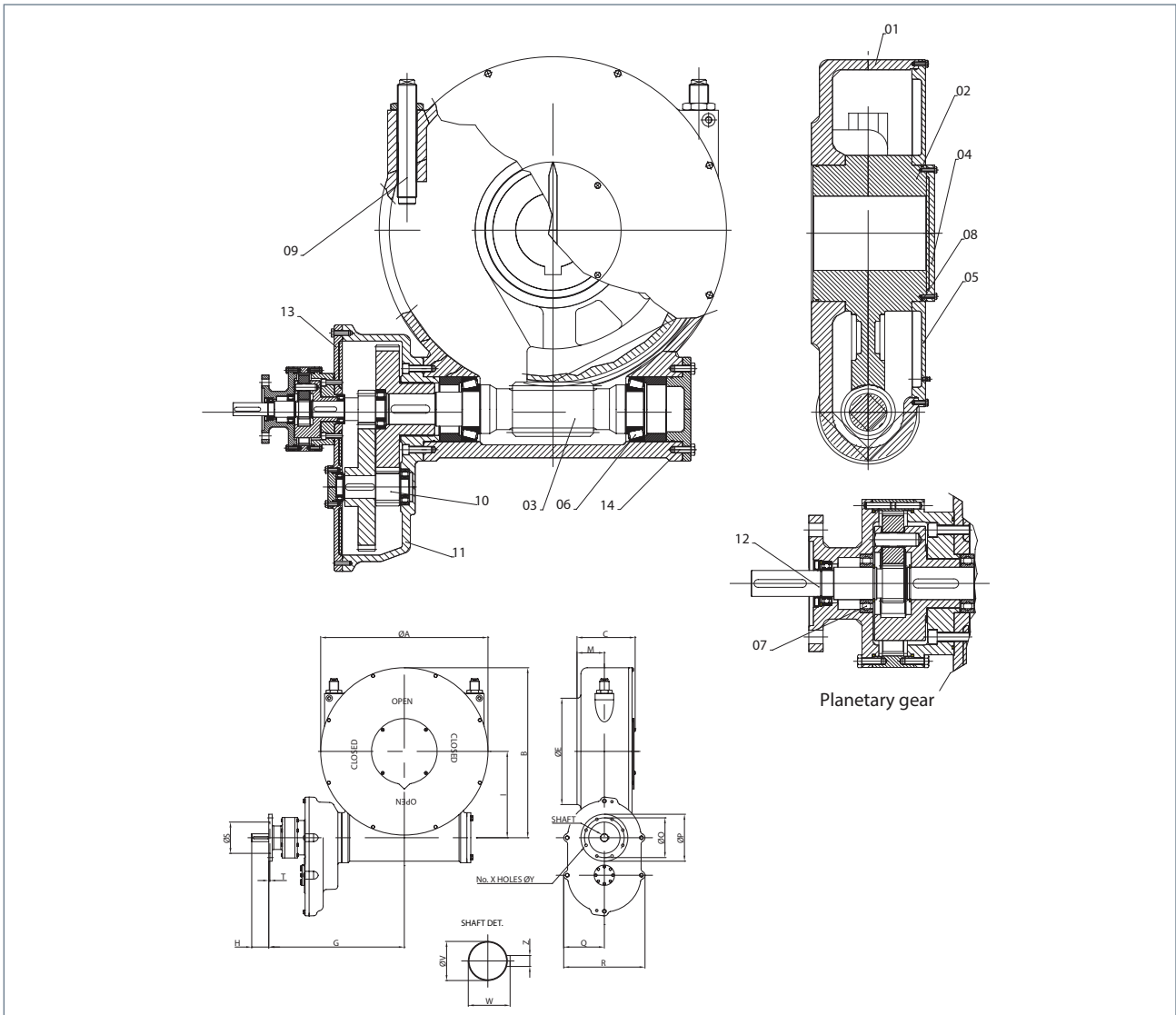
Material Specification for Rotork IW Series Quarter-turn Gearbox Series Sizes 14 - 17

No.	Description	Material	Notes
1	Body	Ductile Iron	EN-GJS-400-18
2	Quadrant	Ductile Iron	EN-GJS-500-7
3	Worm Screw	Alloy Steel	18 NiCrMo 5 Pb
4	Position Indicator	Steel	S275JR
5	Cover Plate	Ductile Iron	EN-GJS-400-12
6	Tapered Roller Bearings	Carbon Steel	-
7	Radial Ball Bearings	Carbon Steel	-
8	O-ring Seal	NBR	-
9	Stop Bolt	Steel	GR B7
10	Spur Gear	Carbon Steel	C45
11	Spur Body	Ductile Iron	EN-GJS-400-12
12	Input Shaft	Alloy Steel	39 NiCrMo3
13	Spur Body cover	Ductile Iron	EN-GJS-400-12
14	Fasteners	Carbon Steel	-

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

IW Quarter-turn Sizes 14 - 17 Ductile Iron Housing Gearboxes

Gearbox IW Series Sizes 14 - 17



Gearbox Size	Valve Flange	A	B	C	E	G	H	I	M	O	P	Q	R	S	T	V	W	X	Y	Z	Weight (kg)
IW14F14	F48-F60	1070	1087	355	680	864	55	552	150	140	175	260	520	100	5	30	33.3	4	17	8	1900
IW14F16	F48-F60	1070	1087	355	680	864	89	552	150	165	210	260	520	130	6	40	43.3	4	21	12	1900
IW14F25	F48-F60	1070	1087	355	680	864	109	552	150	254	300	260	520	200	6	50	54.4	8	17	14	1900
IW14F30	F48-F60	1070	1087	355	680	864	109	552	150	298	350	260	520	210	6	50	54.4	8	21	14	1900
IW15F14	F48-F60	1070	1087	355	680	864	55	552	150	140	175	260	520	100	5	30	33.3	4	17	8	1980
IW15F16	F48-F60	1070	1087	355	680	864	89	552	150	165	210	260	520	130	6	40	43.3	4	21	12	1980
IW15F25	F48-F60	1070	1087	355	680	864	109	552	150	254	300	260	520	200	6	50	54.4	8	17	14	1980
IW15F30	F48-F60	1070	1087	355	680	864	109	552	150	298	350	260	520	210	6	50	54.4	8	21	14	1980
IW16F14	F60 or larger	1255	1288	421	750	1082	55	660	185	140	175	305	610	100	5	30	33.3	4	17	8	3080
IW16F16	F60 or larger	1255	1288	421	750	1082	89	660	185	165	210	305	610	130	6	40	43.3	4	21	12	3080
IW16F25	F60 or larger	1255	1288	421	750	1082	109	660	185	254	300	305	610	200	6	50	54.4	8	17	14	3080
IW16F30	F60 or larger	1255	1288	421	750	1082	109	660	185	298	350	305	610	210	6	50	54.4	8	21	14	3080
IW17F14	F60 or larger	1255	1288	421	750	1082	55	660	185	140	175	305	610	100	5	30	33.3	4	17	8	3180
IW17F16	F60 or larger	1255	1288	421	750	1082	89	660	185	165	210	305	610	130	6	40	43.3	4	21	12	3180
IW17F25	F60 or larger	1255	1288	421	750	1082	109	660	185	254	300	305	610	200	6	50	54.4	8	17	14	3180
IW17F30	F60 or larger	1255	1288	421	750	1082	109	660	185	298	350	305	610	210	6	50	54.4	8	21	14	3180

All dimensions in millimetres. Contents may change without previous notice.

Gearbox Sizing Data

Gearbox Model	Ratios	Mechanical Advantage ±10%*	Max. Input Torque Nm	Max. Output Torque 7000 Cycles Nm	Max. Output Torque 1000 Cycles Nm	Output Flange	Stem diam.		Stem Height mm	Approx. Weight Kg
							Min.	Max.		
IW14R1	1280 to 320	427 to 107	703 to 2804	250000	300000	F48-F60	220	350	355	2200
IW14R2	6144 to 1536	1949 to 487	154 to 616	250000	300000	F48-F60	220	350	355	2200
IW14R3	6400 to 1600	2030 to 508	148 to 591	250000	300000	F48-F60	220	350	355	2200
IW15R1	1088 to 272	383 to 96	940 to 3750	300000	360000	F48-F60	220	350	355	2200
IW15R2	5222 to 1306	1747 to 437	206 to 824	300000	360000	F48-F60	220	350	355	2300
IW15R3	5440 to 1360	1819 to 455	198 to 791	300000	360000	F48-F60	220	350	355	2300
IW16R1	992 to 248	358 to 90	1676 to 6667	500000	600000	F60 or larger	230	380	410	3100
IW16R2	15942 to 1190	5194 to 408	116 to 1471	500000	600000	F60 or larger	230	380	410	3100
IW17R1	880 to 220	326 to 81	2607 to 10494	750000	850000	F60 or larger	230	380	410	3200
IW17R2	14142 to 1056	4723 to 373	180 to 2279	750000	850000	F60 or larger	230	380	410	3200

*The published M.A. is achieved after a few cycles. More ratios are available.

A full listing of the Rotork sales and service network is available on our website.

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