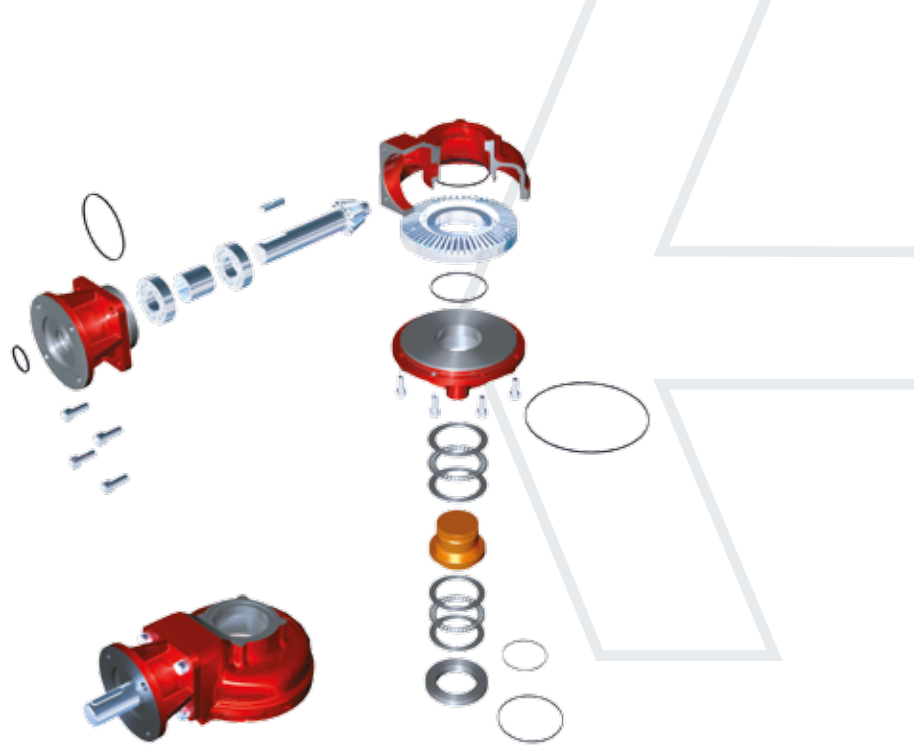


rotork®

Gears



IB Multi-turn Gearbox Series

The IB Series of multi-turn operators has been designed with customer stocking in mind, and features a removable output sleeve to facilitate spindle machining.

Operating temperature normally ranges from -40 to 120 °C, although other temperature ranges are available on request.

Standard input and output flanges are to ISO 5210. However, equivalent standards such as MSS and DIN can be supplied.

Application

Rotork Gears series IB operators are multi-turn devices intended for the operation of gate, globe, sluice and penstock valves. These gearboxes are designed for motorised applications.

Environmental Specification

Enclosure IP67 standard suitable for submerged duty up to a depth of 1 metre for 30 minutes.

Enclosure IP68 continuous submerged duty up to a maximum depth of 15 metres.

IB Multi-turn

Cast Iron Housing Gearboxes

Features

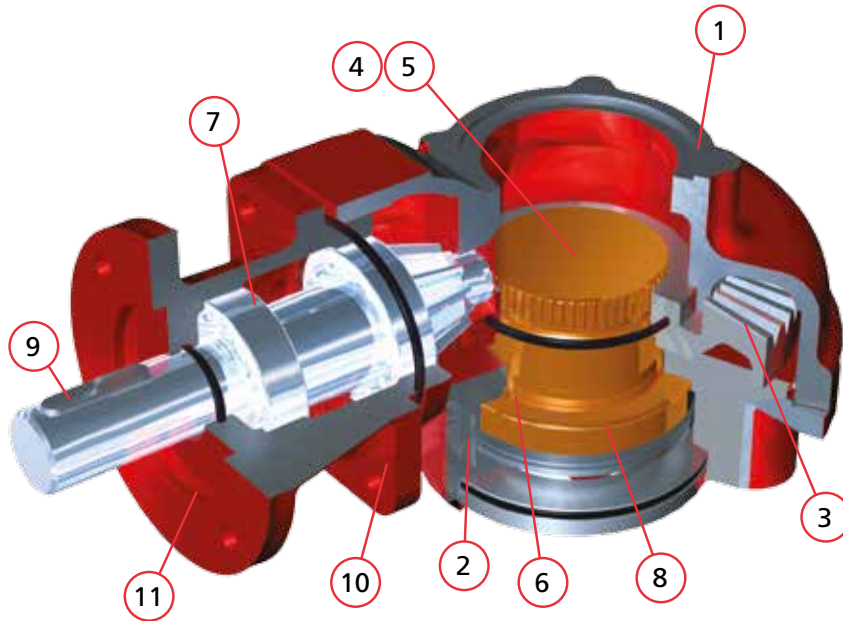
- Totally enclosed gearing
- Grease filled for life and fully sealed
- Comprehensive gear ratios
- Removable output sleeve
- Spur and bevel combinations available
- Input gear mounted on ball bearings
- Various input and output flanges to suit actuators and valves

Options

- Auxiliary spur / bevel input reducers
- High and low temperatures
- Nuclear
- IP68, buried duty
- Flexible extensions
- Dual shaft bevel – 2 or 3 input shafts available at 90° and 180° to each other
- Firesafe to ISO 10497
- Interlock safety system
- Form A, B and C available

IB Multi-turn Cast Iron Housing Gearboxes

DSB - Dual Shaft Bevel



180° version



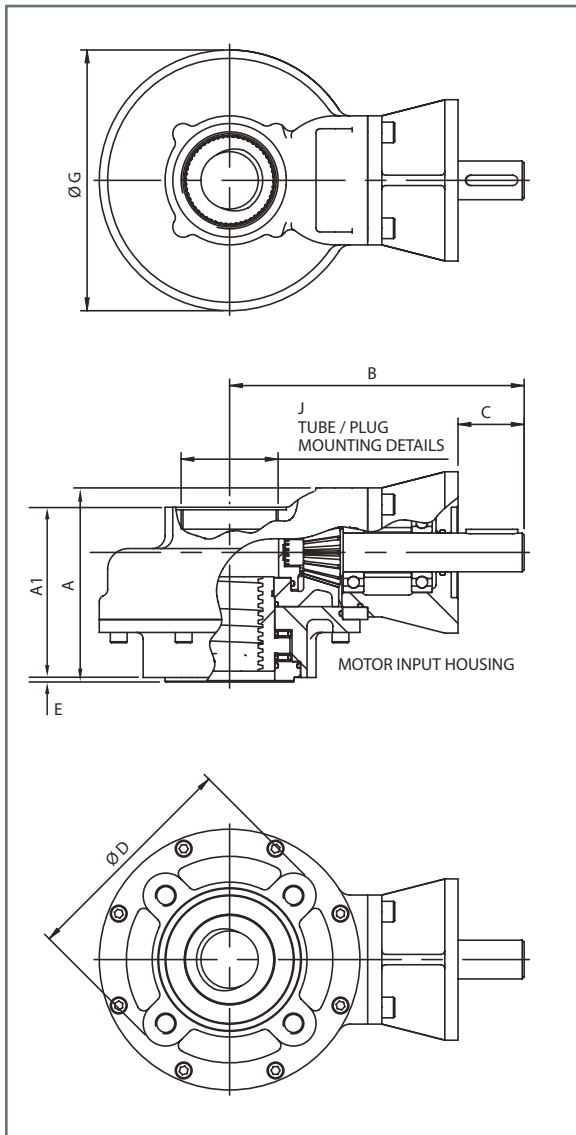
90° version

90° & 180° DSB available for IB4 to IB11.
180° DSB available for IB12 to IB14.

Material Specification for Rotork Gear IB Series of BEVEL Gear Valve Operators

No.	Description	Material	UK Standard	USA Standard	DIN Standard
1	Gearcase	IB2-IB9 Cast Iron	BS1561 EN-GJL-250	ASTM A48 35B/40B	GG-25
		IB10-IB14 SG Iron	BS1563 EN-GJS-450-10	ASTM A536 65-45-12	GGG-40
2	Baseplate	SG Iron	BS1563 EN-GJS-450-10	ASTM A536 65-45-12	GGG-40
3	Gears	SG Iron	BS1563 EN-GJS-700-2	AISI/SAE 1010 or 4340	GGG-70
		Steel	BS970 605M36T		
4	Output Sleeve Form B	Steel	BS970 070M20	ASIS/SAE 1023	
5	Output Sleeve Form A	Aluminium Bronze	BS1400 AB2	ASTM B505 C95800	
6	Seals	Nitrile Rubber			
7	Input Shaft bearings	Ball Bearings			
8	Output Thrust Bearings	Needle Roller Bearings (with the exception of output size 14 which has Roller Thrust Bearings)			
9	Input Shaft	Steel	BS970 605M36T	AISI/SAE 4340	42 MnMo 7 40 NiCrMo 8 - 4
			BS970 817M40T		
10	Fasteners	Steel	BS3692 & BS4168		
11	Input Flange	Cast Iron or SG Iron	BS1561 EN-GJL-250 or	ASTM A48 35B/40B or ASTM A536 65-45-12	GG-25 or GGG-40
			BS EN 1563 EN-GJS-450-10		
	Grease	Renolit CL-X2			
	Finish	PE3 Grey Primer (other finishes available on request)			

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

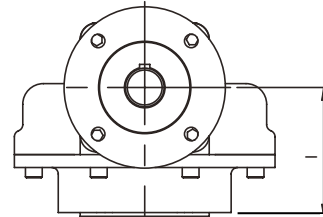


Input Flange Details

Input	Flange Dia. & Thickness	Shaft Dia.	Key Details
F10 & FA10	Ø125 x 10	Ø20.00 - 0.05	6 x 6 x 40
F14 & FA14	Ø175 x 15	Ø30.00 - 0.05	8 x 7 x 40
F16 & FA16	Ø210 x 20	*Ø40.00 - 0.05	**12 x 8 x 55
F25 & FA25	Ø300 x 20	Ø50.00 - 0.05	14 x 9 x 55

* Ø30.00 for IB6 & IB7.

** 8 x 7 x 40 for IB6 & IB7.



MOTOR INPUT HOUSING

Gearbox	Max Bore Rectangular Key BS4235	Max Acme Thread		Weight (Kg)
		(Inch)	(mm)	
IB2	40.0	1 3/4"	45	21
IB3	52.0	2 1/8"	55	25
IB4	40.0	1 3/4"	45	16
IB5	52.0	2 1/8"	55	20 / **22
IB6	52.0	2 1/8"	55	28 / **32
IB7	68.0	2 7/8"	73	35 / **45
IB8	68.0	2 7/8"	73	55 / **61
IB9	76.0	3 3/8"	86	70 / **76
IB10	76.0	3 3/8"	86	105 / **109
IB11	96.0	3 7/8"	100	125 / **135
IB12	96.0	3 7/8"	100	172 / **180
IB13	121.0	5"	127	200 / **215
*IB14	130.0	5 7/8"	150	343

*Cast bore 60 mm, optional 40 mm. **Weight for larger output.

Gearbox	Ratio	A	A1	B	C	ØD	E	ØG	I	J	Input Options	Output Options
IB2	1:1	187	99	228	51	125	3	202	107	2.5" BSP or NPT	F10 & F14	F07 / F10
IB3	1:1	210	122	228	51	175	4	202	130	2.5" BSP or NPT	F10 & F14	F14
IB4	2, 3, 4 & 6:1	124	107	228	51	125	3	202	74	2.5" BSP or NPT	F10 & F14	F10
IB5	2, 3, 4 & 6:1	147	130	228	51	175 / *210	4	202	97	2.5" BSP or NPT	F10 & F14	F14, F16
IB6	3, 4 & 6:1	152	141	251	51	175 / *210	4 / *5	260	102	3.5" BSP or NPT	F10, F14 & F16	F14, F16
IB7	3, 4 & 6:1	170	159	251	51	210 / *283	5	260 / *267	120	3.5" BSP or NPT	F10, F14 & F16	F16, F25
IB8	3, 4 & 6:1	191	191	332	60	210 / *283	5	320	130	4" BSP or NPT	F14, F16 & F25	F16, F25
IB9	3, 4 & 6:1	197	197	332	60	300 / *350	5	320 / *355	136	4" BSP or NPT	F14, F16 & F25	F25, F30
IB10	4 & 6:1	216	216	377	60	300 / *350	5	412	155	5" BSP or NPT	F14, F16 & F25	F25, F30
IB11	4 & 6:1	237	237	377	60	350 / *410	5	412	176	5" BSP or NPT	F14, F16 & F25	F30, F35
IB12	6 & 8:1	238	238	432	60	350 / *410	5	520	176	Ø195 Bore (4 x M10 on 220 PCD)	F14, F16 & F25	F30, F35
IB13	6 & 8:1	254	254	432	60	410 / *476	5 / *8	520	192	Ø195 Bore (4 x M10 on 220 PCD)	F14, F16 & F25	F35, F40
IB14	6 & 8:1	366	366	432	60	476	8	520	304	Ø195 Bore (4 x M10 on 220 PCD)	F14, F16 & F25	F40

All dimensions in mm. *Dimension for larger output.

Gearbox Selection Chart

Gearbox	Nominal Ratio	Output Torque (Nm)	Max Thrust (kN)	Mechanical Advantage $\pm 10\%$ *
IB2	1	306	53	0.85
IB3	1	306	177	0.85
IB4	2	306	53	1.70
IB4	3	678	53	2.55
IB4	6	542	53	5.10
IB5	2	306	177	1.70
IB5	3	678	177	2.55
IB5	6	542	177	5.10
IB6	3	1355	177	2.55
IB6	6	1084	177	5.10
IB7	3	1355	266	2.55
IB7	6	1084	266	5.10
IB8	3	2033	266	2.55
IB8	6	1627	266	5.10
IB9	3	2033	355	2.55
IB9	6	1627	355	5.10
IB10	4	4067	355	3.40
IB11	4	4067	500	3.40
IB12	6	8135	500	5.10
IB13	6	8135	834	5.10
IB14	6	8135	1320	5.10

Static safety factor is 2.

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



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