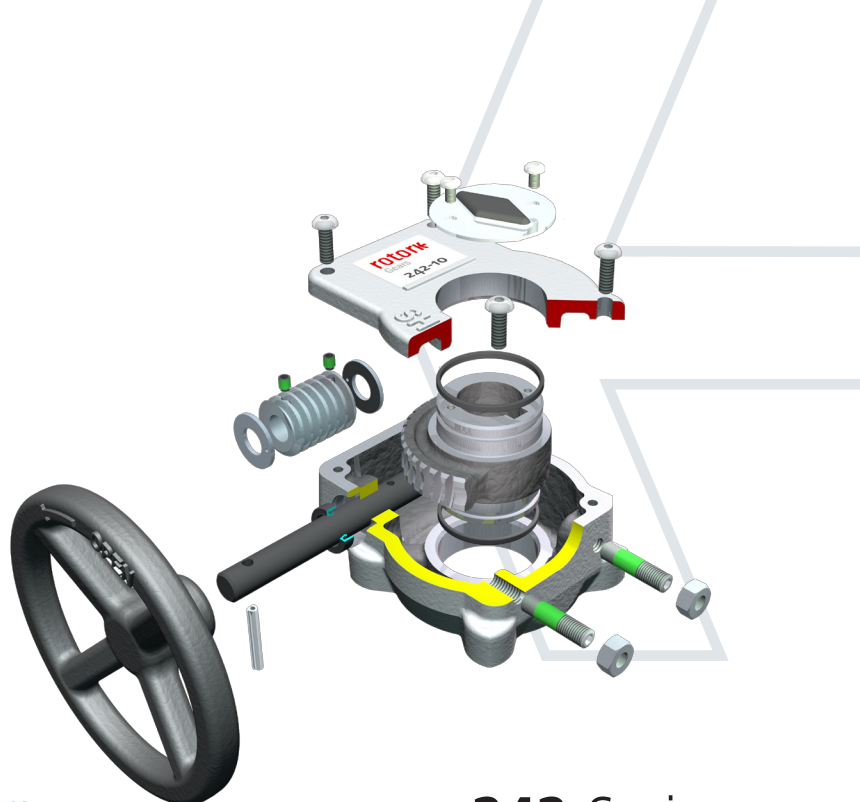


rotork®

Gears



Manual Quarter-turn Gear Operators

The 242 range has been designed to optimise robustness and durability, whilst minimising non-structural mass and reducing the overall gearbox envelope by using the latest lean engineering principles and analytical design tools. The 242 series is based on the design and quality of the FB series which was designed to meet strict specifications. The 242's simple, rugged construction makes it the gearbox of choice for low torque applications.

Application

The 242 series quarter-turn worm gearboxes are intended for the operation of ball, butterfly, plug and any other quarter-turn valves. They are well suited for applications in power, waterworks, gas pipelines, HVAC and most general industrial applications.

242 Series

Manual Quarter-turn Gear Operators

Features

- Cast handwheels (on smaller sizes)
- PTFE thrust washers
- Cast iron housing
- Ductile iron quadrant
- Stroke 0-90° ($\pm 5^\circ$ adjustable at open and closed)
- Pre-applied silicon seal on stop bolts
- Special protection of the input shaft
- Stainless steel position indicator
- Zinc plated fasteners

Environmental Specification

- Sealed to IP67
- Temperature range: -40 °C to 120 °C

Options

- Padlockable flange
- Stainless steel input shaft & fasteners
- Namur mounting
- Memory stop
- Westlock mounting
- IP68

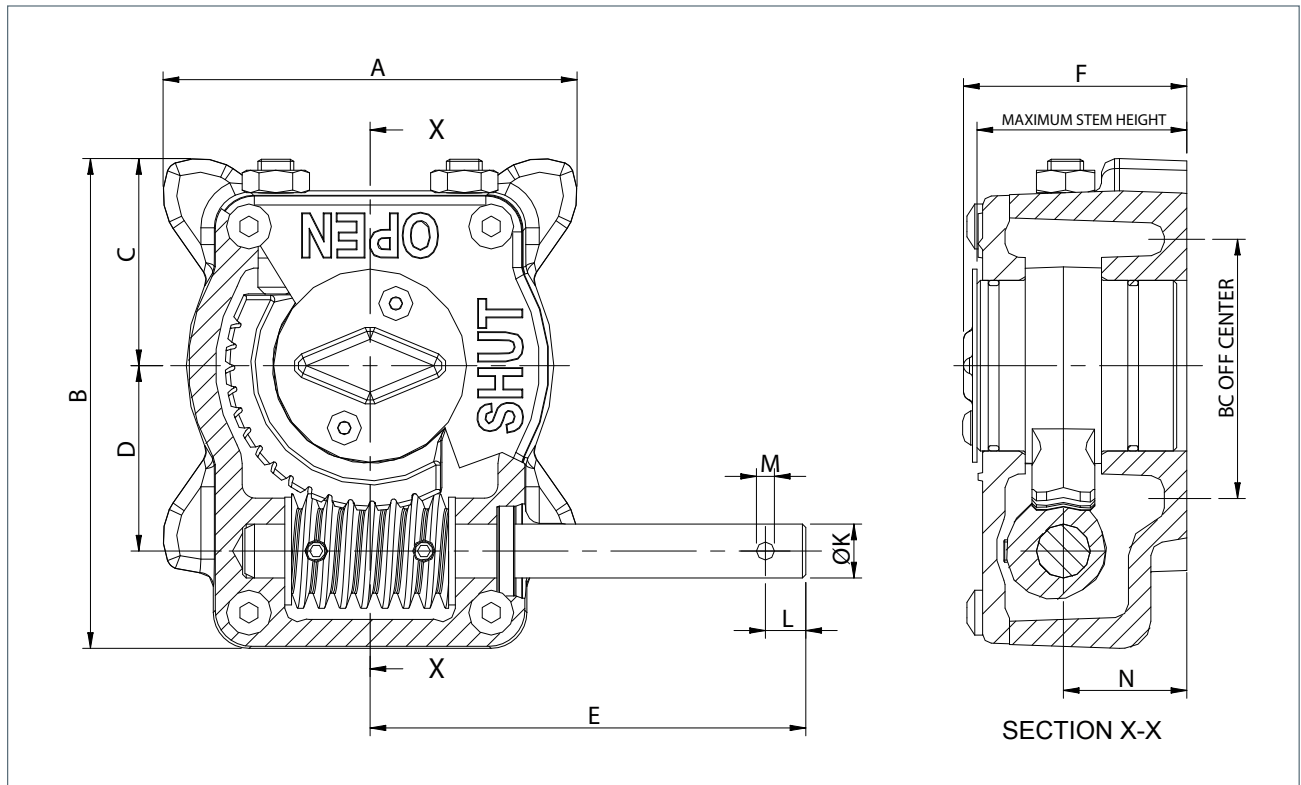
242 Series

Material specification for Rotork Gears 242 Series

Description	Material Description	UK Standard	International Standard	Japanese Standard
Gearcase and cover	Cast iron (Grey)	BS EN 1563 EN-GJL-250	ISO 185 JL/250	JIS G5501 FC250
Quadrant	Ductile iron (SG / Nodular)	BS EN 1563 EN-GJS-400-15	ISO 683 36CrNiMo6	JIS G5502 FCD400
Worm	Carbon steel	BS EN 10083 C45	ISO 683 C45	JIS G3102 S45C
Input shaft	Electrophoretic coated carbon steel	BS EN 10083 C45	ISO 683 C45	JIS G3102 S45C
Seals	Nitrile rubber	-	ISO 1629 NBR 70 Shore A	-
Fasteners	Zinc plated alloy steel	-	ISO 898 10.9	-
Indicator	Stainless steel	BS970 304S11	ISO16143-2 X2CrNi18-9	JIS G4303 SUS 304
Handwheel (up to 200mm)	Ductile iron	BS EN 1563 EN-GJS-400-15	ISO 683 36CrNiMo6	JIS G5502 FCD400
Handwheel (over 200mm)	Fabricated structural steel	BS EN 10277-2 1.0122	ISO 4997 CR220	JIS G3101/6 SM41A
Handwheel pin	Carbon steel	BS1449 CS70	ISO 4960 CS70	JIS G4802 CS70
Input shaft bearings	Low friction bush	Proprietary: Polytetrafluoroethylene steel-backed		
Lubricant	Grease	Proprietary: Calcium soap base with extreme pressure additives		
Finish	Grey primer paint	Proprietary: Polyvinyl butyral, phenolic epoxy resin		

Type		Output Torque Nm	Ratio:1	M.A.* ±10%	Weight exl. Handwheel Kg	Max Stem Bore BS4235 Key mm	Max Square mm	Max DD mm	Max Stem Height mm	ISO Base Options
242-10	M	165	40	10	1	Ø20 + 6K	19AF	Ø26 x 19AF	36.5	F05 + F07
242-20	S	300	40	10	1.5	Ø24 + 8K	22AF	Ø31 x 22AF	40	F07
	M				1.9				46	F07 + F10
242-30	S	650	40	10	3.4	Ø36 + 10K	31AF	Ø44 x 31AF	50.5	F07 + F10
	M				3.9				56.5	F07 + F10 + F12
	L				4.1					F14 ONLY
242-40	S	1200	40	10	5.7	Ø47 + 14K	40AF	Ø56 x 40AF	62.5	F10 + F12
	M				5.9				66.5	F10 + F12 OR F14
242-45	M	2000	50	15	7.9	Ø60 + 18K	50AF	Ø70 x 50AF	70.5	F14
	L				9				81.5	F16

*The published M.A. is achieved after a few cycles.
The static safety factor is 1.5.



Type	A Gearbox Width	B Gearbox Length	C	D Centre Distance	E Mid Gearbox - End Shaft	F Height	ØK Shaft Diameter	L Hole Distance	M Diameter Hole	N
242-10M	66	82	30	34	78	40	10	9	3.5	20
242-20S	80	100	38	41	97	44	12	9	4	22
242-20M	92	101	38	41	97	50	12	9	4	28
242-30S	107	131	49	55	119	54	16	14	5	28
242-30M	115	132	48	55	119	60	16	14	5	34
242-30L	131	149	48	55	119	60	16	14	5	34
242-40S	135	163	60	69	159	67	20	24	6	34
242-40M	135	163	60	69	159	71	20	24	6	38
242-45M	156	180	65	81	159	75	20	24	6	42
242-45L	156	192	77	81	159	86	20	24	6	53

All dimensions in millimetres. Tapping depths are not according to ISO5211, minimum tapping depths are 1 x diameter tapping hole.

Handwheel Selection Chart

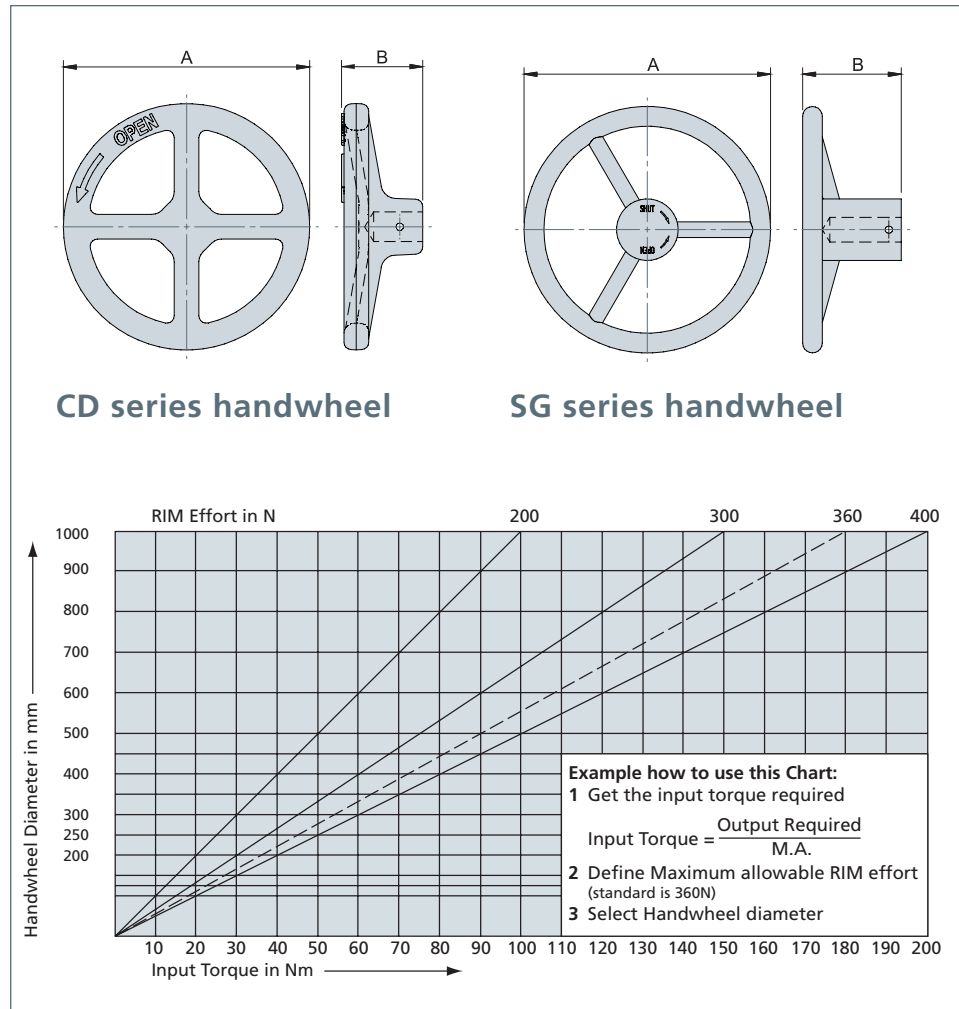
Input Torque

Type	M.A. ± 10%
242-10	10
242-20	10
242-30	10
242-40	10
242-45	15

Dimensions

Type	A	B
CD50-10	Ø 50(1,97")	23(0,91")
CD100-10	Ø 100(3,94")	33(1,30")
CD100-12		
CD200-12	Ø 200(7,87")	66(2,60")
CD200-16		

Type	A	B
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")



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