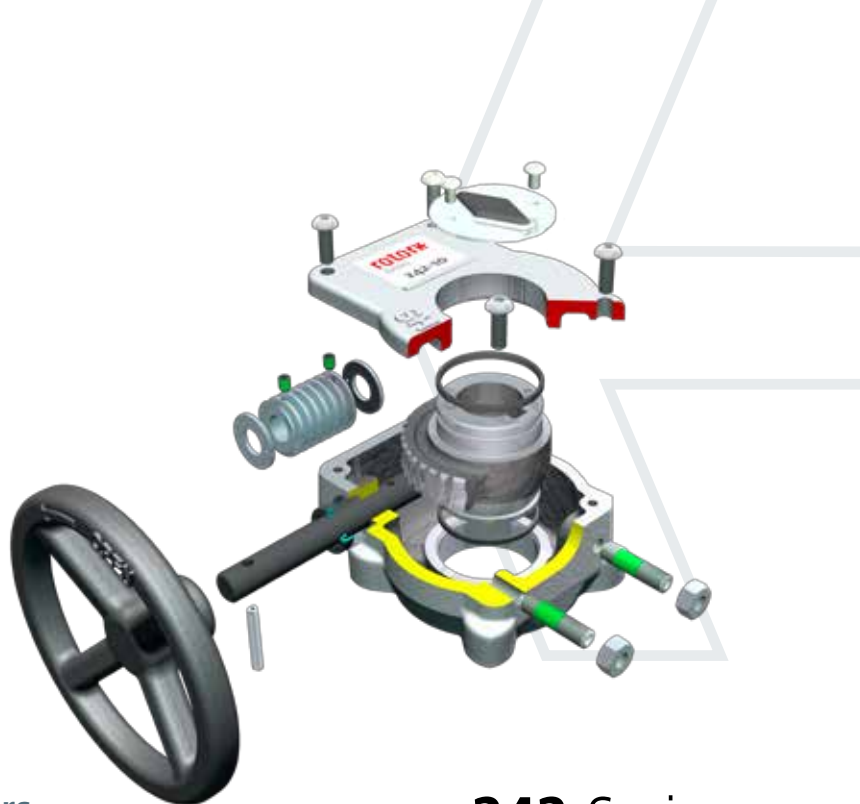


rotork®

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 to 250 °F

Options

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

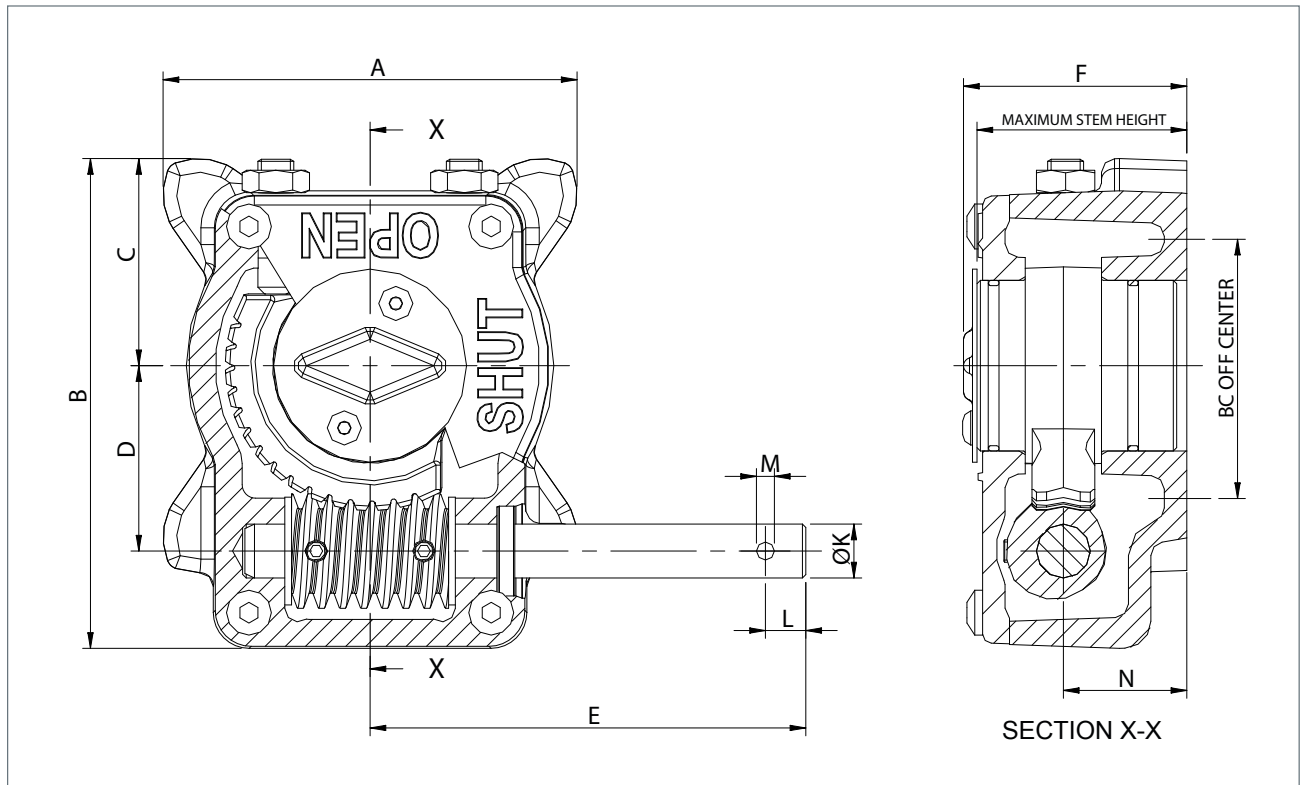
242 Series

Material specification for Rotork Gears 242 Series

Description	Material Description	UK Standard	International Standard	American Standard
Gearcase and cover	Cast iron (Grey)	BS EN 1563 EN-GJL-250	ISO 185 JL/250	ASTM A45 35
Quadrant	Ductile iron (SG / Nodular)	BS EN 1563 EN-GJS-400-15	ISO 683 36CrNiMo6	ASTM A536 60-40-18
Worm	Carbon steel	BS EN 10083 C45	ISO 683 C45	AISI 1045
Input shaft	Electrophoretic coated carbon steel	BS EN 10083 C45	ISO 683 C45	AISI 1045
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	AISI 304
Handwheel (up to 200mm)	Ductile iron	BS EN 1563 EN-GJS-400-15	ISO 683 36CrNiMo6	ASTM A536 60-40-18
Handwheel (over 200mm)	Fabricated structural steel	BS EN 10277-2 1.0122	ISO 4997 CR220	ASTM A283 GrC
Handwheel pin	Carbon steel	BS1449 CS70	ISO 4960 CS70	AISI 1070
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 lbf.in	Ratio:1	M.A. * $\pm 10\%$	Weight excl. Handwheel lbs.	Max Stem Bore ANSI Square Key inch	Max Stem Bore ANSI Rect. Key inch	Max DD inch	Max Stem Height inch	MSS Base Options	
242-10	M	1460	40	10	2.2	$\emptyset 0.78 + 0.24K$	$\emptyset 0.812 + 0.25K$	$\emptyset 1 \times 0.75AF$	1.44	FA05 + FA07
242-20	S	2655	40	10	3.3	$\emptyset 0.95 + 0.32K$	$\emptyset 1 + 0.312K$	$\emptyset 1.22 \times 0.86AF$	1.58	FA07
	M				4.2				1.81	FA07 + FA10
242-30	S	5753	40	10	7.5	$\emptyset 1.42 + 0.39K$	$\emptyset 1.437 + 0.375K$	$\emptyset 1.73 \times 1.22AF$	1.99	FA07 + FA10
	M				8.6				2.22	FA07 + FA10 + FA12
	L				9					FA14 ONLY
242-40	S	10621	40	10	12.6	$\emptyset 1.85 + 0.55K$	$\emptyset 1.75 + 0.5K$	$\emptyset 2.21 \times 1.57AF$	2.46	FA10 + FA12
	M				13.1				2.61	FA10 + FA12 OR FA14
242-45	M	17702	50	15	17.4	$\emptyset 2.17 + 0.625K$	$\emptyset 2.35 + 0.625K$	$\emptyset 2.75 \times 2AF$	2.77	FA14
	L				19.8				3.21	FA16

*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	2.60	3.23	1.18	1.34	3.07	1.57	0.39	0.35	0.14	0.78
242-20S	3.15	3.94	1.49	1.62	3.82	1.74	0.47	0.35	0.16	0.87
242-20M	3.63	3.98	1.49	1.62	3.82	1.97	0.47	0.35	0.16	1.11
242-30S	4.22	5.16	1.93	2.17	4.68	2.13	0.63	0.55	0.19	1.11
242-30M	4.53	5.21	1.89	2.17	4.68	2.36	0.63	0.55	0.19	1.34
242-30L	5.16	5.87	1.89	2.17	4.68	2.36	0.63	0.55	0.19	1.34
242-40S	5.32	6.42	2.36	2.72	6.26	2.64	0.78	0.95	0.24	1.34
242-40M	5.32	6.42	2.36	2.72	6.26	2.79	0.78	0.95	0.24	1.49
242-45M	6.14	7.09	2.56	3.19	6.26	2.95	0.78	0.95	0.24	1.65
242-45L	6.14	7.56	3.03	3.19	6.26	3.39	0.78	0.95	0.24	2.08

All dimensions in inches.

Handwheel Selection Chart

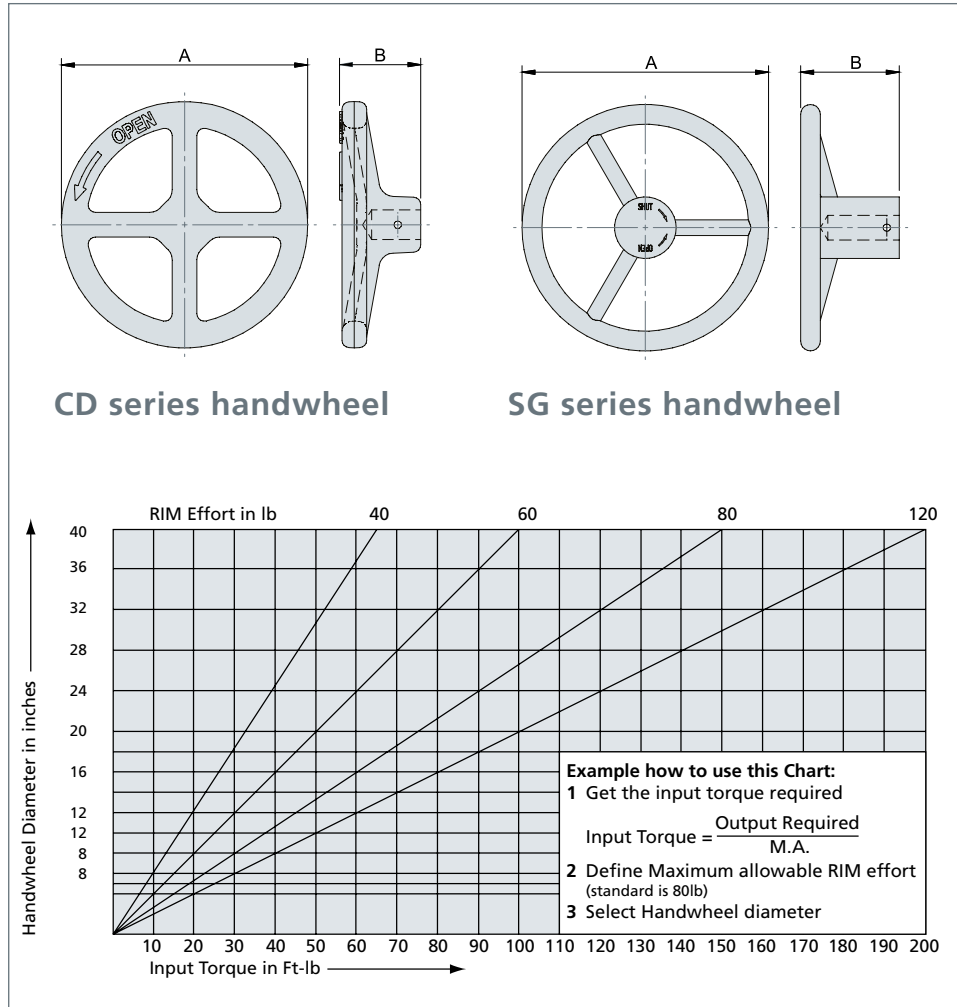
Input Torque

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	Ø1,97"	0,91"
CD100-10	Ø3,94"	1,30"
CD100-12		
CD200-12	Ø7,87"	2,60"
CD200-16		

Type	A	B
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"



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