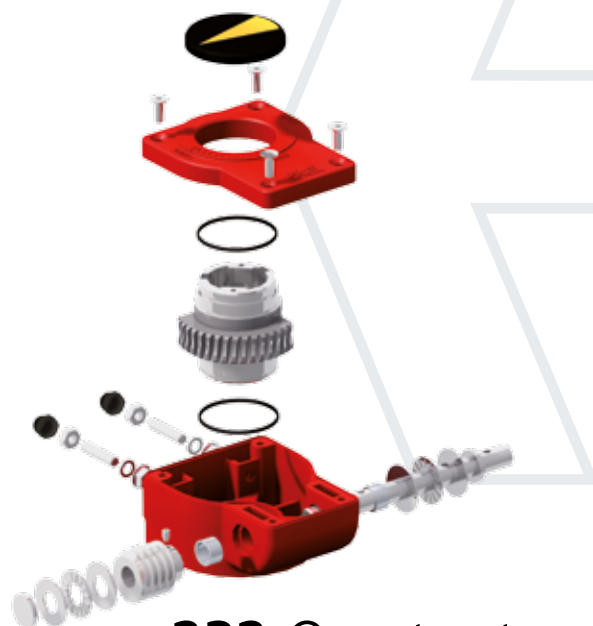


rotork®

Gears



232 Quarter-turn

Cast Aluminium Housing Gearboxes

232 Quarter-turn Gear Series

The new 232 cast aluminium housing range of 1/4 turn worm gearboxes was designed with cost in mind but above all to enhance its quality, reliability and environmental specifications. This was achieved by looking at reducing costs in various areas. A reduction in component weights coupled with the standardization of the gearbox enables a reduction in stock and consequently cost effective transport and logistics.

The product is flexible and configurable either in our factory or at the customer's site, to improve and maintain a consistent delivery.

Application

The 232 series 1/4 turn worm gearboxes are intended for the operation of ball, butterfly, plug and any other 1/4 turn valves. They are well suited for applications in power waterworks and gas pipelines, HVAC, fire protection and most general industrial applications.

Features

- Removable stem drive inserts
- Various inserts to suit all valve stems
- Various PCDs on gearcase according to ISO 5211
- 2 keyways to cater for 45° & 90° positions
- Easy to customise
- Delivery in days not weeks
- Lightweight design
- High performance gears to increase torque not size
- Improved ingress protection
- Specially designed sealing
- IP 65
- Protected steel shafts and fasteners
- Temperatures -20 to +120 °C (-4 to +250 °F)
- Built in mechanical stops
- Prepared for padlock kit, namur connections and memory stop mounting
- Various handwheel types and sizes
- Self-locking

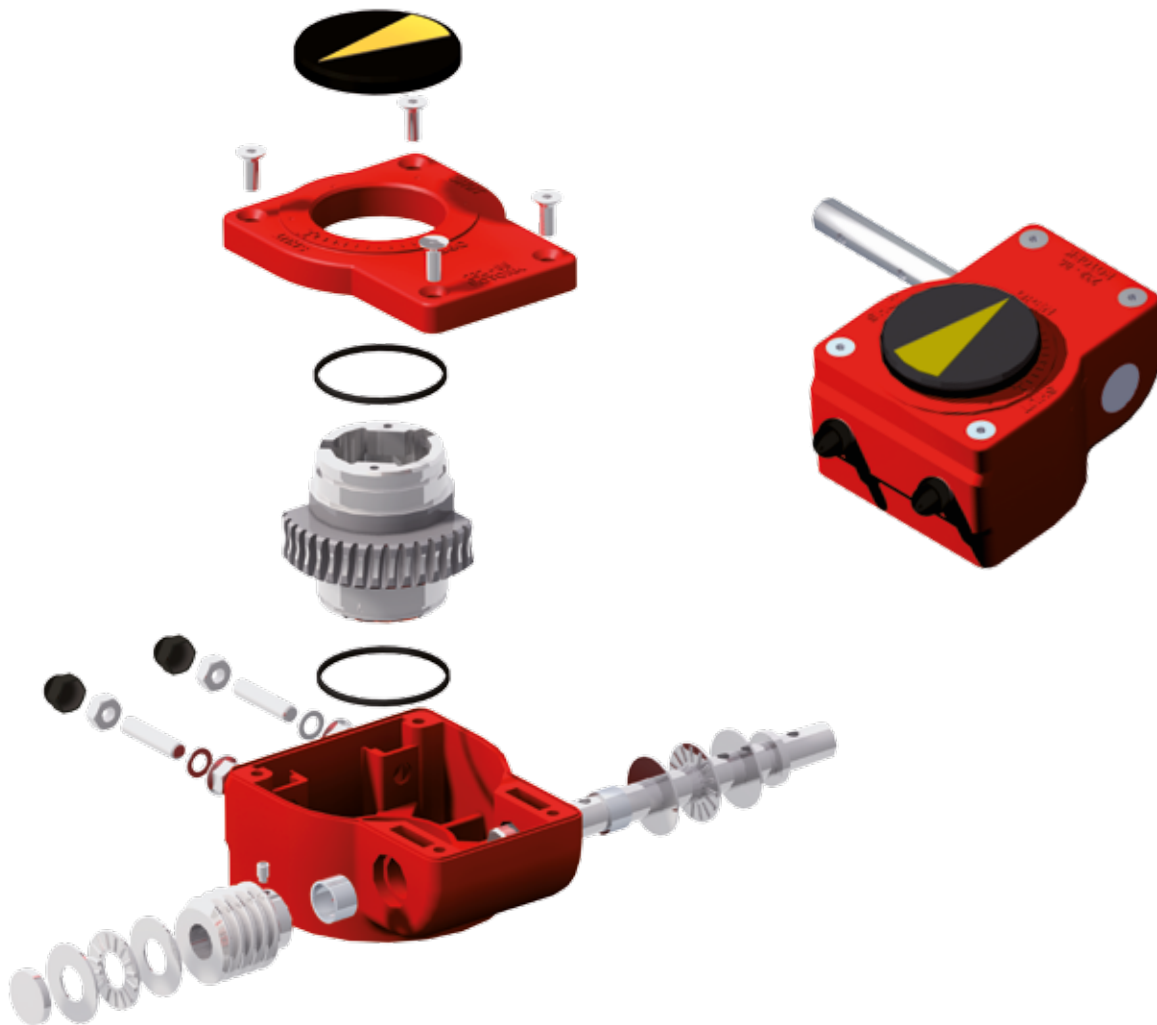
Options

- Limit switches inside or outside gearbox, conforming to VDI/VDE 3845 Standard
- Stainless Steel shafts
- Various position indicators
- Various handwheels
- Memory stop
- Padlocking device
- Various inserts
- Flexible Extensions

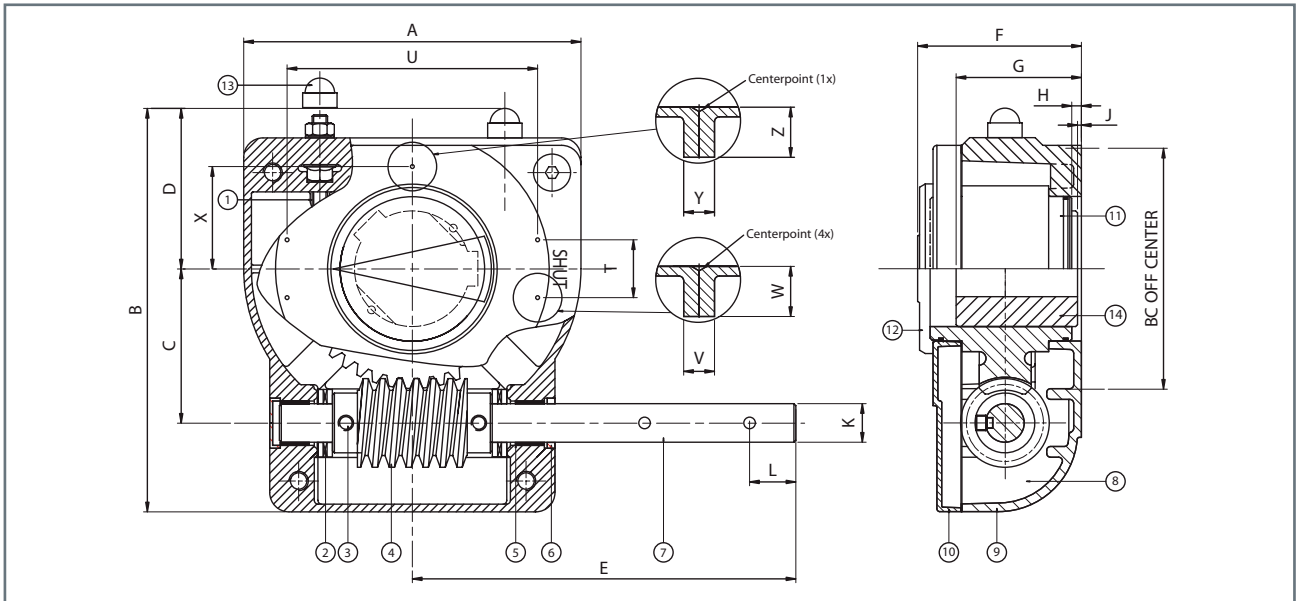
Material Specification

No.	Description	Material	Notes
1	Set Screw	Steel	ELVZ 8,8 / DIN 916
2	Needle Bearing	AXK-AS/LS	-
3	Worm Screw	Steel	ELVZ 12,9 / DIN 915
4	Worm	Carbon Steel	C45 / AISI 1045
5	Plain Bearing	Permaglide	E40
6	Oil Seal	Nitrile	-
7	Shaft	Protected Steel	-
8	Renolit CLX2	Calcium Soap	Multipurpose CLX
9	Body	Aluminium	Grade LM 9
10	Coverplate	Aluminium	Grade LM 9
11	Quadrant*	Ductile Iron	GGG40 / ASTM D60-40-18
12	Position Indicator	Scanblend FS7	-
13	Nutcap	Polyethylene	-
14	Inserts	Sintered Steel	See selection table

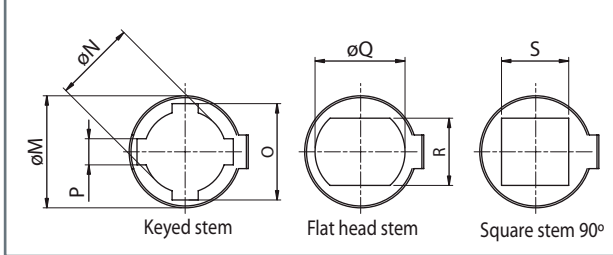
*232-08 quadrant is GGG70



Gearbox 232 Series



Inserts Valve Stem Variations



Type	Ratio	Torque Nm (lbf. inch)		M.A. $\pm 15\%$	Weight Kg (lb)
		Output	Input		
232-05	40:1	125 (1,100)	12,5 (110)	10	0,8 (1,8)
232-06	40:1	250 (2,200)	25 (220)	10	0,9 (2,0)
232-08	37:1	500 (4,400)	41,7 (362)	12	1,55 (3,43)
232-11	45:1	900 (7,920)	75 (660)	12	2,9 (6,3)
232-13	40:1	1,000 (8,800)	83 (730,4)	12	5,4 (11,9)
232-14	40:1	1,500 (13,200)	125 (1,103)	12	5,4 (11,9)
232-15	40:1	1,500 (13,200)	125 (1,103)	12	5,4 (11,9)

The static safety factor is 1.5.

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

Type	A	B	C	D	E	F	G	H	J	ϕK	L	Valve Connection BC acc. ISO 5211
232-05	80 (3,15)	114 (4,49)	42,5 (1,67)	48 (1,89)	105 (4,13)	53 (2,11)	39,5 (1,56)	2,5 (0,10)	2,5 (0,10)	12 (0,47)	14 (0,55)	F04 / F05 / F07
232-06	80 (3,15)	114 (4,49)	42,5 (1,67)	48 (1,89)	155 (6,10)	59 (2,32)	46 (1,81)	2,5 (0,10)	1 (0,4)	12 (0,47)	14 (0,55)	F05-F07
232-08	100 (3,94)	131 (5,16)	50 (1,98)	56 (2,21)	170 (6,69)	67 (2,64)	58,5 (2,30)	4 (0,16)	2,5 (0,10)	12 (0,47)	14 (0,55)	F07-F10
232-11	146 (5,75)	174 (6,84)	60 (2,36)	79 (3,13)	200 (7,87)	79 (3,11)	71 (2,80)	7 (0,28)	2,5 (0,10)	15 (0,59)	14 (0,55)	F10-F12
232-13	175 (6,89)	209 (8,24)	80 (3,15)	83 (3,28)	280 (11,02)	85 (3,33)	76,5 (3,01)	5 (0,20)	2 (0,08)	20 (0,74)	24 (0,94)	F10-F12 / F14
232-14	175 (6,89)	209 (8,24)	80 (3,15)	83 (3,28)	280 (11,02)	85 (3,33)	76,5 (3,01)	5 (0,20)	2 (0,08)	20 (0,74)	24 (0,94)	F10-F12 / F14
232-15	175 (6,89)	209 (8,24)	80 (3,15)	83 (3,28)	280 (11,02)	85 (3,33)	76,5 (3,01)	5 (0,20)	2 (0,08)	20 (0,74)	24 (0,94)	per application

Type	Maximum Dimensions								T	U	V	W	X	Y	Z
	ϕM	ϕN	O	P	ϕQ	R	S								
232-05	25 (0,98)	15 (0,59)	19,6 (0,77)	5 (0,2)	18,1 (0,71)	14 (0,55)	14 (0,55)	25 (0,98)	50 (1,97)	8 (0,31)	13 (0,51)	23,5 (0,93)	8 (0,31)	8 (0,31)	8 (0,31)
232-06	32,15 (1,27)	20 (0,79)	25,2 (0,99)	6 (0,24)	22,2 (0,87)	17 (0,67)	17 (0,67)	25 (0,98)	50 (1,97)	8 (0,31)	13 (0,51)	26,5 (1,04)	8 (0,31)	10 (0,39)	10 (0,39)
232-08	45,3 (1,78)	30 (1,18)	36,6 (1,44)	8 (0,31)	36,2 (1,43)	27 (1,06)	27 (1,06)	30 (1,18)	80 (3,15)	10 (0,39)	14 (0,55)	35 (1,38)	10 (0,39)	10 (0,39)	10 (0,39)
232-11	60 (2,36)	44 (1,73)	52,6 (2,07)	14 (0,55)	48,2 (1,90)	36 (1,42)	36 (1,42)	30 (1,18)	130 (5,12)	10 (0,39)	14 (0,55)	53 (2,09)	10 (0,39)	14 (0,55)	14 (0,55)
232-13	60 (2,36)	44 (1,73)	52,6 (2,07)	14 (0,55)	48,2 (1,90)	36 (1,42)	36 (1,42)	30 (1,18)	130 (5,12)	10 (0,39)	14 (0,55)	53 (2,09)	14 (0,55)	14 (0,55)	14 (0,55)
232-14	60 (2,36)	44 (1,73)	52,6 (2,07)	14 (0,55)	48,2 (1,90)	36 (1,42)	36 (1,42)	30 (1,18)	130 (5,12)	10 (0,39)	14 (0,55)	53 (2,09)	14 (0,55)	14 (0,55)	14 (0,55)
232-15	-	55 (2,17)	63,8 (2,5)	16 (0,63)	52 (2,05)	46 (1,81)	46 (1,81)	30 (1,18)	130 (5,12)	10 (0,39)	14 (0,55)	53 (2,09)	14 (0,55)	14 (0,55)	14 (0,55)

All dimensions in millimetres. The 232-15 has a blank bore and base plate for machining to suit various top works.

Inserts are not retained in the gearbox, please specify if required.

Handwheel Selection Chart

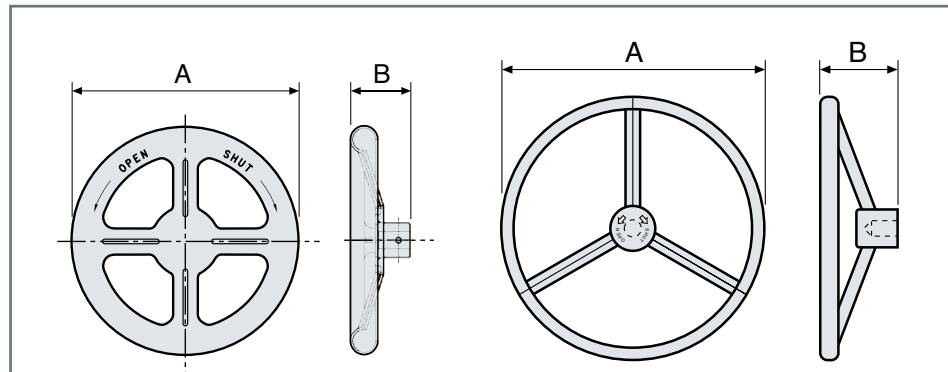
Input Torque

Type	M.A. ± 15%
232-05	10
232-06	10
232-08	12
232-11	12
232-13	12
232-14	12
232-15	12

Dimensions

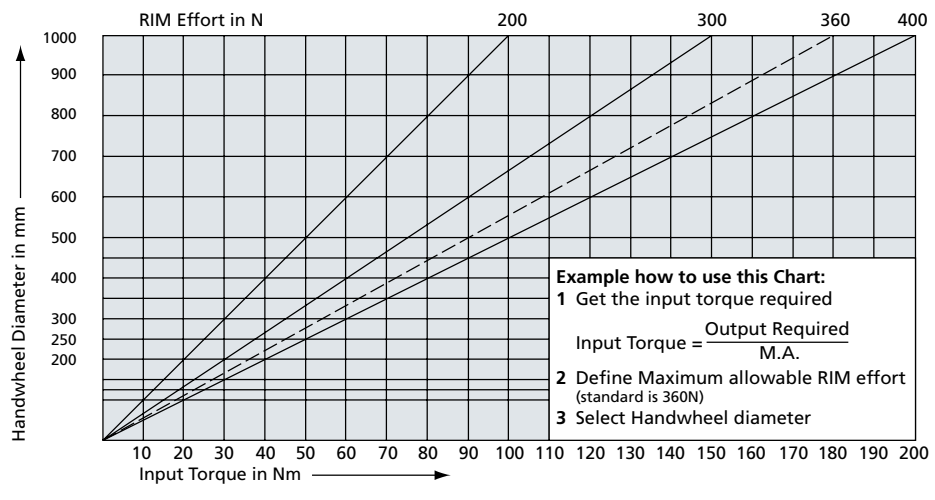
Type	A	B
PS100-12	Ø100 (4")	35 (1,38)
PS125-12	Ø125 (5")	34 (1,34)
PS125-15		48 (1,89)
PS160-12	Ø160 (6")	48 (1,89)
PS160-15		49 (1,93)
PS200-12	Ø200 (8")	51 (2,00)
PS200-15		52 (2,05)
PS200-20		63 (2,48)
PS250-12	Ø250 (10")	63 (2,48)
PS250-15		63 (2,48)
PS250-20		70 (2,76)

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")



PS series handwheel

SG series handwheel



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