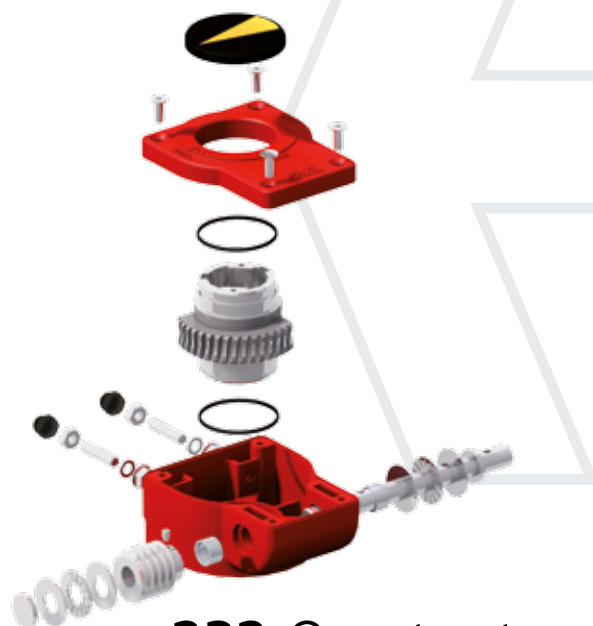


# rotork®

## 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 MSS SP-101
- 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 -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

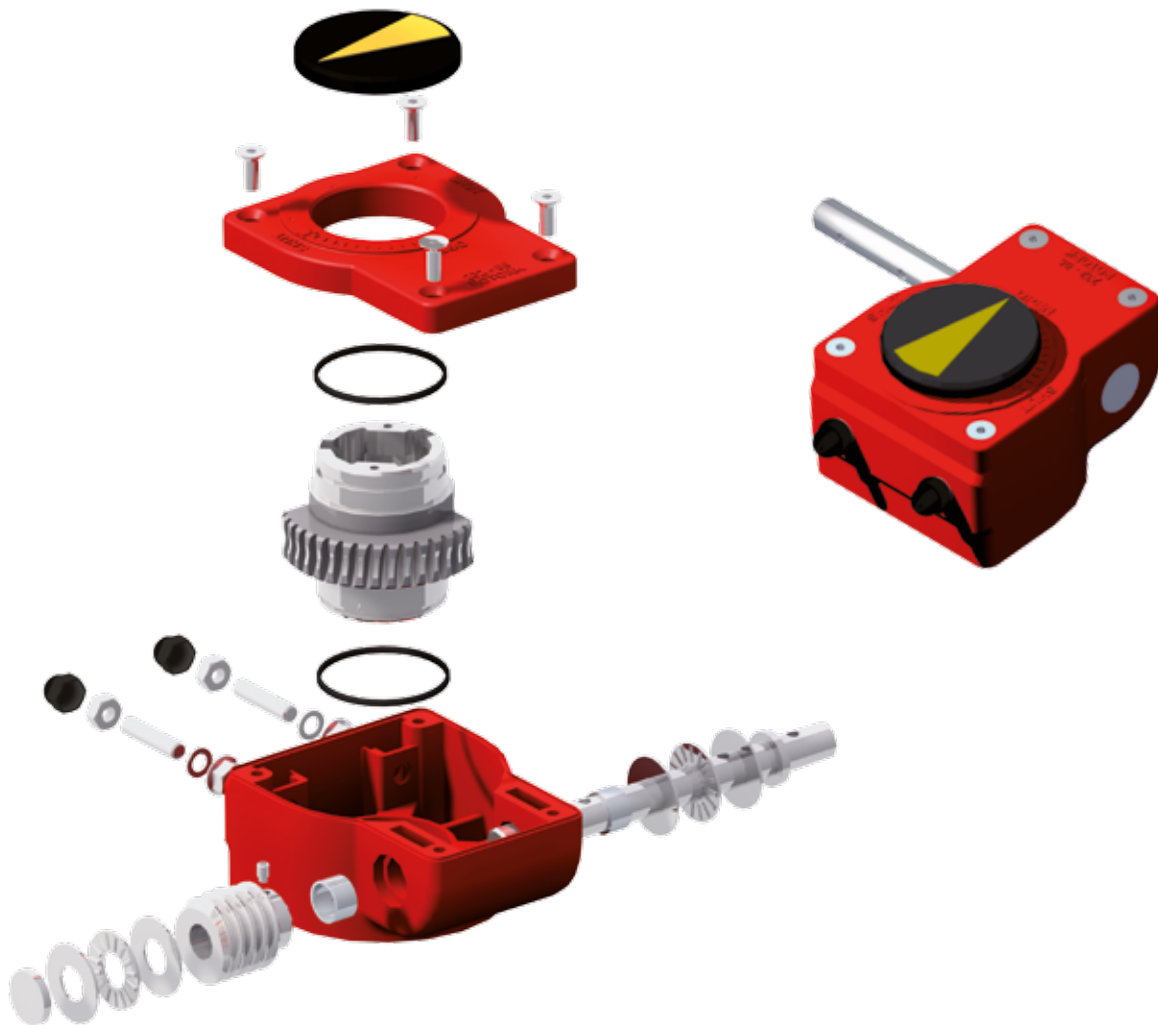
#### Options

- 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

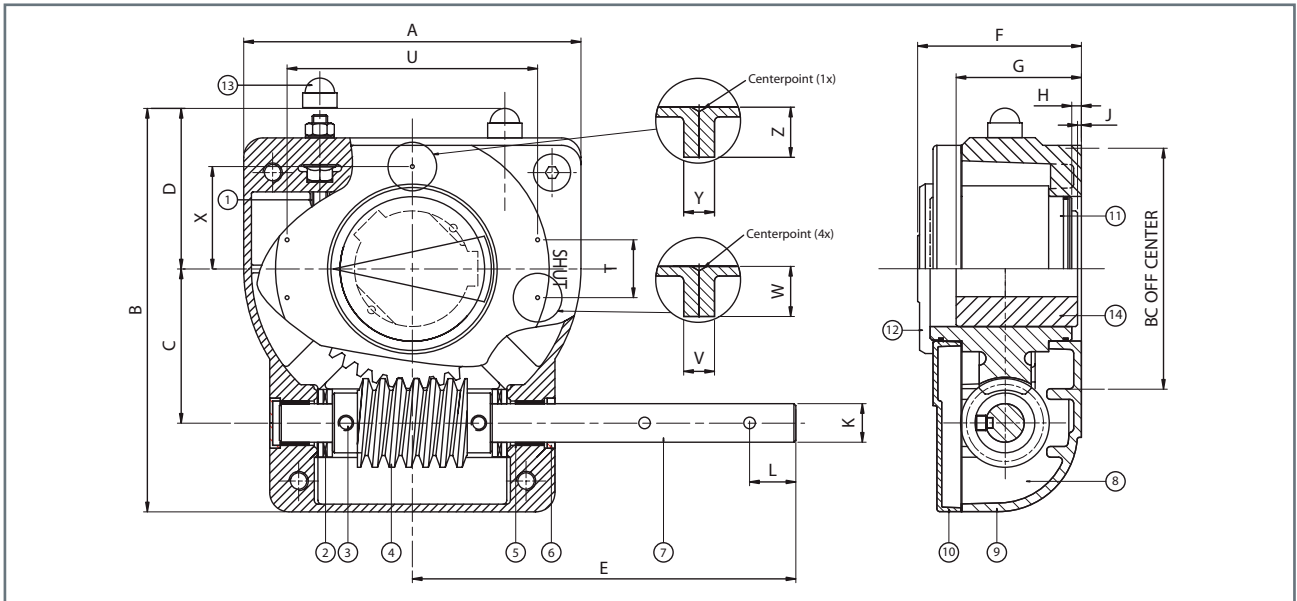
**Material Specification**

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

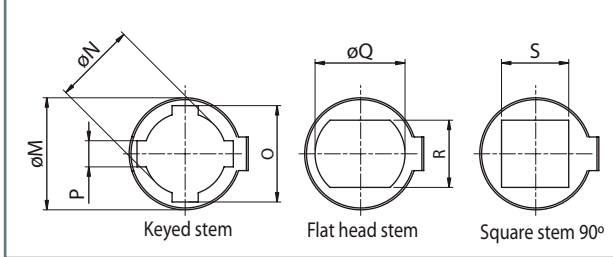
\*232-08 quadrant is GGG70



## Gearbox 232 Series



### Inserts Valve Stem Variations



Type	Ratio	Torque lbf. inch		M.A. ± 15%	Weight lb
		Output	Input		
232-05	40:1	1,100	110	10	1,8
232-06	40:1	2,200	220	10	2,0
232-08	37:1	4,400	362	12	3,43
232-11	45:1	7,920	660	12	6,3
232-13	40:1	8,800	730,4	12	11,9
232-14	40:1	13,200	1,103	12	11,9
232-15	40:1	13,200	1,103	12	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	$\phi K$	L	Valve Connection BC acc. ISO 5211
232-05	3,15	4,49	1,67	1,89	4,13	2,11	1,56	0,10	0,10	0,47	0,55	FA04/FA05/FA07
232-06	3,15	4,49	1,67	1,89	6,10	2,32	1,81	0,10	0,40	0,47	0,55	FA05-FA07
232-08	3,94	5,16	1,98	2,21	6,69	2,64	2,30	0,16	0,10	0,47	0,55	FA07-FA10
232-11	5,75	6,84	2,36	3,13	7,87	3,11	2,80	0,28	0,10	0,59	0,55	FA10-FA12
232-13	6,89	8,24	3,15	3,28	11,02	3,33	3,01	0,20	0,08	0,74	0,94	FA10-FA12/FA14
232-14	6,89	8,24	3,15	3,28	11,02	3,33	3,01	0,20	0,08	0,74	0,94	FA10-FA12/FA14
232-15	6,89	8,24	3,15	3,28	11,02	3,33	3,01	0,20	0,08	0,74	0,94	per application

Type	Maximum Dimensions							T	U	V	W	X	Y	Z
	$\phi M$	$\phi N$	O	P	$\phi Q$	R	S							
232-05	0,98	0,59	0,77	0,2	0,71	0,55	0,55	0,98	1,97	0,31	0,51	0,93	0,31	0,31
232-06	1,27	0,79	0,99	0,24	0,87	0,67	0,67	0,98	1,97	0,31	0,51	1,04	0,31	0,39
232-08	1,78	1,18	1,44	0,31	1,43	1,06	1,06	1,18	3,15	0,39	0,55	1,38	0,39	0,39
232-11	2,36	1,73	2,07	0,55	1,90	1,42	1,42	1,18	5,12	0,39	0,55	2,09	0,39	0,55
232-13	2,36	1,73	2,07	0,55	1,90	1,42	1,42	1,18	5,12	0,39	0,55	2,09	0,55	0,55
232-14	2,36	1,73	2,07	0,55	1,90	1,42	1,42	1,18	5,12	0,39	0,55	2,09	0,55	0,55
232-15	-	2,17	2,50	0,63	2,05	1,81	1,81	1,18	5,12	0,39	0,55	2,09	0,55	0,55

All dimensions in inches. 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

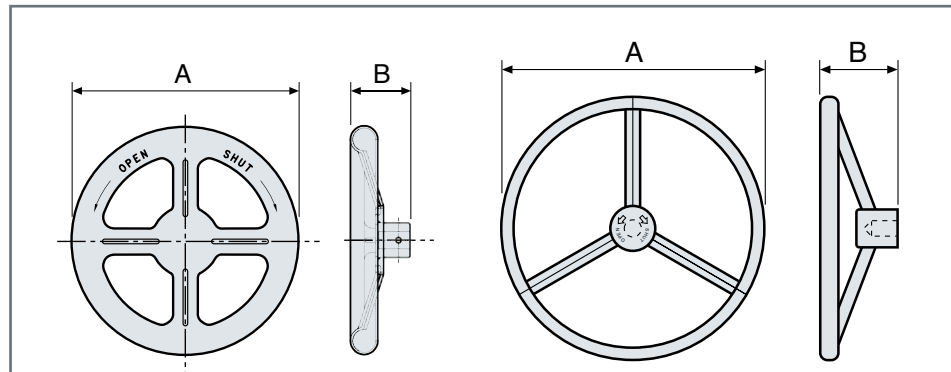
##### Input Torque

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

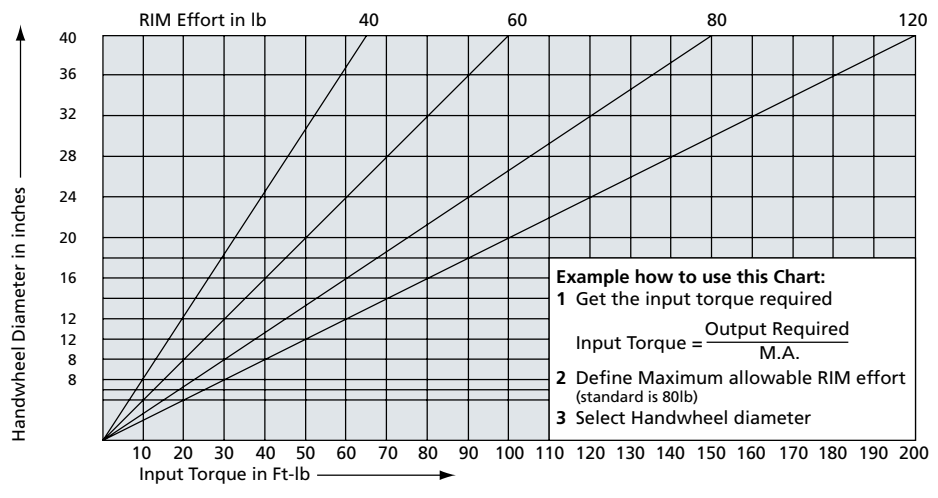
Type	A	B
PS100-12	Ø4"	1,38"
PS125-12	Ø5"	1,34"
PS125-15		1,89"
PS160-12	Ø6"	1,89"
PS160-15		1,93"
PS200-12	Ø8"	2,00"
PS200-15		2,05"
PS200-20		2,48"
PS250-12	Ø10"	2,48"
PS250-15		2,48"
PS250-20		2,76"

Type	A	B
SG200	Ø8"	3,15"
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"



PS series handwheel

SG series handwheel



**Rotork Gears UK**  
9 Brown Lane West  
Holbeck, Leeds LS12 6BH  
England  
tel +44 (0)113 256 7922  
email sales@rotorkgears.com

**Rotork Gears Americas**  
1811 Brittmoore  
Houston, Texas 77043, USA  
tel +1 713 9837381  
fax +1 713 8568022  
email gears@rotorkgears.com

**Rotork Valvekits Americas**  
Rotork Tulsa, Inc.  
4433 West 49th Street, Suite D  
Tulsa, OK 74107, USA  
tel +1 (918) 259-8100  
fax +1 (918) 259-9167  
email usasales@rotorkvalvekits.com

**Roto Hammer Industries**  
Rotork Tulsa, Inc.  
4433 West 49th Street, Suite D  
Tulsa, OK 74107, USA  
tel +1 (918) 446-3500  
fax +1 (918) 446-6218  
email sales@rotohammer.com

**Rotork Gears BV**  
Nijverheidstraat 25  
7581 PV Losser  
P.O. Box 98, 7580 AB Losser  
The Netherlands  
tel +31 (0)53 - 5388677  
fax +31 (0)53 - 5383939  
email info@rotorkgears.nl

**Rotork Gears Shanghai**  
No. 260 Lian Cao Road  
Xin Mei Urban Industrial Park  
Min Hang District  
Shang Hai 201108  
China  
tel 0086 21 33236200  
fax 0086 21 64348388  
email info@rotorkgears.com.cn

**Rotork Gears S.R.L.**  
Viale Europa 17  
20090 Cusago (MI)  
Italy  
tel +39 0290 16711  
fax +39 0290 390368  
email rg srl.sales@rotork.com

**Rotork Gears India**  
165/166, Bommasandra  
Jigani Link Road  
Kiadb Industrial Area, Anekal  
Thaluk  
Jigani Hobli, Bangalore 562106  
India  
tel +91 80 3098 1600  
fax +91 80 3098 1610  
email sales@rotork.co.in

**Rotork Valvekits**  
Brookside Way  
Nunn Park  
Huthwaite  
Nottinghamshire NG17 2NL  
England  
tel +44 (0)1623 440211  
fax +44 (0)1623 440214  
email sales@rotorkvalvekits.com

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