

ALFA

GEARS

VALVE ACTUATORS

VALVE ACTUATORS



Time to change Gears!

Introduction

Alfa Gears offers a heavy-duty range of manual quarter-turn Gearboxes for Butterfly – Ball – Plug Valves and Dampers.

The torque range is up to 32.000 Nm. These gearboxes conform to IP67 or IP68 enclosure. They have high efficiency planetary reduction gears, cast or ductile iron enclosure, ductile iron worm gear, heat treated ground worm, stainless steel shaft.

The bushings are oil impregnated copper nickel steel alloy and Buna-N rubber seals, AF 120 gasket, stainless steel hardware, minimum input torque, rugged construction, removable output drive sleeves as an option and epoxy polyurethane coating as its features. Optional facilities such as specials input shaft, aluminum bronze worm gear, limit switches, padlock flanges, high and low temperatures options and special paint (C3, C4, C5M).

The company is ISO 9001-2015 certified and Alfa Gears has over 35 years of gearbox experience with a young, flexible and highly efficient team, the company having handled every micro element of design, production, assembly and quality control with utmost care. Service highlights include: all types of modern machines and equipment for gear manufacturing; high end testing lab, Includes gear lead profile testing machine, co-ordinate measuring machine, torque checking machine, etc., and ERP system for comprehensive and optimal management of the organization.

CHARACTERS

1. Precision casting cast and ductile iron housing
2. Optimal output torque, range up to 32000 Nm
3. High efficient needle roller bearing
4. High strength steel or stainless steel Input shaft
5. Stroke 0°- 90°(± 5°)
6. Compact structure
7. Grease filled for longer life
8. Adjustable stopper (± 5°)
9. Perfect sealing performance

APPLICATION

Alfa Gears quarter-turn worm gearboxes are applied to ball valves, butterfly valves, dampers and other 90° rotary valves.

OPERATING ENVIRONMENT

Alfa Gears quarter-turn worm gearboxes are with good mechanical quality and steady operating performance which apply to deal with variety climate and temperature. We strive to develop Alfa Gears valve actuators to meet higher demands.

FACTORY STANDARD

- Enclosure: IP67 or IP68
- Working Temperature: From -45°C to 150°C
- Painting: Black RAL 9005 MAT

CONNECT WITH VALVE

The flange connecting to valve is according to EN ISO5211 or DIN3210 (Customization).

ALFA E RANGE



Economical line Cast Iron (GG25) quarter turn gearbox range.
Standard IP 67 enclosure and available in 8 sizes up to 4.500Nm. Insert system available.

ALFA S RANGE



Heavy duty Ductile cast iron (JS1030) quarter turn gearbox range. Standard IP 68 Enclosure and available in 14 sizes up to 32.000 Nm. Insert system available. Optional with heavy duty Marine paint systems, including C3, C4 and C5M.

ALFA M RANGE



Heavy duty Ductile cast iron JS1030 quarter turn gearbox range. Standard IP 68 Enclosure and available in 11 sizes up to 32.000 Nm. Suitable for worm shaft extensions systems.

ALFA VA RANGE



VA series quarter turn gearboxes are manufactured with a stainless steel 316 Housing, Cover plate, Input shaft and an aluminium bronze Quadrant. Available in 8 models up to 11.000 Nm.

ALFA XK RANGE



ALFA Gears XK-series are designed for the operation of multiple turn valves such as Gate and Globe valves. Our XK Series have Ductile Cast JS1030 Housing and feature high performance axial bearings. Drive sleeve material is Bronze alloy C95400 or Ductile Cast Iron JS1030.

ALFA MO RANGE



Manual Override Ductile cast iron JS1030 quarter turn gearbox range suitable as emergency operation between actuator and valve. Available in 7 models up to 8.500 Nm

E range

Robust and Heavy duty, Economic series quarter turn Gearbox. Cast Iron GG25 Body, Suitable for Butterfly, ball and plug valves.

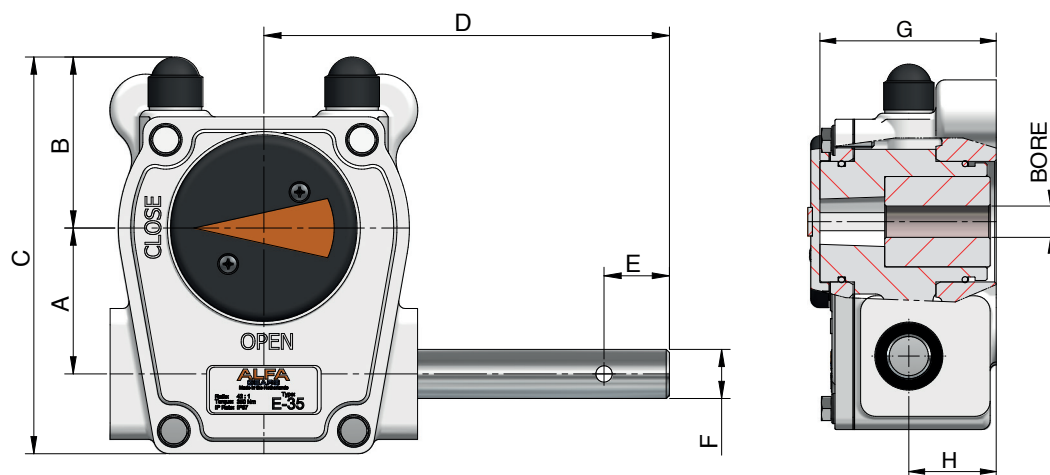
8 sizes • Up to 4.500 Nm • IP67 enclosure • Insert system



Description	Material	Specs/Standard
Body	grey Cast Iron	GG25
Cover	grey Cast Iron	GG25
Position Indicator	Polypropylene	PP
Quadrant	Ductile Cast Iron	GGG40
Worm	Carbon Steel	C45
Shaft	Carbon Steel	SS420
Gasket	Nitrile	NBR70
O rings	Nitrile	NBR70
Grease	Lithium	EP2
Fasteners	SS	A2
Axial Needle Bearing	Steel	AS/AXK

Type	Torque	Ratio	MA +/- 15%	Weight (Kg)
E12	150 Nm	1:41	10	1.9
E25	250 Nm	1:42	9.8	3,6
E35	350 Nm	1:42	11.8	3,7
E55	550 Nm	1:40	12	6,7

Type	Torque	Ratio	MA +/- 15%	Weight (Kg)
E100	1.000 Nm	1:34	13	12,6
E200	2.000 Nm	1:38	13,6	20,8
E350	3.500 Nm	1:55	20	24,6
E450	4.500 Nm	1:52	20	34,4



Type	A	B	C	D	E	F	G	H	max. Bore/key	max. Square	ISO 5211
E12	37	45	104	133	15	∅10	48	24	∅22 / 6	17	F05-F07
E25	45	52	121	126	18	∅12	59	29	∅25 / 8	20	F05-F07
E35	45	52	121	126	20	∅15	59	29	∅25 / 8	20	F07-F10
E55	55	68	153	157	20	∅15	68	36	∅30 / 10	22	F07-F10-F12
E100	71	90	203	201	24	∅20	89	48	∅45 / 14	34	F10-F12-F14
E200	86	101	237	224	24	∅20	96	51	∅56 / 16	42	F10-F12-F14-F16
E350	105	110	262	230	24	∅20	100	55	∅70 / 20	55	F12-F14-F16
E450	130	135	320	260	24	∅20	115	57	∅75 / 22	55	F14-F16-F25

S range

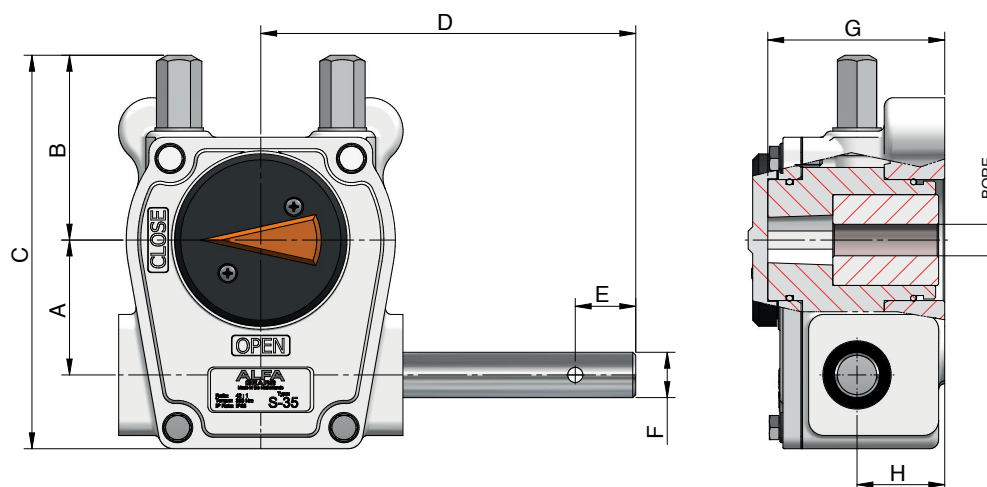
Heavy duty Ductile cast iron JS1030 quarter turn gearbox range.
Standard IP 68 Enclosure and available in 14 sizes up to 32.000 Nm.
Insert system available. Optional with heavy duty Marine paint systems,
including C3, C4 and C5M.



Description	Material	Specs/Standard
Body	Ductile Cast Iron	JS1030
Cover	Ductile Cast Iron	JS1030
Position Indicator	Ductile Cast Iron	JS1030
Quadrant	Ductile Cast Iron	JS1030
Worm	Carbon Steel	C45
Shaft	Stainless Steel	SS304
Gasket	Nitrile	NBR70
O rings	Nitrile	NBR70
Grease	Lithium	EP2
Fasteners	Stainless Steel	A2
Axial Needle Bearing	Steel	AS/AXK

Type	Torque	Ratio	MA +/- 15%	Weight (Kg)
S25	250 Nm	1:42	9.8	3.5
S35	350 Nm	1:42	11.8	3.9
S55	550 Nm	1:40	12	7.2
S100	1.000 Nm	1:34	13	13.3

Type	Torque	Ratio	MA +/- 15%	Weight (Kg)
S200	2.000 Nm	1:38	13.6	21.4
S350	3.500 Nm	1:55	20	25.4
S450	4.500 Nm	1:52	20	38.0



Type	A	B	C	D	E	F	G	H	Max. Bore/key	max. Square	ISO 5211
S25	45	61	130	124	18	∅12	59	29	∅25 / 8	20	F05-F07
S35	45	61	130	124	20	∅15	59	29	∅25 / 8	20	F07-F10
S55	55	78	164	157	20	∅15	68	36	∅30 / 10	22	F07-F10-F12
S100	71	104	217	201	24	∅20	89	48	∅45 / 14	36	F10-F12-F14
S200	86	115	251	224	24	∅20	97	51	∅56 / 16	42	F10-F12-F14-F16
S350	105	129	281	230	24	∅20	100	55	∅70 / 20	55	F12-F14-F16
S450	130	143	328	260	24	∅20	115	57	∅75 / 22	55	F14-F16-F25

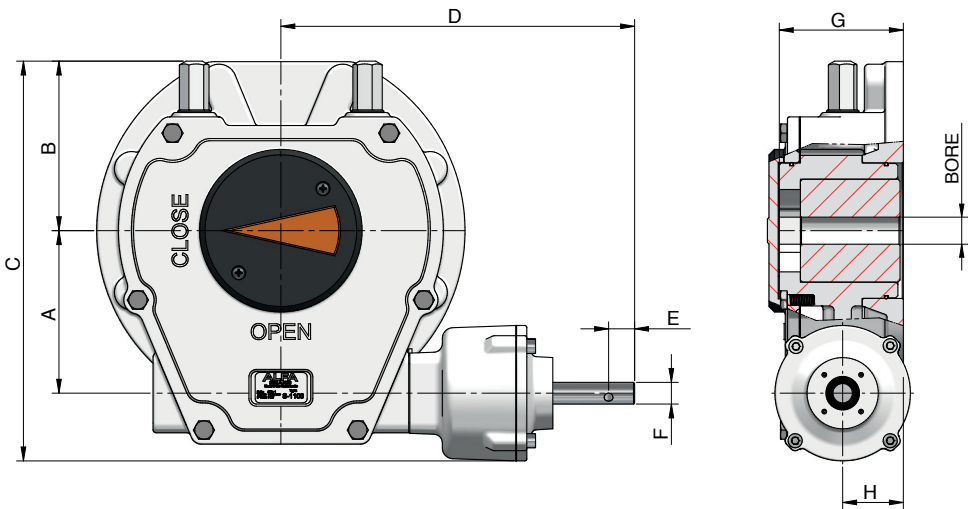
S range + spur

Heavy duty Ductile cast iron JS1030 quarter turn gearbox range.
Standard IP 68 Enclosure and available in 14 sizes up to 32.000 Nm.
Insert system available. Optional with heavy duty Marine paint systems,
including C3, C4 and C5M.



Description	Material	Specs/Standard
Body	Ductile Cast Iron	JS1030
Cover	Ductile Cast Iron	JS1030
Position Indicator	Ductile Cast Iron	JS1030
Quadrant	Ductile Cast Iron	JS1030
Worm	Carbon Steel	C45
Shaft	Stainless Steel	C45
Reducer gears	Carbon Steel	C45
Gasket	Nitrile	NBR70
O rings	Nitrile	NBR70
Grease	Lithium	EP2
Fasteners	Stainless Steel	A2
Axial Needle Bearing	Steel	AS/AXK

Type	Torque	Ratio	MA +/- 15%	Weight (Kg)	Type	Torque	Ratio	MA +/- 15%	Weight (Kg)
S400/2	4.000 Nm	1:110	34	29	S2600/10	26.000 Nm	1:660	208	160
S700/6	7.000 Nm	1:312	65	45	S3200/10	32.000 Nm	1:798	224	215
S900/4	9.000 Nm	1:279	80	55					
S1100/6	11.000 Nm	1:372	105	56					
S1700/6	17.000 Nm	1:468	138	86					

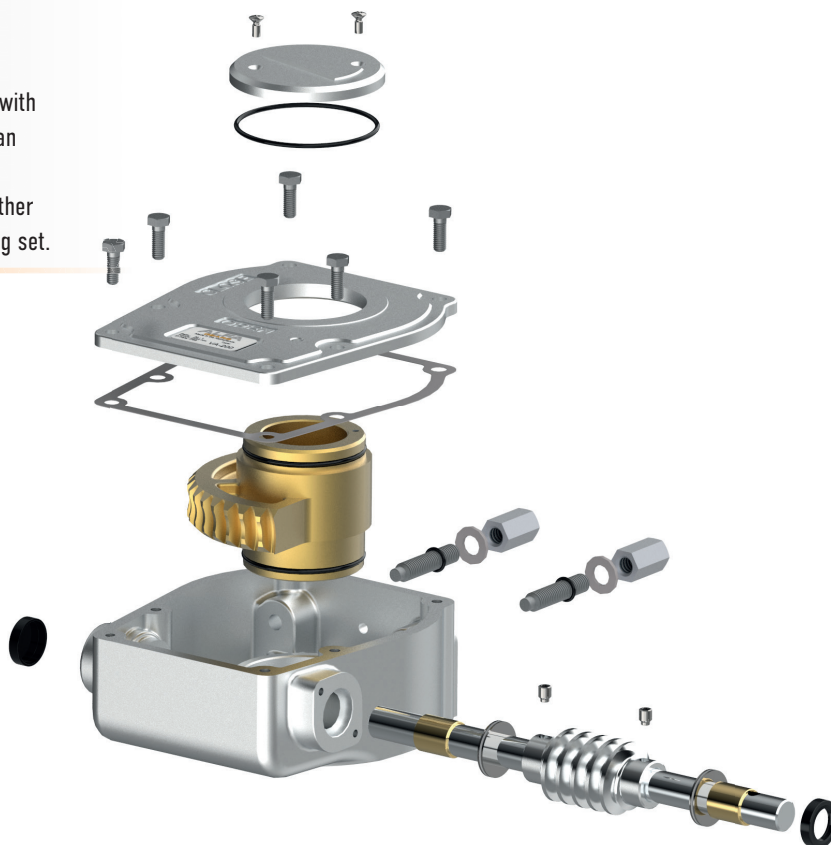


Type	A	B	C	D	E	F	G	H	Max. Bore/key	ISO 5211
S400/2	66	129	281	238	24	∅20	100	55	∅70 / 20	F12-F14-F16
S700/6	130	143	335	310	24	∅20	115	57	∅75 / 22	F14-F16-F25
S900/4	150	156	369	327	24	∅20	115	56	∅86 / 25	F16-F25-F30
S1100/6	150	156	369	327	24	∅20	115	56	∅86 / 25	F16-F25-F30
S1700/6	182	190	435	358	24	∅20	125	63	∅120 / 32	F25-F30-F35
S2600/10	215	195	540	419	24	∅20	175	85	∅150 / 40	F25-F30-F35
S3200/10	256	220	606	449	24	∅20	183	96	∅160 / 40	F25-F30-F35-F40

VA series

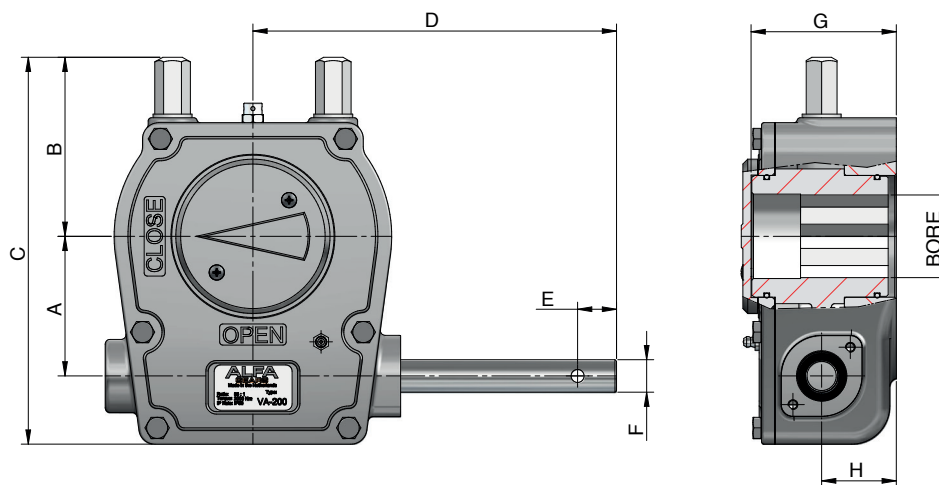
The Alfa Gears VA series quarter turn gearboxes are manufactured with a stainless steel 316 (1.4408) Housing, Coverplate, Inputshaft and an aluminium bronze (C95400) Quadrant. The handwheels are made of stainless steel 316. This VA series is also applicable with several other applications such as padlocking devices, limit switchbox assembling set.

Description	Material	Specs/Standard
Body	Stainless Steel	SS316
Cover	Stainless Steel	SS316
Position Indicator	Stainless Steel	SS316
Quadrant	Alu-bronze	AB
Worm	Carbon Steel	C45
Shaft	Stainless Steel	SS316
Gasket	Nitrile	NBR70
O rings	Nitrile	NBR70
Grease	Lithium	EP2
Fasteners	Stainless Steel	A4



Type	Output torque	Ratio	MA +/- 15%	Weight (Kg)
VA35	350 Nm	1:42	11,8	2,5
VA55	550 Nm	1:40	12	4,5
VA100	1.000 Nm	1:34	13	9,5
VA200	2.000 Nm	1:38	13,6	13,8

Type	Output torque	Ratio	MA +/- 15%	Weight (Kg)
VA350	3.500 Nm	1:55	16,5	24
VA700	7.000 Nm	1:312	74,9	38
VA900	9.000 Nm	1:259	62,1	47
VA1100	11.000 Nm	1:272	89,3	68



Type	A	B	C	D	E	F	G	H	max. Bore	SQUARE	ISO 5211
VA35	45	61	130	124	20	∅15	58	29	∅22	17	F05-F07
VA55	55	78	164	157	20	∅15	64	34	∅32	22	F07-F10-F12
VA100	71	99	212	201	24	∅20	84	43	∅40	27	F10-F12-F14
VA200	86	110	238	224	24	∅20	89	46	∅54	38	F10-F12-F14
VA350	105	126	278	230	24	∅20	90	55	∅65	45	F10-F12-F14-F16
VA700	130	150	342	307	24	∅20	105	57	∅80	56	F12-F14-F16-F25
VA900	150	158	370	327	24	∅20	120	59	∅100	70	F16-F25
VA1100	150	158	370	327	24	∅20	120	59	∅100	70	F16-F25

M range

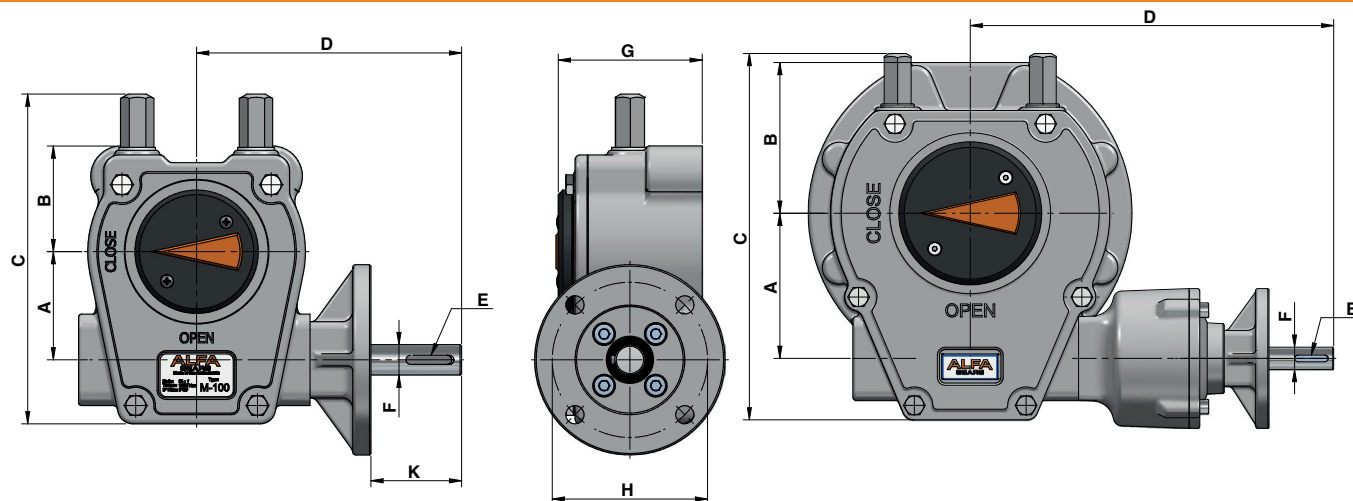
Heavy duty Ductile cast iron JS1030 quarter turn gearbox range.
Standard IP68 Enclosure and available in 11 sizes up to 32.000 Nm.
Suitable for worm shaft extensions systems.



Description	Material	Specs/Standard
Body	Ductile Cast Iron	JS1030
Cover	Ductile Cast Iron	JS1030
Flange	Ductile Cast Iron	JS1030
Position Indicator	Ductile Cast Iron	JS1030
Quadrant	Ductile Cast Iron	JS1030
Worm	Carbon Steel	C45
Shaft	Stainless Steel	SS304
Gasket	Nitrile	NBR 70
O rings	Nitrile	NBR 70
Grease	Lithium	EP2
Fasteners	Stainless Steel	A2
Axial Bearing	Steel	AS/AXK

Type	Output torque	Ratio	MA +/- 15%	Weight (Kg)
M55	550 Nm	1:40	12	6
M100	1.000 Nm	1:34	9,2	12
M200	2.000 Nm	1:38	11,45	18
M350	3.500 Nm	1:55	17,8	21
M450	4.500 Nm	1:52	20	35
M700/6	7.000 Nm	1:217	65	42

Type	Output torque	Ratio	MA +/- 15%	Weight (Kg)
M900/4	9.000 Nm	1:259	80	49
M1100/6	11.000 Nm	1:372	105	49
M1700/6	17.000 Nm	1:468	138	75
M2600/10	26.000 Nm	1:729	208	143
M3200/10	32.000 Nm	1:870	224	195

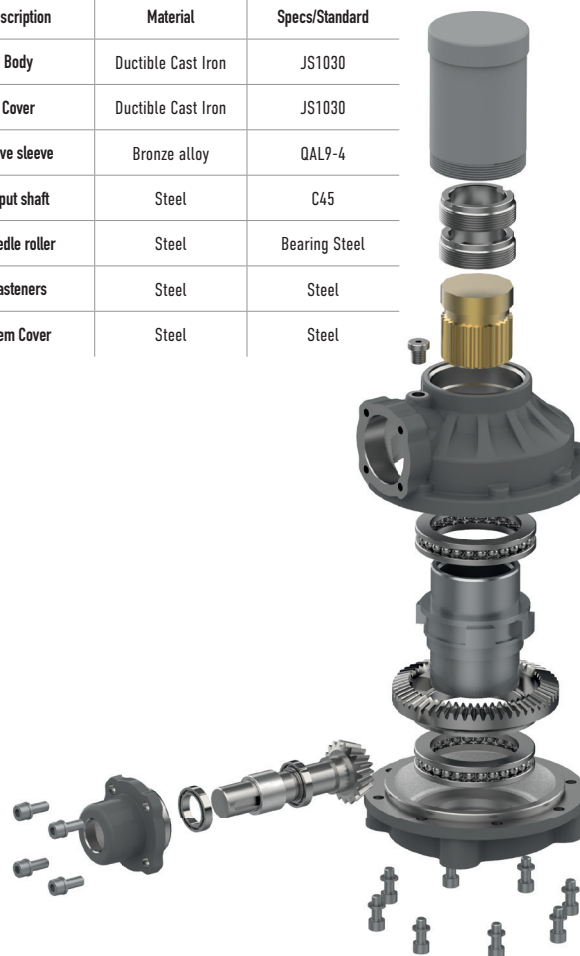


Type	A	B	C	D	E(Key)	F	G	H	K	Max. Bore	ISO 5211
M55	55	56	164	153	6x6x30	ø20	73	F10	58	ø32	F07-F10-F12
M100	71	79	217	173	6x6x30	ø20	95	F10	58	ø44	F10-F12-F14
M200	86	105	252	185	6x6x30	ø20	103	F10	58	ø58	F10-F12-F14-F16
M350	105	107	281	193	6x6x30	ø20	106	F10	58	ø75	F12-F14-F16
M450	130	135	320	305	6x6x30	ø20	125	F14	58	ø80	F14-F16-F25
M700/6	130	135	335	326	6x6x30	ø20	132	F14	58	ø80	F12-F14-F16-F25
M900/4	150	135	369	326	6x6x30	ø20	132	F14	58	ø90	F16-F25-F30
M1100/6	150	135	369	347	6x6x30	ø20	132	F14	58	ø90	F16-F25-F30
M1700/6	182	160	408	378	6x6x30	ø20	137	F14	58	ø120	F25-F30-F35
M2600/10	215	208	550	440	6x6x30	ø20	183	F14	58	ø160	F25-F30-F35
M3200/10	256	238	620	470	6x6x30	ø20	196	F14	58	ø160	F25-F30-F35-F40

XK range

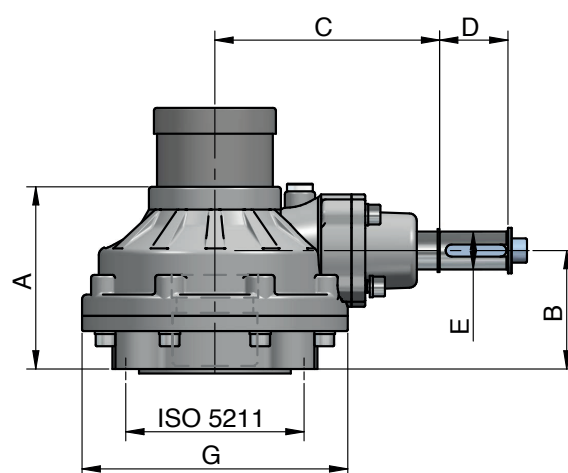
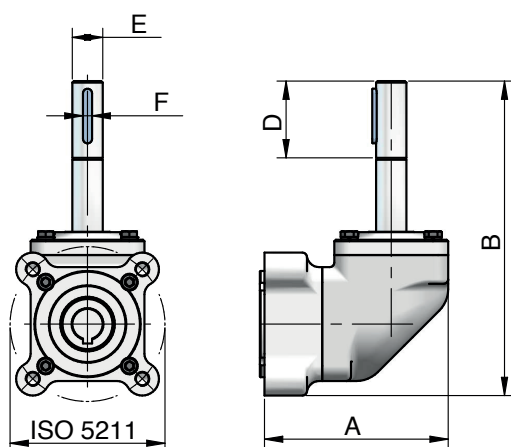
ALFA Gears XK-series are designed for the operation of multiple turn valves such as Gate and Globe valves. Our XK Series have Ductile Cast JS1030 Housing and feature high performance axial bearings. Drive sleeve material is Bronze alloy C95400 or Ductile Cast Iron JS1030.

Description	Material	Specs/Standard
Body	Ductible Cast Iron	JS1030
Cover	Ductible Cast Iron	JS1030
Drive sleeve	Bronze alloy	QAL9-4
Input shaft	Steel	C45
Needle roller	Steel	Bearing Steel
Fasteners	Steel	Steel
Stem Cover	Steel	Steel



Type	Ratio	Weight (Kg)
XK-1	1:1	4,6

Type	Ratio	Max. Output torque	Output Thrust	Torque Amplification Factor +/- 10%	Weight (Kg)
XK-5	3:1	500 Nm	120 kN	2.57	12
XK-10	4:1	1.000 Nm	180 kN	3.44	18
XK-20	4:1	2.000 Nm	270 kN	34.2	42
XK-40	6:1	4.000 Nm	460 kN	51.6	74



Type	A	B	C	D	E	F	G	Max. stem size (mm)	ISO 5211
XK-1	121	207	84	50	20	6x6	-	-	F10
XK-5	128	89	148	45	ø25	ø76	ø175	ø32	F10/F12/F14
XK-10	137	91	170	45	ø25	ø76	ø210	ø40	F10/F12/F14/F16
XK-20	162	107	233	60	ø32	ø76	ø300	ø55	F12/F14/F16/F25
XK-40	208	137	281	60	ø32	ø114	ø350	ø70	F16/F25/F30

M0 range

Manual Override quarter turn gearbox range suitable for mounting between a double or single acting actuator and a valve.

Torque range up to 8.500 Nm • 7 sizes • Stainless steel input shaft IP67

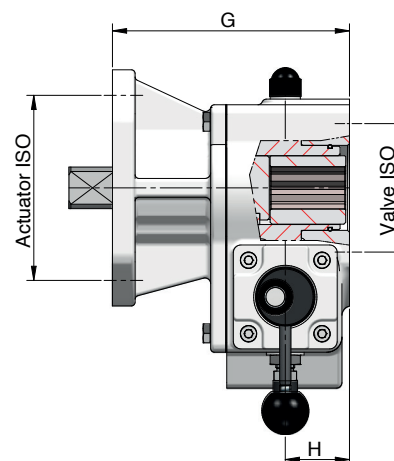
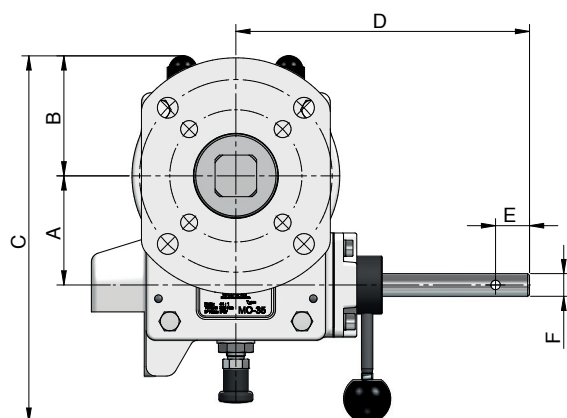
ISO drive adapter • 3/2 Vent valve as an option to relieve air automatically for the system.



Description	Material	Specs/Standard
Body	Ductile Cast Iron	JS1030
Cover/Flange	Ductile Cast Iron	JS1030
Worm Rack	Ductile Cast Iron	JS1030
Cover/Rack	Ductile Cast Iron	JS1030
Quadrant	Ductile Cast Iron	JS1030
Worm	Carbon Steel	C45
Shaft	Stainless Steel	SS304
Coupling	Steel	C45
Gasket	Nitrile	NBR70
O-rings	Nitrile	NBR70
Grease	Lithium	EP2
Fasteners	Stainless Steel	A2
Axial Bearing	Steel	AS/AXK

Type	Ratio	Output torque Nm	MA +/- 15%	Weight (Kg)
M015	1:40	150 Nm	12,1	4,6
M035	1:44	350 Nm	11,4	8
M075	1:52	750 Nm	15	13,5
M0200	1:38	2000 Nm	13,6	24,5

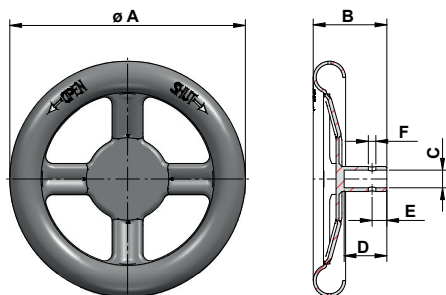
Type	Ratio	Output torque Nm	MA +/- 15%	Weight (Kg)
M0350	1:55	3.500 Nm	20	40
M0550	1:306	5.500 Nm	80	62
M0850	1:408	8.500 Nm	95,6	64



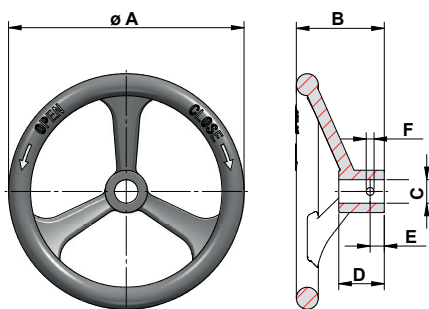
Type	A	B	C	D	E	F	G	H	Valve ISO5211	Actuator ISO5211
M015	48	53	167	122	18	ø12	103	29	F05-F07	F05-F07
M035	58	63	193	156	18	ø12	126	34	F07-F10	F07-F10
M075	75	86	239	165	20	ø15	131	41	F10-F12	F10-F12-F14
M0200	92	105	280	203	24	ø20	161	46	F10-F12-F14	F12-F14-F16
M0350	134	115	333	250	24	ø20	185	54	F14/F16	F14-F16
M0550	148	145	414	365	24	ø20	197	66	F16-F25	F16-F25
M0850	148	145	414	365	24	ø20	197	66	F16-F25	F16-F25

HANDWHEELS

HANDWHEELS PRESSED



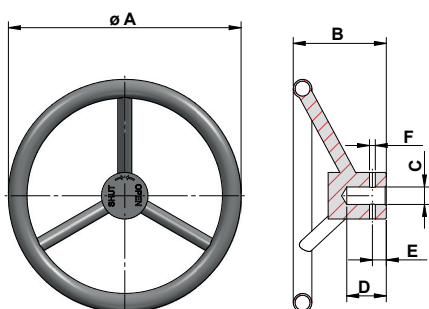
Type	A	B	C	D	E	F
SP-100-10	∅100	34	∅10	21	5	∅4
SP-100-12	∅100	38	∅12	24	5	∅5
SP-125-10	∅125	35	∅10	21	5	∅4
SP-125-12	∅125	38	∅12	24	5	∅5
SP-160-12	∅160	50	∅12	29	10	∅5
SP-160-15	∅160	51	∅15	22	10	∅5
SP-200-15	∅200	57	∅15	21	10	∅5
SP-250-15	∅250	53	∅15	35	10	∅5
SP-250-20	∅250	70	∅20	37	12	∅8



HANDWHEELS CASTED

Type	A	B	C	D	E	F
SC-125-10	∅125	40	∅10	23	8	∅4
SC-150-10	∅150	50	∅10	23	8	∅4
SC-150-12	∅150	50	∅12	23	8	∅5
SC-200-15	∅200	80	∅15	30	10	∅5

HANDWHEELS WELDED & STAINLESS STEEL WELDED



Type	A	B	C	D	E	F
SW-150-12	∅150	80	∅12	30	8	∅5
SW-200-12	∅200	80	∅12	32	12	∅5
SW-200-15	∅200	80	∅15	34	12	∅5
SW-250-15	∅250	110	∅15	34	12	∅5
SW-250-20	∅250	110	∅20	46	20	∅8
SW-300-20	∅300	115	∅20	46	20	∅8
SW-400-20	∅400	130	∅20	46	20	∅8
SW-500-20	∅500	150	∅20	46	20	∅8
SW-600-20	∅600	150	∅20	46	20	∅8
SW-700-20	∅700	150	∅20	46	20	∅8
SW-800-20	∅800	150	∅20	46	20	∅8

EASY FORMULA TO CALCULATE YOUR HAND WHEEL SIZE

How to size the diameter of the handwheel:

1. Get the output torque required:

$$\text{Handwheel diameter} = \left(\frac{\text{Output Required}}{\text{M.A.}} \right) \times 5^*$$

2. Select the Handwheel diameter

*RIM pull 400N

Miscellaneous



NAMUR ASSEMBLING KIT

The Alfa Gears NAMUR kits are easy to assemble, no extra machining necessary. Available in Steel (Painted) or Stainless Steel 316.



EXTENSIONS / BRACKETS / ADAPTERS

Alfa Gears can offer a large variation of Inserts, Mounting brackets, Adapters, valve Shaft extensions and Wormshaft extensions.



CHAINWHEEL / CHAINHOLDER

Alfa Gears KW Chainwheel and chain acc. DIN766 (6mm) are available for the Alfa gearboxes type 55 and larger. Available diameter: $\varnothing 135$, $\varnothing 215$, $\varnothing 335$.



SWITCHBOX

Alfa Gears S series with our S200 switchbox is available in polycarbonate housing. With a stainless-steel bracket. V3 micro or Inductive sensors.



PADLOCK

Padlock flanges can be mounted on all series-S Alfa gearboxes and XK-series, in both steel, and full stainless steel.



VANE INDICATOR

Alfa Gears S series can be provided with a VANE Indicator. Available in coated and stainless steel.



API POSITION INDICATOR

The Alfa Gears API position indicator made out of a set of gears depending on the gear ration. Aluminum housing, IP 67 enclosure, in 3 sizes available : API-1 ratio 1:36, API-2 ratio 1:118, API-3 ratio 1:394



Time to change Gears!

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