

Technical data Part-turn gearboxes for open-close duty

Valve			Gearbox					
Max. valve torque	Valve attachment		Gearbox/primary reduction gearing	Factor ¹⁾	Turns for 90°	Input shaft	Max. input torques	Weight ²⁾
to [Nm]	Flange	Max. shaft diameter [mm]				[mm]	[Nm]	GS + GZ [t]
480,000	F90/AUMA	400	GS 630.3	19.8	13	120	24,242	4.8
			GS 630.3 GZ 630.3 - 4:1	71.9	52.5	80	6,676	5.3
			GS 630.3 GZ 630.3 - 8:1	145.5	106.3	60	3,299	
			GS 630.3 GZ 630.3 - 16:1	261.2	212	50	1,838	5.5
			GS 630.3 GZ 630.3 - 32:1	528.8	429.5	40	908	
			GS 630.3 GZ 630.3 - 64:1	951.2	857.3	40	505	5.6
			GS 630.3 GZ 630.3 - 133:1	1,924.9	1,734.8	30	249	
			675,000	F90/AUMA	400	GS 630.3	19.8	13
GS 630.3 GZ 630.3 - 4:1	71.9	52.5				100	9,395	5.3
GS 630.3 GZ 630.3 - 8:1	145.5	106.3				80	4,640	
GS 630.3 GZ 630.3 - 16:1	261.2	212				60	2,585	5.5
GS 630.3 GZ 630.3 - 32:1	528.8	429.5				50	1,275	
GS 630.3 GZ 630.3 - 64:1	951.2	857.3				40	710	5.6
GS 630.3 GZ 630.3 - 133:1	1,924.9	1 734.8				40	350	

Gearbox/primary reduction gearing	Reduct. ratio	Possible combinations with multi-turn actuators												Multi-turn actuator	Input mounting flange for mounting multi-turn actuator	Permissible actuator weight [kg]	
		Operating time for 50 Hz ³⁾ in seconds for 90° at actuator output speed in rpm															Actuator for max. input torque
		4	5.6	8	11	16	22	32	45	63	90	125	180				
GS 630.3	52:1	195	139	98	71	49	-	-	-	-	-	-	-	SA 48.1	EN 5210 F48	1,400	
GS 630.3/ GZ 630.3 - 4:1	210:1	788	563	394	286	197	143	98	70	-	-	-	-	SA 35.1	F35	800	
GS 630.3/ GZ 630.3 - 8:1	425:1	-	-	797	580	398	290	199	142	101	71	-	-	SA 30.1	F30	400	
GS 630.3/ GZ 630.3 - 16:1	848:1	-	-	-	-	-	-	398	283	202	141	-	-	SA 25.1	F25	340	
GS 630.3/ GZ 630.3 - 32:1	1,718:1	-	-	-	-	-	-	-	573	409	286	206 ⁴⁾	143 ⁴⁾	SA 16.2	F16	160	
GS 630.3/ GZ 630.3 - 64:1	3,429:1	-	-	-	-	-	-	-	-	816	572	411	286	SA 16.2	F16	160	
GS 630.3/ GZ 630.3 - 133:1	6,939:1	-	-	-	-	-	-	-	-	1,652 ⁵⁾	1,157 ⁵⁾	833	578	SA 14.6	F14	100	
GS 630.3	52:1	195	139	98	71	49	-	-	-	-	-	-	-	SA 48.1 ⁴⁾	F48	1,400	
GS 630.3/ GZ 630.3 - 4:1	210:1	788	563	394	286	197	143	98	-	-	-	-	-	SA 40.1	F40	1,000	
GS 630.3/ GZ 630.3 - 8:1	425:1	-	-	797	580	398	290	199	142	-	-	-	-	SA 35.1	F35	800	
GS 630.3/ GZ 630.3 - 16:1	848:1	-	-	-	-	793	578	398	283	202	141	-	-	SA 30.1	F30	400	
GS 630.3/ GZ 630.3 - 32:1	1,718:1	-	-	-	-	-	-	805	573	409	286	-	-	SA 25.1	F25	340	
GS 630.3/ GZ 630.3 - 64:1	3,429:1	-	-	-	-	-	-	-	-	816	572	411	286	SA 16.2	F16	160	
GS 630.3/ GZ 630.3 - 133:1	6 939:1	-	-	-	-	-	-	-	-	1,652 ⁵⁾	1,157 ⁵⁾	833	578	SA 16.2	F16	160	

1) – 5) Refer to notes on page 2.

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General information	
For motor or manual operation of valves (e.g. butterfly valves, ball and plug valves). Specific sizing is required for special applications e.g. dampers or gas diverters. For special applications, please consult AUMA.	
Notes on table on page 1	
1) Factor	Conversion factor from output torque to input torque to determine the actuator size For new gearboxes, input torques increased by 15 % are required due to lower efficiency.
2) Weight	Specified weight includes coupling (with pilot bore) and grease filling in the gear housing
3) Operating time for 50 Hz	Standard values at 50 Hz; at 60 Hz, the indicated operating time is reduced by 17 %.
4)	Maximum output torque cannot be reached.
5)	Motor for S2 - 30 min
Features and functions	
Worm wheel material	Bronze
Version	Standard: Clockwise rotation RR, counterclockwise rotation LL
	Option: RL or LR
Housing material	Cast iron (GJL-250)
Self-locking	The gearboxes are self-locking when at standstill under normal service conditions; strong vibration may cancel the self-locking effect. While in motion, safe braking is not guaranteed. If this is required, a separate brake must be used.
End stops	Positive for both end positions by travelling nut, sensitive adjustment
Swing angle	Adjustable 80° – 100°; set in the factory to 92° unless ordered otherwise.
Mechanical position indicator	Standard: <ul style="list-style-type: none"> Pointer cover with sealing for continuous position indication For gas applications with sealed pointer cover, an air vent in the pointer cover or venting keyways in the valve mounting flange must be provided.
	Option: <ul style="list-style-type: none"> Protection cover instead of pointer cover for buried service
Input shaft	Cylindrical with parallel key according to DIN 6885-1 (refer to table on page 1)
Operation	
Motor operation	<ul style="list-style-type: none"> With electric multi-turn actuator, directly or through GZ primary reduction gearing Input mounting flanges for multi-turn actuator (refer to table page 1)
Type of duty	Short-time duty S2 - 15 min or S2 - 30 min (open-close duty)
Manual operation	Via handwheel with GZ primary reduction gearing Possible handwheel diameters, selection in compliance with the required input torque up to 400 Nm
Primary reduction gearing	
Primary reduction gearing	<ul style="list-style-type: none"> Type GZ as planetary gear with various reduction ratios for reducing the input torques (refer to table).
Valve attachment	
Valve attachment	Standard: F90/AUMA with spigot, dimension drawing U3.2592 Dimensions according to EN ISO 5211
	Option: F90/AUMA-plane without spigot Dimensions according to EN ISO 5211
Splined coupling for connection to the valve shaft	Standard: <ul style="list-style-type: none"> With pilot bore 100 mm
	Option: <ul style="list-style-type: none"> Finish machining with bore and keyway, bore diameter max. 400 mm
Service conditions	
Mounting position	Any position
Ambient temperature	Standard: -40 °C to +80 °C
	Option: 0 °C to +120 °C
Enclosure protection according to EN 60529	Standard: IP68-3, dust and water tight up to max. 3 m head of water
	Option: IP68-6, dust and water tight up to max. 6 m head of water

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Corrosion protection	Standard:	KN	Suitable for installation in industrial units, in water or power plants with a low pollutant concentration
	Options:	KS	Suitable for installation in industrial units, in water or power plants with a low pollutant concentration as well as for installation in occasionally or permanently aggressive atmospheres with a moderate pollutant concentration (e.g. wastewater treatments plants, chemical industry)
		KX	Suitable for installation in extremely aggressive atmospheres with high humidity and high pollutant concentration
Paint	Standard:	Primer coated	
	Option:	Two-component iron-mica combination	
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)	
	Option:	Other colours are possible on request.	

Special features for use in potentially explosive atmospheres

Explosion protection in accordance with ATEX 94/9/EC	Standard:	II2G c IIC T4 II2D c T130 °C	
	Options:	II2G c IIC T3 II2D c T190 °C IM2 c	
Ambient temperature	Standard:	-40 °C to +40 °C (II2G c IIC T4; II2D c T130 °C) -40 °C to +60 °C (II2G c IIC T4; II2D c T130 °C) -50 °C to +60 °C (II2G c IIC T4; II2D c T130 °C) -60 °C to +60 °C (II2G c IIC T4; II2D c T130 °C)	
	Options:	-40 °C to +80 °C (II2G c IIC T3; II2D c T190 °C) 0 °C to +120 °C (II2G c IIC T3; II2D c T190 °C) -20 °C to +40 °C (IM2 c)	
Output speeds	Standard:	50 Hz, refer to table page 1	
	Option:	60 Hz with respective output speed of multi-turn actuator	

Further information

EU Directives	ATEX Directive: (94/9/EC) Machinery Directive: (2006/42/EC)		
Reference documents	Dimension drawings U3.2592, U3.2647, U3.2648, U3.2657 Technical data SA 07.2 – SA 16.2 with 3-phase AC motors Technical data SA 07.1 – SA 48.1 with 3-phase AC motors		