Technical data Part-turn gearboxes and primary reduction gearing - version with worm wheel made of bronze

GS 630.3/GZ 630.3

Application

For motor and manual operation of valves (e.g. butterfly and ball valves).
For special applications, e.g. dampers or gas diverters, special sizing is required.

Worm gearboxes GS 630.3 with primary reduction gearing GZ 630.3

Valve torque	Valve attachment		Gearbox/ Type	Suitable primary reduction gearing			Input torque[1]	Factor[2]	Turns for 90°	Input shaft	Weight[3]
				Reduction ratio (i)							
in Nm to	Flange size	Max. shaft diameter in mm		GS	GZ	GS/ GZ	max. Nm			Ø mm	GS + GZ t
480,000	F90/AUMA	400	**GS 630.3**	52:1	–	52:1	24,242	19.8	13	120	4.8
					4:1	210:1	6,676	71.9	52.5	80	5.3
					8:1	425:1	3,299	145.5	106.3	60	
					16:1	848:1	1,838	261.2	212	50	5.5
					32:1	1,718:1	908	528.8	429.5	40	
					64:1	3,429:1	505	951.2	857.3	40	5.6
					133:1	6,939:1	249	1,924.9	1,734.8	30	
max. 675,000	F90/AUMA	400	**GS 630.3**	52:1	–	52:1	34,160	19.8	13	120	4.8
					4:1	210:1	9,395	71.9	52.5	100	5.3
					8:1	425:1	4,640	145.5	106.3	80	
					16:1	848:1	2,585	261.2	212	60	5.5
					32:1	1,718:1	1,275	528.8	429.5	50	
					64:1	3,429:1	710	951.2	857.3	40	5.6
					133:1	6,939:1	350	1,924.9	1,734.8	40	

Permissible combinations with multi-turn actuators

Gearbox	Primary reduction gearing		Flange for mounting of actuator	Perm. actuator weight	Suitable AUMA multi-turn actuator[4]	Operating times for 50 Hz[5] in seconds for 90° at actuator speed in rpm											
Type	Type	i	EN ISO 5210	max. kg		4	5,6	8	11	16	22	32	45	63	90	125	180
GS 630.3 to 480 000 Nm	–	–	F48	1,400	**SA 48.1**	195	139	98	71	49	–	–	–	–	–	–	–
	GZ 630.3	4:1	F35	800	**SA 35.1**	788	563	394	286	197	143	98	70				
		8:1	F30	400	**SA 30.1**	–	–	797	580	398	290	199	142	101	71		
		16:1	F25	300	**SA 25.1**	–	–	–	–	–	–	398	283	202	141	–	–
		32:1	F16	160	**SA 16.1**	–	–	–	–	–	–	–	573	409	286	206[6]	143[6]
		64:1	F16	160	**SA 16.1**	–	–	–	–	–	–	–	–	816	572	411	286
		133:1	F14	100	**SA 14.5**	–	–	–	–	–	–	–	–	1,652[7]	1,157[7]	833[7]	578[7]
GS 630.3 to max. 675 000 Nm	–	–	F48	1,400	**SA 48.1[6]**	195	139	98	71	49	–	–	–	–	–	–	–
	GZ 630.3	4:1	F40	1,000	**SA 40.1**	788	563	394	286	197	143	98	–	–	–	–	–
		8:1	F35	800	**SA 35.1**	–	–	797	580	398	290	199	142	–	–	–	–
		16:1	F30	400	**SA 30.1**	–	–	–	–	793	578	398	283	202	141	–	–
		32:1	F25	340	**SA 25.1**	–	–	–	–	–	–	805	573	409	286	–	–
		64:1	F16	160	**SA 16.1**	–	–	–	–	–	–	–	–	816[7]	572	411	286
		133:1	F16	160	**SA 16.1**	–	–	–	–	–	–	–	–	1,652[7]	1,157[7]	833[7]	578[7]

Features and functions

Version	Standard: Clockwise rotation RR, counterclockwise rotation LL, Option: RL or LR	
Housing material	Standard: Cast iron (GJL-250)	
Self-locking	The gearboxes are self-locking at stand-still under normal service conditions; strong vibrations 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	Standard:	Adjustable in steps of 80° – 100°; factory setting to 92°, unless ordered otherwise.
Mechanical position indicator	Standard:	Pointer cover for continuous position indication[8]
	Options:	Protection cover e.g. for buried service instead of pointer cover

1) In new condition approx. 15 % higher input torque required
2) Conversion factor from output torque to input torque to determine the actuator size
3) With coupling (pilot bore) and grease filling in the gear housing
4) Actuator sizing other than defined in table require sizing according to the max. torque and running torque
5) Standard values at 50 Hz; at 60 Hz the operating times are reduced to 17 % of the indicated values.
6) Max. output torque cannot be reached.
7) Actuator with S2 - 30 min motor
8) For gas applications with sealed pointer cover, an air vent in the pointer cover or venting grooves in the valve mounting flange must be provided

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Input shaft	Cylindrical with parallel key according to DIN 6885.1 (refer to table)		
Operation			
Motor operation	With electric multi-turn actuator, directly or through primary reduction gearing GZ Flanges for mounting of actuator (refer to table)		
Type of duty	Short-time duty S2 - 15 min or S2 - 30 min (open-close duty) Push-to-run operation permissible, max. 10 steps in one direction and max. of 30 starts per hour		
Manual operation	Via handwheel with primary reduction gearing GZ Available handwheel diameters, selection according to required input torque up to 400 Nm		
Primary reduction gearing			
Primary reduction gearing	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	Dimensions not covered by EN ISO 5211: dimension drawing U3.2592
	Option:	F90/AUMA plan without spigot	Dimensions not covered by EN ISO 5211
Splined coupling for connection to the valve shaft	Standard:	With pilot bore 100 mm	
	Option:	Machined with bore and keyway, bore diameter max. 400 mm	
Service conditions			
Mounting position	Any position		
Enclosure protection according to EN 60 529[9)]	Standard:	IP 68-3, dust and water tight up to max. 3 m head of water	
	Option:	IP 68-6, dust and water tight up to max. 6 m head of water	
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 occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. in wastewater treatment plants, chemical industry)
		KX	Suitable for installation in extremely aggressive atmosphere 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) at finish painting	
	Option:	Other colours on request	
Ambient temperature	Standard:	–40 °C to +80 °C	
	Option:	–0 °C to +120 °C, version H	
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		

9) Refer to information sheet “Enclosure protection IP 68 (submersible) for worm gearboxes and primary reduction gearings"

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