

Technical data Multi-turn gearboxes

Type	Valve attachment	Reduction ratio	Factor ¹⁾	Max. input speed	Load profile/torque curve according to EN 15714-2			Load profile/torque curve Special valve	
					Output torque ²⁾	Running torque ³⁾	Input torque ⁴⁾	Running torque ⁵⁾	Input torque ⁶⁾
	Flange according to EN ISO 5211			[rpm]	Max. [Nm]	[Nm]	Max. [Nm]	Max. [Nm]	Max. [Nm]
GHT 320.3	F48	10 : 1	8	90	32,000	11,200	4,000	20,800	2,600
		15.5 : 1	12.4				2,600		1,680
		20 : 1	16				2,000		1,300
GHT 500.3	F60	10.25 : 1	8.2		50,000	17,500	6,100	32,500	3,960
		15 : 1	12				4,200		2,710
		20.5 : 1	16.4				3,100		1,980
GHT 800.3	F60	12 : 1	9.6		80,000	28,000	8,300	51,900	5,410
		15 : 1	12				6,700		4,330
		10.25 : 1	8.2		120,000	42,000	14,600	77,900	9,500
GHT 1200.3	F60	20.5 : 1	16.4				7,300		4,750

Possible combinations with multi-turn actuators

Type	Reduction ratio	Factor ¹⁾	Suitable AUMA multi-turn actuator for	Output speed in rpm at speed of multi-turn actuator for 50 Hz									
				100 % output torque	4	5.6	8	11	16	22	32	45	63
GHT 320.3	10 : 1	8	SA 30.1	0.4	0.6	0.8	1.1	1.6	2.2	3.2	4.5	6.3	9.0
	15.5 : 1	12.4	SA 25.1	–	0.4	0.5	0.7	1.0	1.4	2.1	2.9	4.1	5.8
	20 : 1	16	SA 25.1	–	–	0.4	0.6	0.8	1.1	1.6	2.3	3.2	4.5
GHT 500.3	10.25 : 1	8.2	SA 35.1	0.4	0.5	0.8	1.1	1.6	2.1	3.1 ⁷⁾	4.4 ⁷⁾	–	–
	15 : 1	12	SA 30.1	–	0.4	0.5	0.7	1.1	1.5	2.1	3.0	4.2	6.0
	20.5 : 1	16.4	SA 30.1	–	–	0.4	0.5	0.8	1.1	1.6	2.2	3.1	4.4
GHT 800.3	12 : 1	9.6	SA 35.1	0.3	0.5	0.7	0.9	1.3	1.8	2.7 ⁷⁾	3.8 ⁷⁾	–	–
	15 : 1	12	SA 35.1	–	0.4	0.5	0.7	1.1	1.5	2.1 ⁷⁾	3.0 ⁷⁾	–	–
GHT 1200.3	10.25 : 1	8.2	SA 40.1	0.4	0.5	0.8	1.1	1.6	2.1	3.1 ⁷⁾	–	–	–
	20.5 : 1	16.4	SA 35.1	–	–	0.4	0.5	0.8	1.1	1.6 ⁷⁾	2.2 ⁷⁾	–	–

Valve attachment options

Type	Output drive flange to valve Output drive type A/AF	Output drive type B	Output drive type C	Splined coupling for output drive type A	Input mounting flanges for mounting AUMA multi-turn actuators	Drive shaft	Weight
	Based on EN ISO 5211 ⁸⁾	Based on EN ISO 5210	Based on DIN 3338	DIN 5480	EN ISO 5210	EN ISO 5210 [Ø]	[kg] ⁹⁾
GHT 320.3	F48	Ø 180H7 mm with parallel key according to DIN 6885	d ₁₂ = Ø 259 mm d ₁₁ = Ø 180 mm b ₁ = 85 mm h ₁₁ = 50 mm	N210x5x40	F25, F30	60	477
GHT 500.3	F60 ¹⁰⁾				F30, F35	80	765
GHT 800.3	F60 ¹⁰⁾			N220x5x42	F35, F40	100	995
GHT 1200.3	F60 ¹⁰⁾				F35, F40	100	1,280

Use

Worm gearboxes for motor operation of industrial valves (e.g. gate valves and globe valves) and special valves (e.g. louvre dampers, stack dampers, diverters, weirs, and sluice gates).

Notes on table

1) Factor	Conversion factor from output torque to input torque for actuator size definition
2) Output torque	Maximum 10 % of the travel (25 turns per stroke)
3) Running torque	90 % of travel
4) Input torque	For maximum output torque
5) Running torque	100 % of travel
6) Input torque	Verify actuator sizing for running times > 2 minutes and high output speeds. For long running times, the output torques of the actuators will be reduced.,
7) Self-locking	SA not self-locking
8) Output drive flange	Dimensions according to EN ISO 5211
9) Weight	Indicated weight includes gearbox with a drive shaft end, output drive type B, largest possible input mounting flange, including standard lubricant
10) Output drive type A/AF 60.2	Only max. 64,000 Nm can be applied

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

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Features and functions		
Type of duty	Open-close duty:	Short-time duty S2 - 15 min, classes A and B Short-time duty S2 - 30 min, classes A and B
	Modulating duty:	Intermittent duty S4 -25 %, class C; on request
Direction of rotation	Standard:	RR = Clockwise rotation at input shaft results in clockwise rotation at output shaft LR = Clockwise rotation at input shaft results in clockwise rotation at output shaft
	Option:	RL = Clockwise rotation at input shaft results in counterclockwise rotation at output shaft LL = Clockwise rotation at input shaft results in counterclockwise rotation at output shaft
Housing material	Standard:	Cast iron (EN-GJL-250)
	Option:	Spheroidal cast iron (EN-GJS-400-15)
Self-locking	Not self-locking	

Operation	
Motor operation	Directly via electric multi-turn actuator Mounting flanges for multi-turn actuator, refer to table

Service conditions			
Ambient temperature	Standard:	−40 °C to +80 °C	
	Options:	−60 °C to +60 °C 0 °C to +140 °C	
Enclosure protection according to EN 60529	IP68		
Corrosion protection	Standard:	KS	Suitable for use in areas with high salinity, almost permanent condensation, and high pollution.
	Option:	KX	Suitable for use in areas with extremely high salinity, permanent condensation, and high pollution.
Paint	Two-component iron-mica combination		
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)	
	Options:	Available colours on request	
Lifetime	1,500 cycles AUMA multi-turn gearboxes meet or exceed the lifetime requirements of EN 15714-2. Detailed information can be provided on request.		
Accessories	Stem protection tube, on request 2 eyebolts for transport		

Use in potentially explosive atmospheres			
Explosion protection in accordance with ATEX 2014/34/EU	Standard:	II2G c IIC T3 II2D c T190 °C	
	Option:	II2G c IIC T4 II2D c T130 °C	
Ambient temperature	Standard:	–40 °C to +80 °C (II2G c IIC T3; II2D c T190 °C)	
	Option:	–40 °C to +60 °C (II2G c IIC T4; II2D c T130 °C)	

Further information	
EU Directives	ATEX Directive: (2014/34/EU) Machinery Directive: (2006/42/EC)
Reference documents	Brochure Electric actuators for the automation of industrial and special valves with torque requirements up to 120,000 Nm Dimensions Multi-turn gearboxes GHT 320.3 – GHT 1200.3 Dimensions Output drive types A 25.2 – A 60.2 Technical data SA 25.1 – SA 48.1 with 3-phase AC motors Technical data SAR 25.1 – SAR 30.1 with 3-phase AC motors Technical data Grease and oil quantities