

Technical data Multi-turn gearboxes

General information

Bevel gearboxes for motor or manual operation of valves (e.g. gate valves and globe valves).

Valve				Gearbox							
Max. valve torque		Valve attachment		Type	Reduction ratio	Factor ¹⁾	Max. input torques		Input shaft ²⁾		Weight ³⁾
Nominal torque [Nm]	Modulating torque ⁴⁾ [Nm]	Standard EN ISO 5210	Option DIN 3210				Nominal torque [Nm]	Modulating torque [Nm]	Standard [mm]	Option [mm]	[kg]
120	60	F10	G0	GK 10.2	1 : 1 2 : 1	0.9 1.8	135 67	66 33	20 20	– –	8.5
250	120	F14	G1/2	GK 14.2	2 : 1 2.8 : 1	1.8 2.5	139 100	66 48	20 20	30 30	15
350	200	F14	G1/2	GK 14.6	2 : 1	1.8	195	11	30	–	15
500					2.8 : 1	2.5	198	80	30	–	
450	400	F16	G3	GK 16.2	4 : 1	3.6	139	55	20	30	25
800					1 : 1 ⁵⁾	0.9	500	444	30	40	
1,000					2.8 : 1 ⁵⁾	2.5	320	160	30	–	
500					4 : 1	3.6	278	111	30	–	
1,000					4 : 1 ⁵⁾	3.6	140	111	20	–	
700					5.6 : 1	5.0	198	80	30	–	
2,000	800	F25	G4	GK 25.2	5.6 : 1 8 : 1	5.0 7.2	397 278	160 111	30 30	– –	60
4,000	1,600	F30	G5	GK 30.2	5.6 : 1 ⁵⁾	5.0	800	320	40	–	110
2,800					5.6 : 1 ⁵⁾	5.0	560	320	30	–	
4,000					8 : 1	7.2	556	222	30	–	
					11 : 1	9.9	404	162	30	–	
8,000	On request	F35	G6	GK 35.2	8 : 1 ⁵⁾ 11 : 1 16 : 1	7.2 9.9 14.4	1,111 808 556	On request	40 40 40	– – 30	190
16,000	On request	F40	G7	GK 40.2	16 : 1	14.4	1,111		40	–	250
10,000					22 : 1	19.8	808	On request	40	–	
					22 : 1 ⁵⁾	19.8	505		30	–	

- 1) 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) Depending on the required input torque
- 3) Specified weight includes output drive sleeve (without bore) and grease filling in the gear housing
- 4) Permissible, average torque for modulating duty
- 5) Special reduction ratio: on request

Possible combinations with multi-turn actuators					
Type	Reduction ratio	Suitable AUMA multi-turn actuator ¹⁾	Input mounting flange for mounting multi-turn actuator		Permissible weight Multi-turn actuator
			EN ISO 5210	DIN 3210	Max. [kg]
GK 10.2	1 : 1	SA 10.2/SAR 10.2 SA 14.2/SAR 14.2	F10 F14	G0 G1/2	40 80
	2 : 1	SA 07.6/SAR 07.6 SA 10.2/SAR 10.2	F10	G0	40
GK 14.2	2 : 1	SA 10.2/SAR 10.2 SA 14.2/SAR 14.2	F10 F14	G0 G1/2	40 80
	2.8 : 1	SA 10.2/SAR 10.2	F10	G0	40
GK 14.6	2 : 1	SA 14.2/SAR 14.2	F14	G1/2	80
	2.8 : 1	SA 14.2/SAR 14.2	F14	G1/2	80
	4 : 1	SA 10.2/SAR 10.2 SA 14.2/SAR 14.2	F10 F14	G0 G1/2	40 80
GK 16.2	1 : 1 ²⁾	SA 14.6/SAR 14.6	F14	G1/2	80
	2.8 : 1 ²⁾	SA 14.6/SAR 14.6	F14	G1/2	80
	4 : 1	SA 14.2/SAR 14.2 SA 14.6/SAR 14.6	F14	G1/2	80
	4 : 1 ²⁾	SA 14.2/SAR 14.2	F14	G1/2	80
	5.6 : 1	SA 14.2/SAR 14.2	F14	G1/2	80
	5.6 : 1 ²⁾	SA 14.2/SAR 14.2	F14	G1/2	80

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			EN ISO 5210	DIN 3210	Max. [kg]
GK 25.2	5.6 : 1	SA 14.6/SAR 14.6	F14	G1/2	80
	8 : 1	SA 14.2/SAR 14.2 SA 14.6/SAR 14.6	F14	G1/2	80
GK 30.2	5.6 : 1 ²⁾	SA 16.2/SAR 16.2	F16	G3	160
	5.6:1 ²⁾	SA 14.6/SAR 14.6	F14	G1/2	80
		SA 16.2/SAR 16.2	F16	G3	160
	8 : 1	SA 14.6/SAR 14.6	F14	G1/2	80
		SA 16.2/SAR 16.2	F16	G3	160
	11 : 1	SA 14.6/SAR 14.6	F14	G1/2	80
GK 35.2	8 : 1 ²⁾	SA 16.2/SAR 16.2	F16	G3	160
		SA 25.1/SAR 25.1	F25	G4	300
	11 : 1	SA 16.2/SAR 16.2	F16	G3	160
		SA 14.6/SAR 14.6	F14	G1/2	80
GK 40.2	16 : 1	SA 16.2/SAR 16.2	F16	G3	160
		SA 25.1/SAR 25.1	F25	G4	300
	22 : 1	SA 16.2/SAR 16.2	F16	G3	160
		SA 14.6/SAR 14.6	F14	G1/2	80
	22 : 1 ²⁾	SA 16.2/SAR 16.2	F16	G3	160

1) Standard flange according to EN ISO 5210

2) Special reduction ratio: on request

Features and functions

Type of duty	- Short-time duty S2 - 15 min (open-close duty) - Intermittent duty S4 - 25 % (modulating duty)	
Direction of rotation	Standard:	Clockwise rotation at input shaft results in clockwise rotation at output drive
	Options:	- GK 10.2 – GK 25.2 Reversal of direction of rotation by GW 14.1 reversing gearbox - GK 30.2 – GK 40.2 Counterclockwise rotation possible as an alternative
Stages	Single stage:	GK 10.2 – GK 25.2
	Double stage:	GK 30.2 – GK 40.2
Input shaft	Input shaft made of stainless steel	
	Standard:	Cylindrical with parallel key according to DIN 6885.1
	Option:	Square: tapered (according to DIN 3233) or cylindrical shape With respect to size, please contact AUMA

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Operation														
Motor operation	With electric multi-turn actuator (maximum permissible input speed: 240 rpm)													
Manual operation	Available handwheel diameters according to EN 12570, selection according to output torque:													
	Type	GK 10.2		GK 14.2		GK 14.6			GK 16.2					
	Reduction ratio	1 : 1	2 : 1	2 : 1	2.8 : 1	2 : 1	2.8 : 1	4 : 1	1 : 1	2.8 : 1	4 : 1	4 : 1	5.6 : 1	5.6 : 1
	Standard handwheel Ø [mm]	315	200	315	200	315	400	315	800	630	315	500	315	400
	Special handwheel Ø [mm]	400		400		400	800	400	800		400	800		
	Type	GK 25.2		GK 30.2				GK 35.2			GK 40.2			
	Reduction ratio	5.6:1	8:1	5.6:1	5.6:1	8:1	11:1	8:1	11:1	16:1	16:1	22:1	22:1	
	Standard handwheel Ø [mm]	630	500	800				800			800			
	Special handwheel Ø [mm]	800		800				800			800			
	Standard:		- Handwheel made of aluminium - Handwheel with ball handle											
Options:		- Handwheel made of GJL-200 - Handwheel lockable - WSH limit switching device for signalling position and end positions												
Power tool emergency operation (input shaft with square)	Maximum permissible input speed: 240 rpm													
Valve attachment														
Output drive types	A, B1, B2, B3, B4 according to EN ISO 5210 A, B, D, E according to DIN 3210 C according to DIN 3338 Special valve attachments: AF, AK, AG, IB1, IB3, IB4													
Service conditions														
Mounting position	Any position													
Ambient temperature	Standard:	−40 °C to +80 °C												
	Options:	−60 °C to +60 °C 0 °C to +120 °C												
Enclosure protection in accordance with IEC 60529	IP68													
	According to AUMA definition, enclosure protection IP68 meets the following requirements: - Depth of water: maximum 8 m head of water - Continuous immersion in water: maximal 96 hours - Up to 10 operations during immersion - Modulating duty is not possible during immersion													
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.												
Coating	Double layer powder coating Two-component iron-mica combination													
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)												
	Option:	Available colours on request												
Lifetime	AUMA multi-turn gearboxes meet or exceed the lifetime requirements of EN 15714-2. Detailed information can be provided on request.													

Valve attachment													
Output drive types	A, B1, B2, B3, B4 according to EN ISO 5210 A, B, D, E according to DIN 3210 C according to DIN 3338 Special valve attachments: AF, AK, AG, IB1, IB3, IB4												

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Ambient temperature	Standard:	−40 °C to +80 °C
	Options:	−60 °C to +60 °C 0 °C to +120 °C
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Accessories

Reversing gearboxes	GW reversing gearbox for reversal of rotation direction for manual and motor operation
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Special features for use in potentially explosive atmospheres

Explosion protection in accordance with ATEX 2014/34/EU	Standard:	II 2G Ex h IIC T4 Gb II 2D Ex h IIIC T130°C Db							
	Options:	II 2G Ex h IIC T3 Gb II 2D Ex h IIIC T190°C Db I M2 Ex h I Mb							
Type of duty	Open-close duty:	Short-time duty S2 - 15 min with the following average output torques:							
	Type	GK 10.2		GK 14.2		GK 14.6		GK 16.2	
	Reduction ratio	1:1	2:1	2:1	2.8:1	2.8:1	4:1	4:1	5.6:1
	Average output torque in [Nm]	40	60	125		150	250	300	500
	Type	GK 25.2		GK 30.2		GK 35.6		GK 40.2	
	Reduction ratio	5.6:1	8:1	8:1	11:1	11:1	16:1	16:1	22:1
	Average output torque in [Nm]	600	1,000	2,000		4,000		8,000	
	Modulating duty:	Intermittent duty S4 – 25 % with modulating torque							
Ambient temperature	Standard:	–40 °C to +40 °C (II 2G Ex h IIC T4 Gb; II 2D Ex h IIIC T130 °C Db) –40 °C to +60 °C (II 2G Ex h IIC T4 Gb; II 2D Ex h IIIC T130 °C Db) –60 °C to +60 °C (II 2G Ex h IIC T4 Gb; II 2D Ex h IIIC T130 °C Db)							
	Option:	–40 °C to +80 °C (I 2G Ex h IIC T3 Gb; II 2D Ex h IIIC T190 °C Db) 0 °C to +120 °C (I 2G Ex h IIC T3 Gb; II 2D Ex h IIIC T190 °C Db) –20 °C to +40 °C (I M2 Ex h I Mb)							

Further information

EU Directives	Machinery Directive 2006/42/EC
Reference documents	Dimensions GK 10.2 – GK 40.1 Technical data SA 07.2 – SA 16.2 Technical data SAR 07.2 – SAR 16.2 Technical data WSH 10.2 – WSH 16.2 Technical data GW 14.1