Technical data Part-turn gearboxes

Valve		Gearbox										
Max. output torque	Valve attachment	Type	Reduction ratio	Factor[1]	Turns for 90°	Max. input torques	Input mounting flange for multi-turn actuator	Input shaft Ø	Handwheel Ø	Max. Manual force	Max. Input speed	Weight[2]
to [Nm]	Flange according to EN ISO 5211					[Nm]		[mm]	[mm]	[N]	[rpm]	approx. [kg]
3,000	F12, F14, F16	**GQB 80.1**	54:1	16.7	14	180	Without	20	400	926	54	15
							F10	20	400	926	54	
			225:1	64.2	56	47	F07	16	200	483	215	15
6,000	F14, F16, F25	**GQB 100.1**	52:1	17.2	13	349	Without	30	800	874	54	26
			217:1	65.8	54	92	F10	20	250	752	215	27
			903:1	245.6	226	25	F07	16	125	417	215	28
							F10	20	125	417	215	
12,000	F16, F25, F30	**GQB 125.1**	217:1	69.8	54	172	F14	30	400	860	215	48
							F10	20	400	860	215	
			628:1	181.5	157	67	F10	20	200	681	215	49
			903:1	253.3	226	48	F07	16	200	489	215	47
							F10	20	200	489	215	
21,000	F25, F30, F35	**GQB 160.1**	218:1	72.2	55	291	F14	30	630	852	215	72
							F10	20	630	852	215	
			563:1	175.0	141	120	F10	20	315	754	215	75
			880:1	254.5	220	83	F10	20	250	624	215	75
			1,784:1	500.4	446	42	F10	20	160	509	215	75
42,000	F30, F35, F40	**GQB 200.1**	214:1	72.9	54	577	F16	40	–	–	215	124
							F14	30	–	–	215	
			552:1	169.0	138	249	F14	30	500	918	215	129
			864:1	257.1	216	164	F14	30	400	752	215	129
							F10	20	400	752	215	
			1,751:1	506.1	438	83	F10	20	250	645	215	127
84,000	F35, F40, F48	**GQB 250.1**	214:1	74.8	54	1 123	F25	50	–	–	215	240
							F16	40	–	–	215	
							F14	30	–	–	215	
			552:1	173.7	138	484	F14	30	800	1,120	215	252
			864:1	264.4	216	318	F14	30	630	931	215	252
			1,751:1	520.9	438	162	F14	30	400	763	215	252
							F10	20	400	763	215	

1) Conversion factor from output torque to input torque for actuator size definition When new, the factor can fall short of the indicated value by up to 15 %.
2) Specified weight includes coupling (without bore) and grease filling in the gear housing

Additional information on weight:

For an additional extension flange, the weight adds up as follows:

Type	GQB 80.1		GQB 100.1		GQB 125.1		GQB 160.1		GQB 200.1		GQB 250.1	
Extension flange	F14	F16	F25	F25	F25	F30	F30	F35	F35	F40	F40	F48
Additional weight [kg]	0.3	3	0.1	4	4	7	3	15	6	17	7	20

General information

Part-turn gearboxes are suitable for manual and motor operation of industrial valves.
GQB part-turn gearboxes are not suitable for:

- Hydraulic steel structures & hydropower
- Nuclear applications
- Buried service
- Automation of special valves (e.g. louvre dampers, stack dampers, diverters with toggle arm, guillotine isolators)

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Features and functions		
Type of duty Weatherproof version	Class A according to EN 15714-2: OPEN-CLOSE Class B according to EN 15714-2: Inching/positioning or positioning duty	
End stops	End positions OPEN and CLOSED can be set individually.	
Swing angle	90° ± 5°	
Direction of rotation	Standard:	Suitable for clockwise closing valves
	Option:	Suitable for counterclockwise closing valves
Lifetime	GQB 80.1 – GQB 125.1	Lifetime according to EN 15714-2 and ISO/DIS 22109 when assuming a valve torque safety factor of 1.5.
	GQB 160.1 – GQB 250.1	Lifetime according to EN 15714-2 and ISO/DIS 22109 when assuming a valve torque safety factor of 1.2.
Worm wheel material	Spheroidal cast iron (EN-GJS)	
Housing material	Cast iron (EN-GJL)	
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.	
Static safety factor	• Sized with double safety, in relation to maximum torques • With overload protection to prevent housing damage	

Interface to multi-turn actuator or operator		
Input shaft	Standard:	Corrosion-protected, cylindrical with parallel key according to DIN 6885-1
	Option:	Cylindrical with parallel key according to DIN 6885-1 with square adapter for power tool emergency operation
Flange for actuator	In accordance with EN ISO 5210	
Manual operation	Standard:	• Handwheel made of aluminium with electrophoretic coating • Handwheel with ball handle
	Options:	• Handwheel made of GJL-200 with electrophoretic coating and painting • Handwheel lockable • Handwheel extension on request
Position indicator	Mechanical position indication proportional to travel (pointer cover)	

Interface to the valve		
Output drive flange	Dimensions according to EN ISO 5211	
Connection to valve shaft	Standard:	Plug-in unmachined output drive sleeve with splines
	Options:	• Plug-in finish-machined coupling with splines and bore with keyway, square bore or two-flat with grub screw for secure fixing to valve shaft. • Plug-in finish-machined coupling with splines and bore with keyway, square bore or coated two-flat with grub screw for secure fixing to valve shaft. • Integral coupling for adopting enlarged valve shaft diameter with 4 keyways according to DIN 6885 (not available for GQB 80.1 - GQB 100.1)
Spigot	Standard:	• GQB 80.1 – GQB 125.1: Plane (recess) according to EN ISO 5211 • GQB 160.1 – GQB 250.1: Spigot according to EN ISO 5211 (integrated into the housing)
	Options:	• 4 bores for dowel pin • GQB 80.1 – GQB 125.1: With spigot according to EN ISO 5211 • GQB 160.1 – GQB 250.1: Plane

Service conditions		
Use	Indoor and outdoor use permissible	
Ambient temperature	Standard:	–40 °C to +100 °C
	Option:	Further temperature ranges on request
Humidity	Up to 100 % relative humidity	
Vibration resistance according to IEC 60068-2-6	1g, 5 to 200 Hz or on request	

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Service conditions		
Enclosure protection according to EN 60529	IP67	
Corrosion protection	KN	Suitable for installation in industrial units, in water or power plants with a low pollutant concentration.
	KS	Suitable for use in areas with high salinity, almost permanent condensation, and high pollution.
Coating	Double layer powder coating	
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)
	Option:	Available colours on request

Further information	
EU Directives	Machinery Directive: (2006/42/EC)
Reference documents	Dimensions GQB 80.1 – GQB 125.1 Dimensions GQB 160.1 – GQB 250.1 Dimensions Extensions for input shaft Mounting position – Mounting of actuators