

Technical data Part-turn gearboxes

Valve		Gearbox										
Max. output torque	Valve attachment	Type	Reduct. ratio	Factor <sup>1)</sup>	Turns for 90°	Max. input torques	Input mounting flange for multi-turn actuator	Input shaft	Handwheel Ø	Manual force	Max. input speed	Weight <sup>2)</sup>
to ft-lb [Nm]	Flange acc. to MSS SP-101					ft-lb [Nm]		in [mm]	in [mm]	lbf [N]	[rpm]	approx. lbs [kg]
15,489 [21,000]	FA25/FA30/FA35	GQB 160.1	218:1	78	55	198 [268]	FA14	1.2 [30]	24.8 [630]	192 [852]	216	159 [72]
			880:1	269	220	58 [78]	FA10	0.8 [20]	9.8 [250]	140 [624]	216	165 [75]
			1,784:1	516	446	30 [41]	FA10	0.8 [20]	6.3 [160]	114 [509]	216	165 [75]
30,978 [42,000]	FA30/FA35/FA40	GQB 200.1	214:1	81	54	384 [520]	FA16	1.6 [40]	–	–	216	273 [124]
			864:1	279	216	111 [151]	FA14	1.2 [30]	15.8 [400]	169 [752]	216	284 [129]
			1,751:1	521	438	60 [81]	FA10	0.8 [20]	9.8 [250]	145 [645]	216	280 [127]
61,955 [84,000]	FA35/FA40/FA48	GQB 250.1	214:1	83	54	749 [1,016]	FA25	2.0 [50]	–	–	216	529 [240]
			864:1	287	216	216 [293]	FA14	1.2 [30]	24.8 [630]	209 [931]	216	556 [252]
			1,751:1	551	438	113 [153]	FA14	1.2 [30]	15.8 [400]	172 [763]	216	556 [252]

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 power plants
- Buried service
- Automation of special valves (e.g. louvre dampers, stack dampers and diverters with toggle arm, guillotine isolators)

Notes on table

1) Factor	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 10 %.																					
2) Weight	Indicated weight includes unfinished coupling and grease filling in the gear housing.																					
	<table border="1"> <thead> <tr> <th>Type</th> <th colspan="2">GQB 160.1</th> <th colspan="2">GQB 200.1</th> <th colspan="2">GQB 250.1</th> </tr> <tr> <th>Extension flange</th> <th>FA30</th> <th>FA35</th> <th>FA35</th> <th>FA40</th> <th>FA40</th> <th>FA48</th> </tr> </thead> <tbody> <tr> <td>Additional weight lbs [kg]</td> <td>6.6 [3]</td> <td>33.1 [15]</td> <td>13.2 [6]</td> <td>34.5 [17]</td> <td>15.4 [7]</td> <td>44.1 [20]</td> </tr> </tbody> </table>	Type	GQB 160.1		GQB 200.1		GQB 250.1		Extension flange	FA30	FA35	FA35	FA40	FA40	FA48	Additional weight lbs [kg]	6.6 [3]	33.1 [15]	13.2 [6]	34.5 [17]	15.4 [7]	44.1 [20]
Type	GQB 160.1		GQB 200.1		GQB 250.1																	
Extension flange	FA30	FA35	FA35	FA40	FA40	FA48																
Additional weight lbs [kg]	6.6 [3]	33.1 [15]	13.2 [6]	34.5 [17]	15.4 [7]	44.1 [20]																

Features and functions

Type of duty	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 are separated and can be set independently.
Swing angle	90° ± 5°
Direction of rotation	Standard: Suitable for clockwise closing valves Option: Suitable for counterclockwise closing valves
Lifetime	Lifetime in accordance with EN 15714-2 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.

**Technical data Part-turn gearboxes**

Static safety factor	<ul style="list-style-type: none"> <li>Sized with double safety, in relation to maximum torques</li> <li>With overload protection to prevent housing damage</li> </ul>
----------------------	--

**Interface to multi-turn actuator or operator**

Input shaft	Standard:	Corrosion-protected, cylindrical with parallel key according to DIN 6885-1
	Option:	<ul style="list-style-type: none"> <li>Cylindrical with parallel key according to DIN 6885-1 with square adapter for power tool emergency operation</li> </ul>
Flange for actuator	In compliance with MSS SP-102	
Manual operation	Standard:	<ul style="list-style-type: none"> <li>Handwheel made of aluminium with electrophoretic coating</li> <li>Handwheel with ball handle</li> </ul>
	Options:	<ul style="list-style-type: none"> <li>Handwheel made of GJL-200 with electrophoretic coating and painting</li> <li>Handwheel lockable</li> <li>Handwheel extension on request</li> </ul>
Position indicator	Mechanical position indication proportional to travel	

**Interface to the valve**

Output drive flange	Without recess and dimensions according to MSS SP-101	
Connection to valve shaft	Standard:	Plug-in unmachined output drive sleeve with splines
	Options:	<ul style="list-style-type: none"> <li>Plug-in finish-machined output drive sleeve with splines and bore with keyway, square bore or two-flat with grub screw for secure fixing to valve shaft.</li> <li>Plug-in finish-machined output drive sleeve with splines and bore with keyway, square bore or coated two-flat with grub screw for secure fixing to valve shaft.</li> </ul>
Spigot	Standard:	<ul style="list-style-type: none"> <li>Without recess</li> </ul>
	Option:	<ul style="list-style-type: none"> <li>4 bores for dowel pin</li> </ul>

**Service conditions**

Use	Indoor and outdoor use permissible	
Ambient temperature	Standard:	–40 °F – 212 °F (–40 °C to +100 °C)
	Option:	Further temperature ranges on request
Humidity	Up to 100 % relative humidity	
Vibration resistance to EN 60068-2-6	2g, 5 to 200 Hz at input mounting flange for the actuator	
Enclosure protection to EN 60529	IP67	
Corrosion protection	KN	Suitable for installation in industrial units, in water or power plants with a low pollutant concentration
Coating	Double layer powder coating	
Color	Standard:	AUMA silver-gray (similar to RAL 7037)
	Option:	Available colors on request

**Further information**

Directives and compliances	Canadian Standards Association (CSA): (C22.2) Machinery Directive: (2006/42/EC)	
Reference documents	Dimensions GQB 160.1 – GQB 250.1 Dimensions Extension for input shaft Mounting position – Mounting of actuators	