



## *Lever actuators*

for open-close and modulating duty

SGF 05.1 – SGF 12.1

SGRF 05.1 – SGRF 12.1

SGFExC 05.1 – SGFExC 12.1

Torques from 100 Nm to 1,200 Nm

Operating times for 90° from 4 s to 180 s





# Lever actuators

## Applications

AUMA lever actuators offer the ideal automation solution when valves and butterfly valves in technical process plants can only be operated via lever arrangements due to lack of space or design features.

AUMA SGF lever actuators are available in special versions for open-close duty and for modulating duty. The explosion-proof version SGFExC is approved for open-close duty.

## Modular design

AUMA lever actuators SGF are based on the part-turn actuator type range SG 05.1 – SG 12.1.

Detailed information on the part-turn actuators SG 05.1 – SG 12.1 can be found in the product description "Electric part-turn actuators for open-close duty and modulating duty".

## Technical data

### Swing angle

The swing angle is adjustable within the range ordered.

Swing angle range	
30° – 40°	Option
40° – 55°	Option
55° – 80°	Option
80° – 110°	Standard
110° – 160°	Option
160° – 230°	Option
230° – 320°	Option

### Torques/Operating times<sup>1</sup>

Type	Torque setting range		Operating times <sup>2</sup> at 50 Hz [s]
	min. [Nm]	max [Nm]	
SGF 05.1	100	150	4/ 5.6/ 8/ 11/ 16/ 22/ 32
SGF 07.1	120	300	5,6/ 8/ 11/ 16/ 22/ 32
SGF 10.1	250	600	11/ 16/ 22/ 32/ 45/ 63
SGF 12.1	500	1,200	22/ 32/ 45/ 63

<sup>1</sup> Values are valid for actuators with 3-phase AC motors. For single phase AC or DC motors, deviating values apply (refer to technical data sheet)

<sup>2</sup> For certain operating times, reduced torques apply (refer to technical data sheet)

## Service conditions

### Enclosure protection IP

AUMA products in the standard version conform to enclosure protection IP 67 according to EN 60 529. IP 67 means protection against immersion up to max. 1 m head of water for max. 30 minutes.

For higher requirements the actuators are available in increased enclosure protection IP 68.

### Corrosion protection

The standard AUMA corrosion protection KN is a high quality coating. This is suitable for outdoor installation and for slightly aggressive atmospheres with a low level of pollution.

For exposure to more aggressive substances, the actuators are available in the protection classes KS and KX.

### Explosion protection

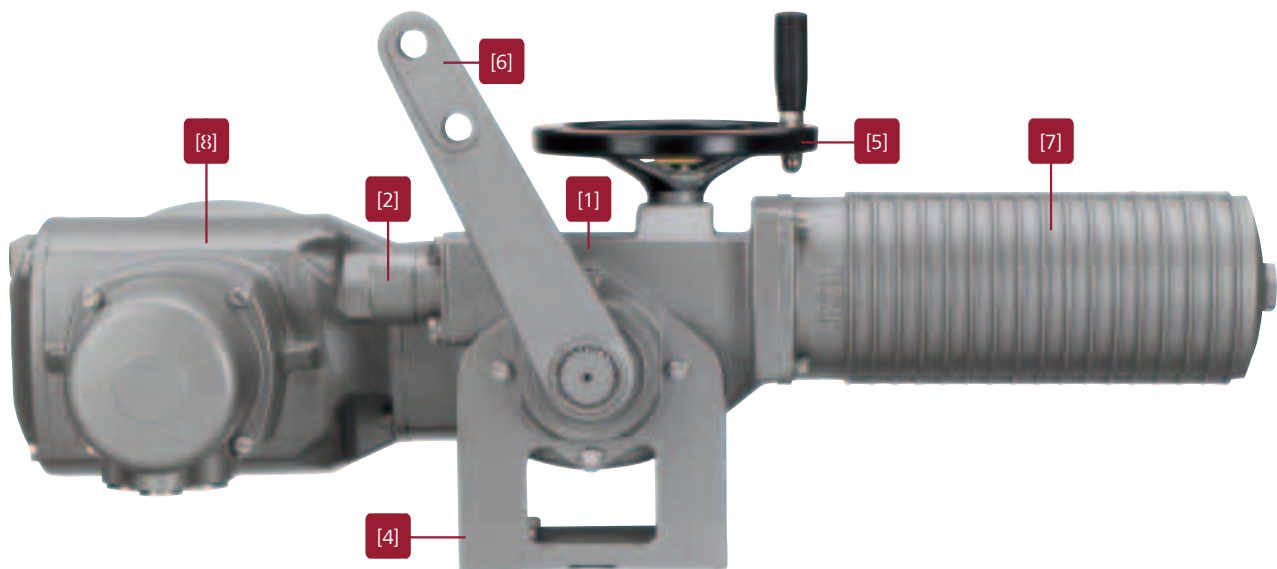
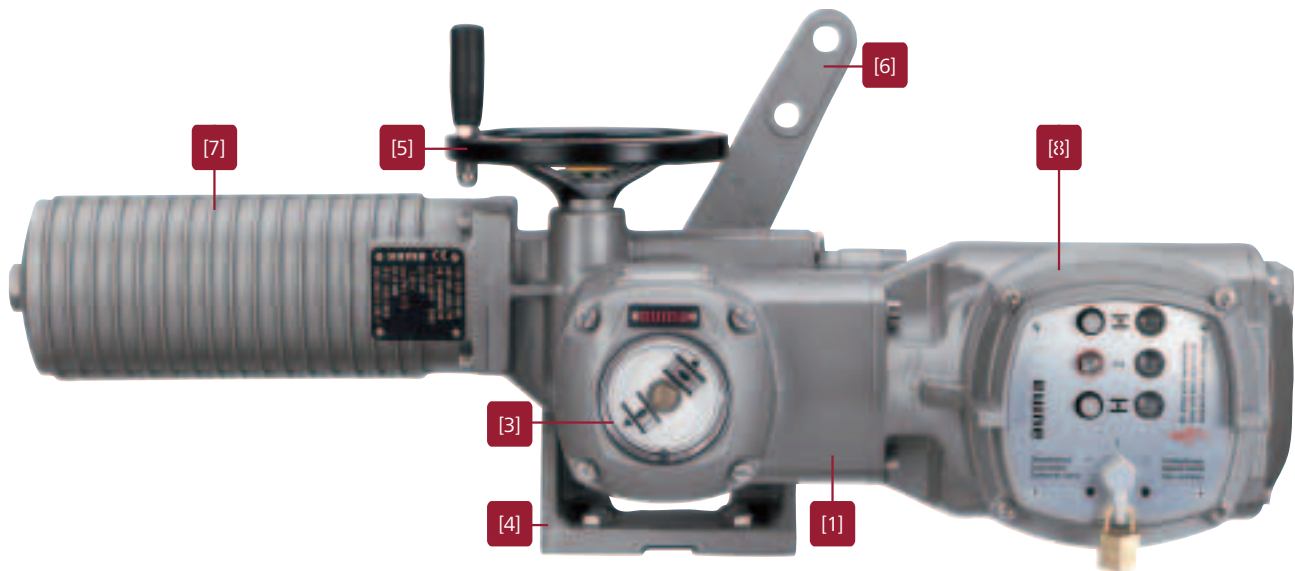
Version SGFExC corresponds to explosion protection classification II2G EEx de IIC T4 according to ATEX 94/9/EC.

Special features in accordance with the technical data sheet have to be observed.

### Ambient temperatures<sup>3</sup>

Version	Temperature range
Standard	– 25 °C ... + 80 °C
Low temperature	– 40 °C ... + 60 °C
Extreme low temperature	– 60 °C ... + 60 °C
High temperature	0 °C ... + 120 °C

<sup>3</sup> Is applicable for lever actuators for open-close duty with 3-phase AC motor. For other versions, deviating temperature ranges are applicable (refer to technical data sheet)



**[1] SG part-turn actuator**

as basic actuator for SGF lever actuators

**[2] End stops**

Internal end stops limit the swing angle. A significant advantage of the AUMA design is that only the comparatively low input torque acts on the end stops, not the high output torque.

**[3] Position indicator**

for indication of the valve position

**[4] Base**

made of spheroidal cast iron. With 4 holes for fastening bolts.

**[5] Handwheel**

For manual emergency operation and for operation during commissioning

**[6] Lever**

made of spheroidal cast iron, with two or three bores for fastening the lever arrangement. The lever can be mounted to the gear coupling in any desired position. Two ball joints complete with lock nuts and welding ends can be supplied on request as a link to the lever arrangement.

**[7] Motor**

An especially high starting torque is frequently required to unseat valves from the end position. The motors developed by AUMA fulfil this basic requirement. As well as the commonly used 3-phase AC motors, the actuators can be equipped with single phase AC or DC motors. For actuators with DC motors, the operating time can be adjusted within the respective setting range.

**[8] Integral controls (option)**

AUMA actuators with integral controls are ready for operation as soon as the supply voltage has been connected. The actuator can easily be operated on site via the integral controls. Extensive wiring in the control cabinet is not required. Only end positions, failures and if necessary, the valve positions are signalled to the process control system. Depending on the version, additional diagnostic information is available. The integral controls process the run commands from the control station, and depending on the equipment, can perform control tasks. AUMA actuator controls are available with various fieldbus interfaces.

[1] Multi-turn actuators  
SA 07.1 – SA 48.1  
Torques from 10 to 32,000 Nm  
Output speeds from 4 to 180 rpm

[2] Multi-turn actuators SA/SAR  
with controls AUMATIC  
Torques from 10 to 1,000 Nm  
Output speeds from 4 to 180 rpm

[3] Linear actuators SA/LE  
Combination of multi-turn actuator SA  
with linear thrust unit LE  
Thrusts from  
4 kN to 217 kN  
Strokes up to 500 mm  
Linear speeds  
from 20 to 360 mm/min

[4] Part-turn actuators  
SG 05.1 – SG 12.1  
Torques from 100 to 1,200 Nm  
Operating times for 90° from 4 to 180 s

[5] Part-turn actuators SA/GS  
Combination of multi-turn actuator SA with  
multi-turn gearbox GS  
Torques up to 360,000 Nm

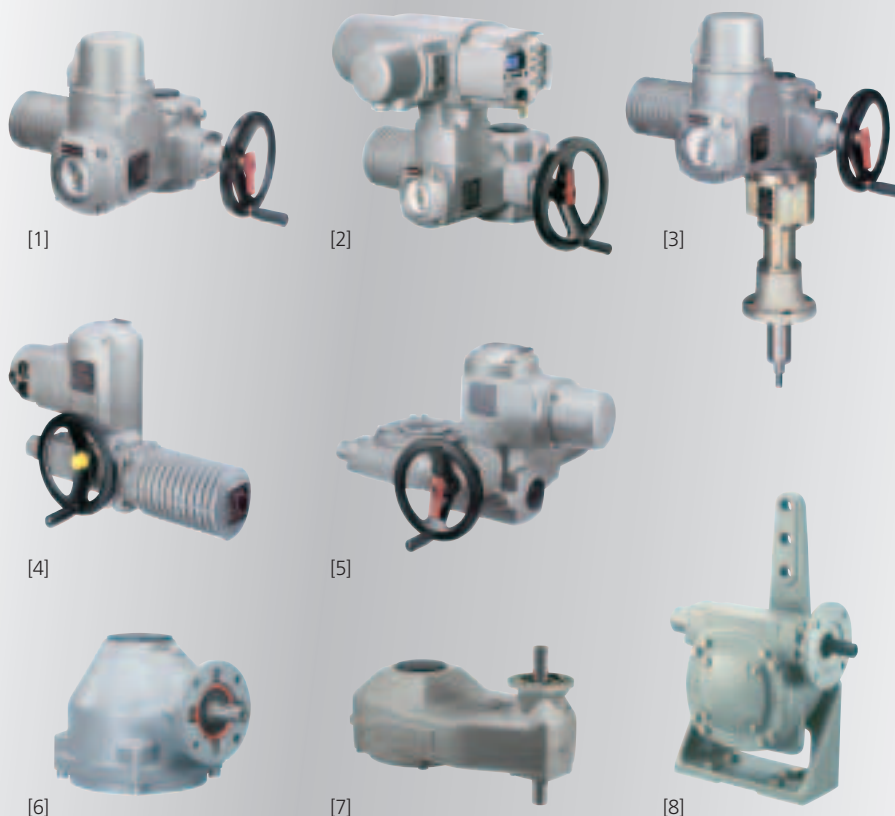
[6] Bevel gearboxes  
GK 10.2 – GK 40.2  
Torques up to 16,000 Nm

[7] Spur gearboxes  
GST 10.1 – GST 40.1  
Torques up to 16,000 Nm

[8] Worm gearboxes with base and lever  
GF 50.3 – GF 250.3  
Torques up to 32,000 Nm

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