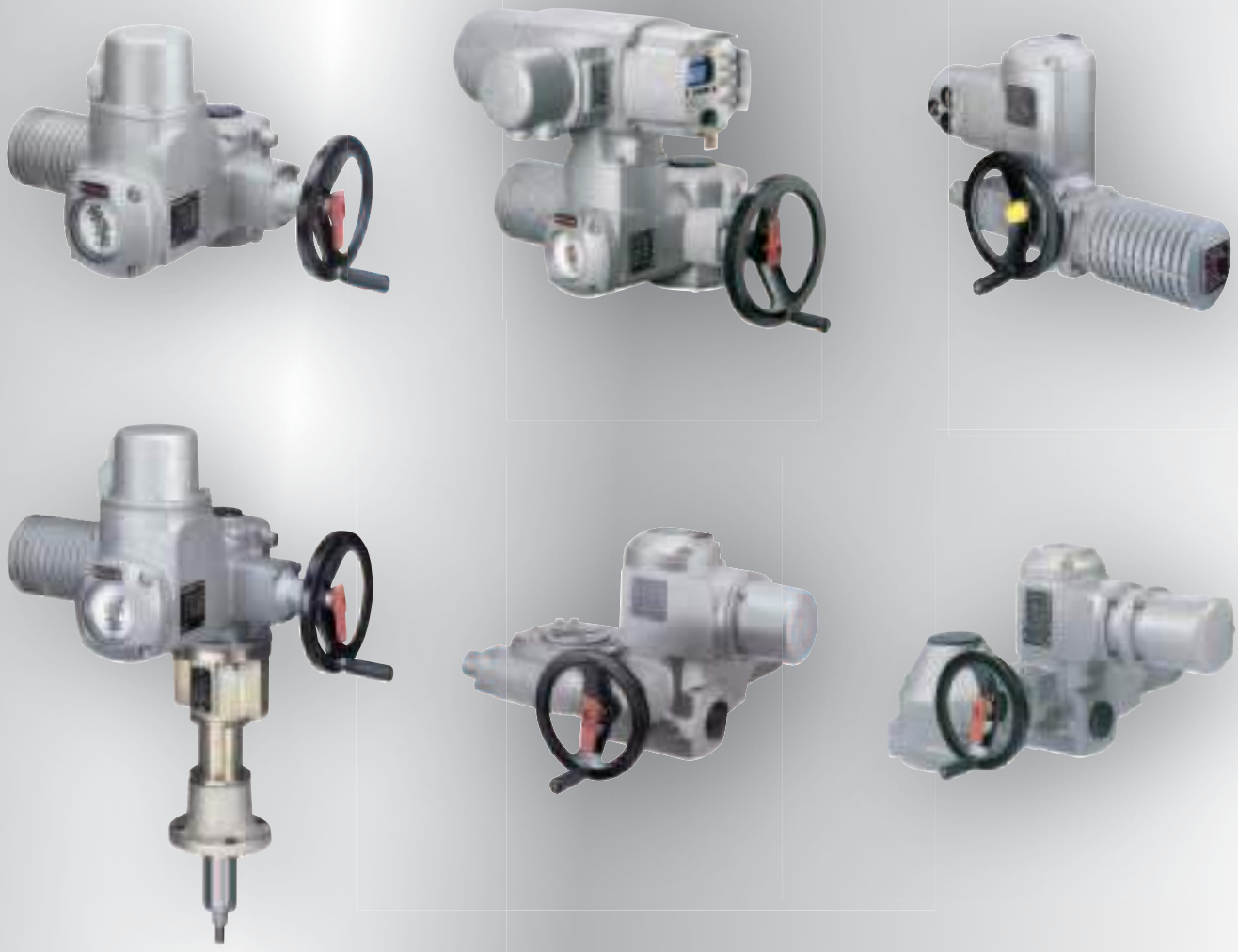
auma®

Solutions for a world in motion

Electric actuators - Valve gearboxes



Product overview



Solutions for a world in motion

AUMA automates valves

Industrial processes require automation and automation requires actuators. Reliably operating actuators are crucial to the safety and economic viability of industrial plants.

However, industrial processes vary. Each industry has its specific requirements and many actuator applications require individual solutions. Applications vary between OPEN/CLOSE and modulating duty; watertight, submersible and explosionproof locations and a wide array of control system interface requirements. In order to make industrial automation possible, great flexibility is demanded of the actuator and the actuator manufacturer.

For this reason, AUMA has a wide modular product range with electric multi-turn, part-turn, linear and lever actuators, as well as several different valve gearboxes. Actuator controls including micro-processor based controls and a variety of fieldbus interfaces, enable the optimal connection of the motor operated valves to the process control system. This makes it possible to find the suitable automation solution for almost every valve.

AUMA has been developing and building electric actuators and valve gearboxes for over 40 years. During that time, AUMA has acquired a know-how which cannot be surpassed. AUMA is one of the leading electric actuator manufacturers world wide.

This brochure provides an overview on AUMA products and services. Detailed information can be requested from AUMA or can be found on the Internet at www.auma.com.



AUMA electric actuators are employed wherever the automation of a valve requires rotation, swivel movement, linear movement or actuation via a lever.

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Energy

: Power plants
: Air pollution control
: District heating
: Pipelines

Water/Wastewater

: Water works
: Sewage treatment plants
: Pump stations
: Dams

Chemical industry

: Chemical industry
: Petrochemical industry
: Pharmaceutical industry

Others

: Air conditioning
: Ship building industry
: Steel mills
: Cement plants
: Food industry



Multi-turn actuators

e.g. for gate valves, globe valves and sluice gates



[1]



[2]



[3]



[4]

[1] Multi-turn actuators SA 07.1 – SA 48.1
Torques from 7 to 23,600 ft lb
Speeds from 4.8 to 216 rpm

[2] Actuator/bevel gearbox combinations SA/GK
Torques up to 11,800 ft lb

[3] Actuator/spur gearbox combinations SA/GST
Torques up to 11,800 ft lb

[4] Actuator-/worm gearbox-combinations SA/GHT
Torques up to 59,000 ft lb



Linear actuators

e.g. for gate valves or globe valves



[1]



[2]

[1] Actuator/linear thrust unit combinations SA/LE
Thrusts from 855 to 48,825 lb
Strokes up to 19.7 in
Speeds from 1 to 17 in/min

[2] For the operation of lever arrangements, the LE can be mounted on a base



Part-turn actuators

e.g. for butterfly valves, plug valves and ball valves



[1]



[2]



[3]



[4]

[1] Part-turn actuators AS 6 – AS 50
Torques from 19 to 370 ft lb
Speeds for 90° from 4 to 90 sec

[2] Part-turn actuators SG 03.3 – SG 04.3
Torques up to 46 ft lb
Speeds for 90° from 7 to 26 sec

[3] Part-turn actuators SG 05.1 – SG 12.1
Torques from 66 to 880 ft lb
Speeds for 90° from 6 to 180 sec

[4] Actuator/worm gearbox combinations SA/GS
Torques up to 498,000 ft lb



Lever actuators

e.g. for butterfly valves and part-turn dampers with lever arrangement



[1]



[2]

[1] Actuator/lever gearbox combinations SA/GF
Torques up to 23,600 ft lb

[2] Lever actuators SGF 05.1 – SGF 12.1
Torques from 66 to 880 ft lb
Speeds for 90° from 6 to 180 sec



Actuators with controls

Actuator controls with integral local controls are available for the actuators SA up to size 16.1 and all part-turn actuators SG and AS. They form the optimal interface between process control and actuator.

The controls can be supplied in a variety of versions. Whether parallel control or via fieldbus, whether simple OPEN-CLOSE functionality or an integral PID control - almost every process integration imaginable is possible.

In planning, commissioning, and operation, AUMA actuator controls have a clear advantage over a separate external control wiring. The economy of integral controls has a positive impact on overall plant cost.



[1]



[2]

[1] Multi-turn actuator SA with integral controls AUMA MATIC The AUMA MATIC is the ideal solution for OPEN - CLOSE control applications.

[2] Multi-turn actuator SA with integral controls AUMATIC The microprocessor based AUMATIC offers a variety of functions from positioning to operating data logging and fieldbus control.





[3]



[4]

[3] Part-turn actuator AS with integral controls VARIOMATIC. The VARIOMATIC is designed for all AUMA actuators with variable speed motors.

[4] The controls cannot only be mounted directly to the actuators, but also separately on a wall bracket. This is recommended when:

- the controls and therefore also the local controls would be difficult to access,
- heavy vibrations or high temperatures within the vicinity of the valve could disturb the electronics.



Multi-turn gearboxes

for manually operated valves



[1]



[2]



[3]

[1] Spur gearboxes GST 10.1 – GST 40.1
Torques up to 11,800 ft lb
Reduction ratios from 1:1 to 22:1

[2] Bevel gearboxes GK 10.2 – GK 40.2
Torques up to 11,800 ft lb
Reduction ratios from 1:1 to 22:1

[3] Limit switching WSH 10.1 – WSH 14.1
Torques up to 590 ft lb
Reduction ratio 1:1
The limit switching WSH is designed for the remote indication of the end positions and the valve position in a control room. The valve position can be read locally from a position indicator on the device.



Part-turn gearboxes

for manually operated valves



[1]



[2]

[1] Worm gearboxes GS 50.3 – GS 250.3
GS 160 – GS 500
Torques up to 265,000 ft lb
Reduction ratios from 39:1 to 3,328:1
The worm gearboxes can also be supplied without end stops for multi-turn applications.

[2] Valve position indicators WSG und WGD for indication of the valve position in a control room. The valve position indicators are mounted directly onto the worm gearboxes GS.

The AUMA products - in a nutshell

For motor driven valves	Torque or thrust	Speed or Operating time*	Gate valves, globe valve	Butterfly valves, ball valves	Globe valves, butterfly valve with lever arrangement	Butterfly valves with lever arrangement	Remarks
Multi-turn actuators SA 07.1 – SA 48.1	7 to 23,600 ft lb	4.8 to 216 rpm	■				Versions for OPEN - CLOSE duty, modulating duty and explosion-proof applications
Multi-turn actuators SA 07.1 – SA 16.1 with bevel gearboxes GK 10.2 – GK 40.2	up to 11,800 ft lb	depending on reduction	■				Displaces electric actuator orientation by 90°
Multi-turn actuators SA 07.1 – SA 16.1 with spur gearboxes GST 10.1 – GST 40.1	up to 11,800 ft lb	depending on reduction	■				Combinations of a smaller actuator and a gearbox are often less expensive than a large actuator
Multi-turn actuators SA 30.1 – SA 40.1 with worm gearboxes GHT 360.1	up to 59,000 ft lb	2 rpm – 16 rpm	■				e.g. for high pressure gate or globe valves with high torque requirement
Part-turn actuators SG 05.1 – SG 12.1	66 to 880 ft lb	6 to 180 sec for 90°		■			Actuator for OPEN - CLOSE duty, explosion-proof version available
Part-turn actuators SG 03.3 – SG 04.3	up to 46 ft lb	7 to 26 sec for 90°		■			Small, lightweight and inexpensive electric actuator for the automation of small OPEN-CLOSE part-turn valves
OPEN - CLOSE part-turn valves AS 6 – AS 50	19 to 310 ft lb	4 to 90 sec for 90°		■			In version ASR ideal for modulating applications
Multi-turn actuators SA 07.1 – SA 40.1 with worm gearboxes GS 50 – GS 630	up to 498,000 ft lb	8 to 466 sec for 90°		■			Suitable for part-turn applications up to highest torque requirements
Multi-turn actuators SA 07.1 – SA 16.1 with linear thrust units LE 12.1 – LE 200.1	885 to 48,825 lb	1 to 17 in/min			■		Strokes up to 19.7 in possible
Lever actuators SGF 05.1 – SGF 12.1	66 to 880 ft lb	6 to 180 sec for 90°				■	Based on part-turn actuators SG
Multi-turn actuators SA 07.1 – SA 25.1 with lever gearboxes GF 50.3 – GF 250.3	up to 23,600 ft lb	15 to 327 sec for 90°				■	Lever gearboxes based on worm gearboxes GS
For manually operated valves		Reductions					Remarks
Bevel gearboxes GK 10.2 – GK 40.2	up to 11,800 ft lb	1:1 – 22:1	■				Displaces input orientation by 90°
Spur gearboxes GST 10.1 – GST 40.1	up to 11,800 ft lb	1:1 – 22:1	■				Is equipped with second shaft coupling at gearbox input side
Limit switching WSH	up to 590 ft lb	1:1	■				Makes position indication for manually operated valves possible
Worm gearboxes GS 50.3 – GS 250.3, GS 160 – GS 500 and GS 630.3	up to 498,000 ft lb	39:1 – 6,939:1		■			High mechanical safety through special end stop technology
Valve position indicators WSG/WGD				■			Accessory for worm gearboxes GS for remote position indication

* For multi-turn actuators output speed, for part-turn actuators operating time for 90° movement, for linear actuators stroke speed



Service

The reliability of actuators is crucial to the safety of entire plants. Therefore, it is imperative to choose an appropriate configuration of actuators and to optimally integrate the actuator into the process control system.

Actuators are found in all industry sectors. The resulting variety of requirements makes extensive know-how necessary even in the planning stage. The careful selection of the devices is the prerequisite for smooth installation and commissioning. However, if a fault should occur during operation, it must be eliminated as soon as possible.

This defines the AUMA service concept. For this reason, AUMA offers a range of services.

Advice via telephone/e-mail

At AUMA, engineers assist as competent partners in every phase of the project. This means that questions can be answered quickly and plans can be finalized early in the design process. If a dimensional drawing or a wiring diagram is required at short notice, the necessary documents are quickly available via fax or email.

Internet

The AUMA website presentation (www.auma.com or www.auma-usa.com) offers up-to-date and extensive information around the clock. Besides general information, comprehensive documentation is available, as well. Have a look. It is well worth a visit.

Trouble shooting, commissioning and maintenance

To react quickly and competently to customer requirements around the globe, AUMA has established a worldwide network of subsidiaries and representatives. Optimally equipped with service units and special tools, the AUMA technicians can eliminate faults efficiently.

Apart from trouble shooting, several additional services are available. The commissioning service for actuators ensures correct function right from the beginning. And with a maintenance contract, the long-term conservation of the value of AUMA products can be ensured.

Automation/modernisation

Valves are often still fully functional after many decades; however, the actuator technology is then no longer compatible with the new process control system and needs to be replaced. The AUMA automation centers provide everything necessary to modernize the actuator technology in an older plant - from the preparation of a quotation, the design, and production of special adapters to commissioning.

AUMA - worldwide service

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Korea
Kuwait
Oman
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For the name and phone number of the office nearest you, call us at 724-743-2862 or visit our website at www.auma-usa.com/saleserv.htm



AUMA - the Company



AUMA Factory - Canonsburg PA



Assembly Shop in Canonsburg Factory



Assembly Shop in Canonsburg Factory



Machining Operation in Canonsburg Factory



AUMA Factory - Muellheim, Germany

AUMA has been designing and manufacturing actuators since 1964. The modular design and easy to use features of AUMA products have made them the preferred electric actuator of many plant owners and operators worldwide. The Company has sales and service facilities or representation in forty-seven countries.

In North America, AUMA Actuators, Inc. is headquartered in Canonsburg, PA. An organization of seven factory offices and over 50 independent sales agents in North America assure actuator users and specifiers that AUMA support is close to virtually any location.

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