

GRUNER ACTUATORS

# ACTUATING AND CONTROLLING HVAC DAMPERS





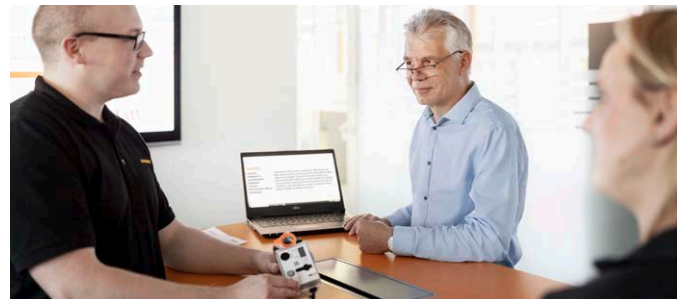
GRUNER IS DEFINITELY NOT  
THE BIGGEST MANUFACTURER  
IN THE WORLD.  
**BUT OUR ACTUATORS ARE  
TECHNOLOGY LEADERS.**

## EFFICIENCY AND FLEXIBILITY IN BUILDING MANAGEMENT



### DRIVE, CONTROL AND SENSORS IN A COMPACT DESIGN.

Gruner actuators are more compact and offer more options! Their unique design eclipses conventional actuators across all comparative values. Gruner solutions for ventilation systems help OEM partners, designers and architects to save cost, to improve operational safety and to extend the range of possibilities.



### FOR THE ACTUATION AND CONTROL OF DAMPERS AND VALVES

- › **Gruner actuators for controlling central and decentralised ventilation systems**  
Ideal for use in mixed air boxes and on louvre dampers and for actuating smoke and exhaust gas dampers
- › **Gruner actuators cover all requirements**  
From classic to volumetric flow control, from super-fast running actuators to spindle drives
- › **Gruner actuators can be used internationally**  
All our actuators comply with DIN VDE standards and CE directives. UL-certified types are also available.



**LONG SERVICE LIFE**  
Up to 100,000 full cycles and  
up to 1,500,000 partial cycles



	Without spring return			With spring return	
Type	225	227	363	341	361
Torque	5 Nm	5 Nm 10 Nm 15 Nm	30 (20) Nm 40 Nm	3 Nm, approx. 0.6 m <sup>2</sup> 5 Nm, approx. 1.0 m <sup>2</sup>	10 Nm 20 Nm
Runtime	20 - 120 s	20 - 230 s	60 - 230 s	35 - 230 s	60 - 230 s
2/3-point (0) 2...10 VDC or (0) 4...20 mA	• • • with ext. 500 Ω	• • • with ext. 500 Ω	• • • via DIP	•/– • • with ext. 500 Ω	•/– • • via DIP
Supply	24 VAC/DC 80...265 VAC/DC*	24 VAC/DC 80...265 VAC/DC*	24 VAC/DC 80...265 VAC/DC*	24 VAC/DC 80...265 VAC/DC*	24 VAC/DC 80...265 VAC/DC*
Options					
Feedback potentiometers*	•	•			
Potential-free auxiliary switches*	•	•	•	•	•
Concentric form-fit connection with screw-on flanges	•	•			
Universal clamping bracket	•	•	•	•	•
Screw terminals	•		•		•

\* not for continuous control

# IDEAL FOR VENTILATION AND AIR-CONDITIONING

## ROBUST AND RELIABLE

With the Gruner portfolio, the air flows in HVAC systems can be controlled efficiently and precisely. Whether compact controllers for controlling small ventilation systems or incorporated in building automation systems and controlled via BMS: Gruner actuators are quick to install, easy to configure, reliable to operate and simple to maintain, right across the range.



	Without spring return				With emergency actuation function (super-capacitors)
Type	328 CS	315	309	227 CM	328 QS
Torque	2 Nm, 1 s/90° 5 Nm, 2 s/90° 10 Nm, 3 s/90° 15 Nm, 5 s/90°	4 Nm	150 N	5 Nm 10 Nm 15 Nm	2 Nm, 1 s/90° 5 Nm, 2 s/90° 10 Nm, 3 s/90° 15 Nm, 5 s/90°
Runtime		100...150 s		20- 230 s	
2/3-point (0) 2...10 VDC or (0) 4...20 mA	• • with ext. 500 Ω	• • with ext. 500 Ω	• • • with ext. 500 Ω	• • • with ext. 500 Ω	• • with ext. 500 Ω
Modbus RTU	o	o	o	•	o
Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC 80...230 VAC/DC*	24 VAC/DC 80...265 VAC/DC	24 VAC/DC
Options					
Feedback potentiometers*	-	-	-	-	-
Potential-free auxiliary switches*	-	-	-	-	-
Concentric form-fit connection with screw-on flanges	o	•		o	o
Universal clamping bracket	•	•		•	•
Screw terminals	-	-	-	• (CMX)	-

\* not for continuous control    o optional

# BENEFIT FROM LEADING TECHNOLOGY

## GREATER FREEDOM FOR OEM PARTNERS AND DESIGNERS

Gruner can provide you with various operating concepts, all of which can be integrated reliably in existing systems.

## START FASTER

Calibration can start immediately after applying power to the volumetric flow controllers.

## REACT FASTER

The volumetric flow controllers register and control changes in volumetric flow much faster. That provides designers and architects with new ventilation system control options that meet precise needs at optimum cost.

## REACT MORE PRECISELY

The models make it possible to measure and to control much lower volumetric flows and air speeds. Higher differential pressures are also a possible option.

## MINIMISE SOILING

All models are characterised by a very low volumetric flow. This leads to a reduction in air speed in front of the sensor and it substantially reduces the risk of soiling.

## MORE DESIGN LATITUDE FOR VAV BOXES

Due to the slow air speed, much longer connection hoses can be used: up to 5 metres. The measuring result is not affected by different lengths of inlet and outlet hoses.

## MINIMISE ADDITIONAL COSTS

Angle-dependent switch outputs are not an additional accessory. Instead, they are integrated directly to order.

## HIGHER CONTROL PRECISION

More support points mean more precise linearisation!

## SIMPLE PROBLEM-SOLVING ON LOCATION

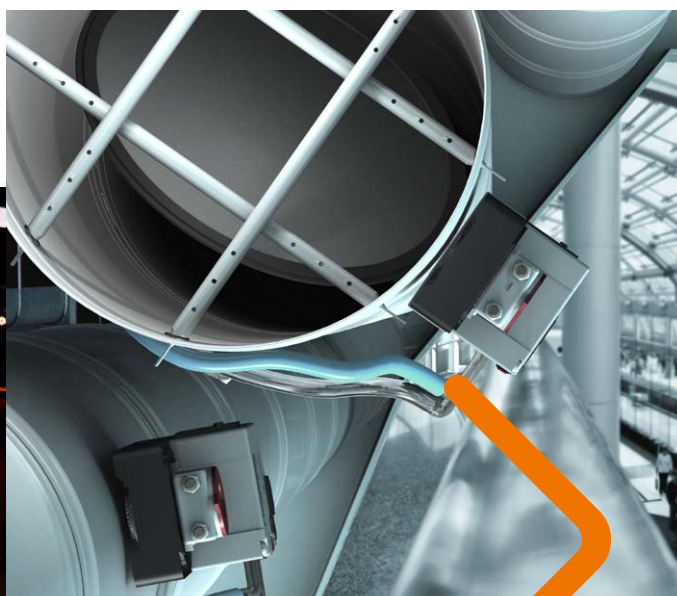
Control precision and speed are factory-set to default values. However, these values can be adapted on location without dismantling the unit.

## OPEN FOR THE FUTURE WITH THE IXI BOX

The volumetric flow controllers make it extremely easy to implement BUS systems (add-on printed circuit boards). These volumetric flow controllers are the only models to offer an open PP protocol for fully digital operation.

## OPTIMISED FOR MODBUS RTU

Integration in Modbus RTU networks is a simple task. Gruner uses ¼-load drivers to reduce bus load and to increase stability.



## SAFE AND FLEXIBLE

All Gruner actuators are equipped with motors (BDC, BLDC) to shut down reliably in response to overloads. If so desired, we can also equip our actuators with synchronous or step motors. Gruner also provides you with maximum freedom in terms of control, supply, options and accessories. Gruner develops the entire mechatronic system (mechanical componentry, switchgear technology, software) in-house.

GRUNER AG, headquartered in Wehingen with around 1,500 employees, based in Germany, Tunisia, Serbia and India, is a major manufacturer of actuators, relays and solenoids. Our system solutions for building management, the automotive industry and medical technology are in demand around the world, featuring compelling innovation and quality.

**GRUNER AG**

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