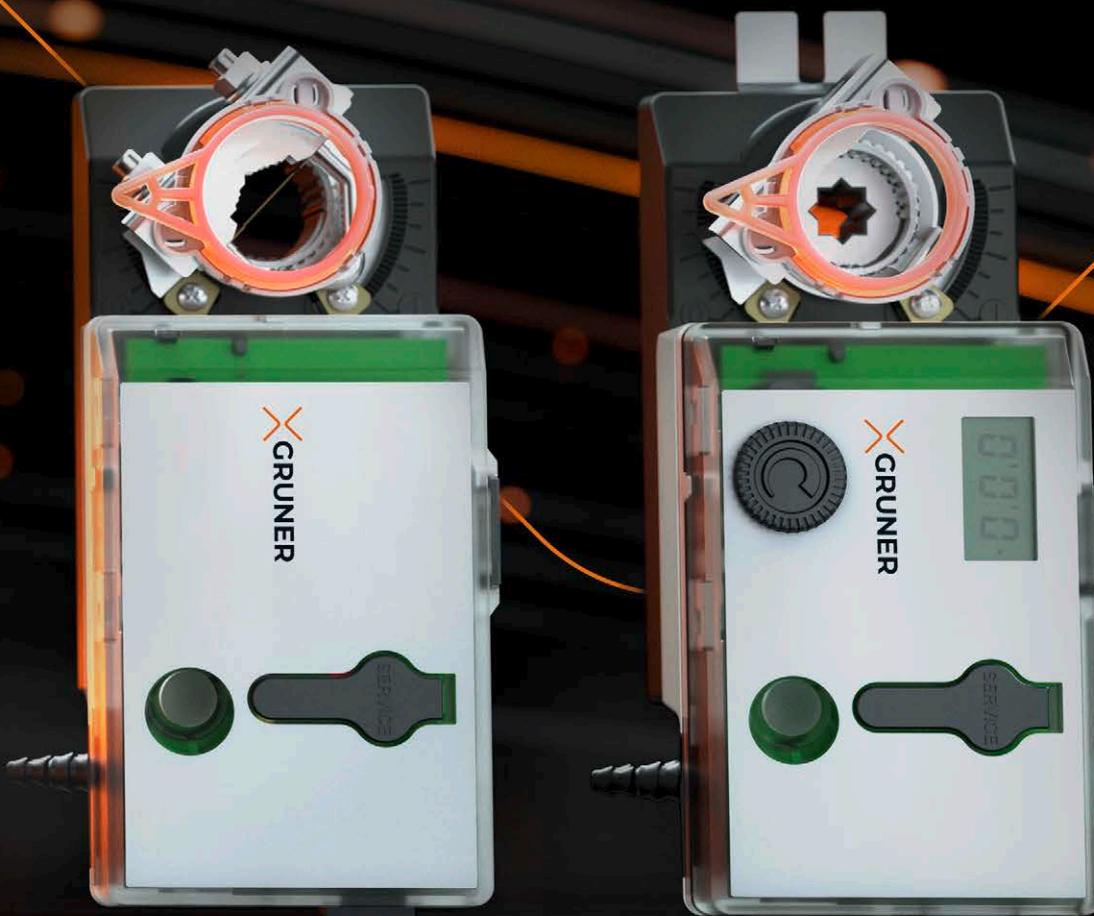


GRUNER ACTUATORS

# PRODUCT OVERVIEW OF VOLUMETRIC FLOW AND PRESSURE CONTROLLERS





GRUNER CERTAINLY DOES NOT HAVE AN ANSWER FOR EVERYTHING. **BUT WE DO HAVE ACTUATORS FOR EVERY FIELD OF APPLICATION.**

## COMPREHENSIVE PRODUCT PORTFOLIO



Gruner actuators stand for cost efficiency and the greatest possible flexibility in building management. They cover all fields of application: dampers actuators, controllers for volumetric flow and pressure, also with super-fast running actuators, actuators for fire and smoke dampers as well as ball cock drives. OEM-specific solutions round off our portfolio.

### TYPICAL APPLICATIONS:

- › Actuation and control of dampers and valves
- › Control of central and decentralised ventilation systems
- › Fire and smoke dampers
- › Motor valve for drinking, cooling & process water, condensate, air (e.g. as a zone valve)
- › All Gruner actuators comply with DIN VDE standards and CE directives. UL-certified types are also available.
- › Service life of up to 100,000 full cycles and up to 1,500,000 partial cycles

# HIGH-QUALITY ACTUATORS – FROM CLASSIC TO INDIVIDUAL



Volumetric flow and pressure controllers - actuator, controller and sensor in one compact design

Type	327 VM		327 V	
	Volumetric flow	Pressure / CCPC	Volumetric flow	Pressure / CCPC
Control				
Sensor type – Measuring range Dynamic – 300 Pa Static – 100 / 300 / 600 Pa	<ul style="list-style-type: none"> <li>•</li> <li>◦ / DS ...</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>◦ / DS ...</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>◦ / DS ...</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>◦ / DS ...</li> </ul>
Parameterisation	Setting directly on the device using display and rotary function switch	Setting directly on the device using display and rotary function switch	PC + software, manual setting device	PC + software Manual setting device
Linearisation of pressure transducer	•	•	•	•
Controlling precision	0 – 6.25% adjustable			
Control speed	200 ms – 51 s freely selectable			
Modbus RTU	◦	◦	◦	◦
Torque	5/10/15 Nm	5/10/15 Nm	5/10/15 Nm	5/10/15 Nm
Options				

• standard ◦ possible

## OVERVIEW OF VAV SOLUTIONS

Gruner volumetric flow and pressure controllers satisfy the highest modern HVAC standards. A comparison between the best values of previous standard products and the Gruner series 327 and 309 volumetric flow and pressure controllers demonstrate clearly that these compact controllers are technology leaders, and that they set new standards. Innovative dynamic and static sensors, very fast heating and response times as well as precisely matched OEM-specific parameterisation enable designers and architects to design efficient and cost-optimised ventilation systems.



		Controller and sensor		Sensor	
309 VM	309 PM	GUAC-DM / GUAC-SM	GUAC-PM	GT-VM	GT-PM
Volumetric flow	Pressure	Volumetric flow	Pressure	Volumetric flow	Pressure
<ul style="list-style-type: none"> <li>●</li> <li>○ / DS ...</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>○ / DS ...</li> </ul>	<ul style="list-style-type: none"> <li>● DM</li> <li>● SM ...</li> </ul>	<ul style="list-style-type: none"> <li>○</li> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○</li> <li>●</li> </ul>
Setting directly on the device using display and rotary function switch	Setting directly on the device using display and rotary function switch	Setting directly on the device using display and rotary function switch	Setting directly on the device using display and rotary function switch	Setting directly on the device using display and rotary function switch	Setting directly on the device using display and rotary function switch
<ul style="list-style-type: none"> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>●</li> </ul>
0 – 6.25% adjustable	0 – 6.25% adjustable	0 – 6.25% adjustable	0 – 6.25% adjustable	0 – 6.25% adjustable	0 – 6.25% adjustable
200 ms – 51 s freely selectable	200 ms – 51 s freely selectable	200 ms – 51 s freely selectable	200 ms – 51 s freely selectable	200 ms – 51 s freely selectable	200 ms – 51 s freely selectable
<ul style="list-style-type: none"> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○</li> </ul>
150 N	150 N	Depending on the drive used: 227C...-V/ST06, 341C...-V/ST06, 361C...-V/ST06, 363C...-V/ST06 as well as F&S 340C...-V/ST06 and 360C...-V/ST06			
Stroke: 30/80/130/200 mm Others on request	Stroke: 30/80/130/200 mm Others on request				

# 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.

## GREATER CONTROLLING PRECISION

More support points mean more precise linearisation!

## SIMPLE PROBLEM-SOLVING ON LOCATION

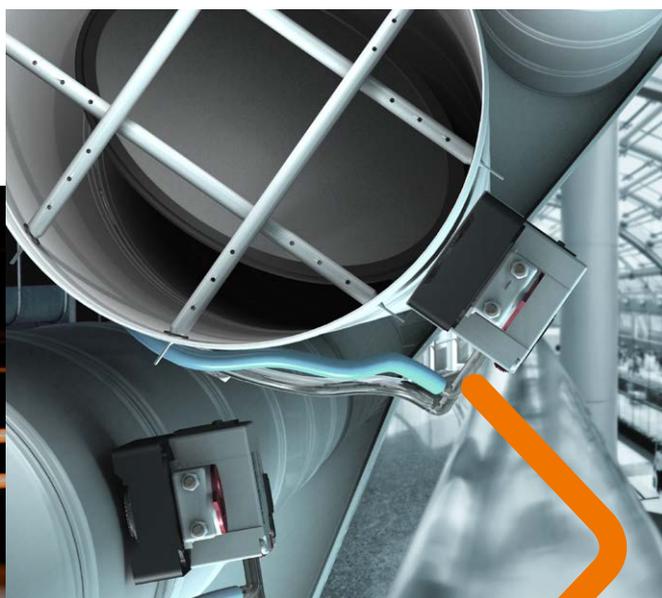
Control precision and speed are factory-set to default values. However, these values can be adapted on location without dismantling the unit.

## 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**

Bürglestraße 15-17 | 78564 Wehingen | Germany

T +49 7426 948-0 | F +49 7426 948-200

info@gruner.de | www.gruner.de