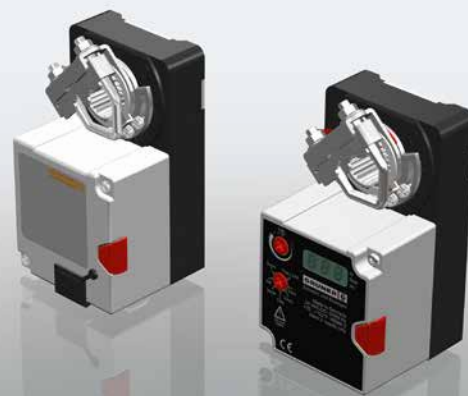


Flexibility creates new potential.

VAV volume flow controllers 227V/VM
for HVAC technology.



When a suitable alternative is needed ...

High-quality actuators, from classic to customized.

The Slinky was invented in 1945 by Richard James. It conveys the full fascination of physics – and simultaneously symbolizes pure flexibility. This symbolism is reflected in the core values of Gruner AG. The actuators represent cost efficiency and the greatest possible flexibility in building management. Here they cover all requirements – from classic to air-volume control, and from very speedy actuators to small spindle drives.



Typical applications:

- For motorized control of dampers, ball and butterfly valves
- Mixed air and shut-off damper control for primary HVAC air-handling and zone units
- For controlling central and peripheral ventilation systems
- For smoke and waste gas dampers
- Motorvalve for drinking, cooling, tap water, condense water, air (f. ex. as zone valve)
- All actuators correspond to the DIN-VDE-standards and CE-directives



Those are the facts.

It's worth comparing.







VAV volume flow controllers from Gruner fulfil the stringent demands of HVAC technology. The models 227V/VM in particular set new standards, since they open up new application possibilities for planners and architects. Important arguments include the innovative measuring concept, the fully-digital control and the integrated high-performance actuator with 10 Nm of power. As an option Gruner also offers an extended measurement range plus shorter heat-up and reaction times.



Type	309 PM	309 VM	GUAC-DM	GUAC-SM	GUAC-PM
Control of measuring range	0.3 - 300 Pa	0.3 - 300 Pa	0.3 - 300 Pa	6 - 250 Pa	100 Pa / 300 Pa / 600 Pa
SensorType dynamic static	Pressure • ○	Volume flow • ○	Volume flow •	Volume flow •	Pressure •
Adjustment/Parameterisation	Adjustment directly at the display	Adjustment directly at the display	Setup directly on the actuator screwdriver	Setup directly on the actuator screwdriver	Setup directly on the actuator screwdriver
Linearisation of pickup devices	•	•	•	•	•
Control accuracy	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable
Control speed	200ms - 51 s freely selectable	200ms - 51 s freely selectable	200ms - 51 s freely selectable	200ms - 51 s freely selectable	200ms - 51 s freely selectable
Modbus RTU	○	○	○	○	○
Torque	150 N	150 N	depending on actuator connected 227, 363, 341, 361 and F&S 340, 360	depending on actuator connected 227, 363, 341, 361 and F&S 340, 360	depending on actuator connected 227, 363, 341, 361 and F&S 340, 360
Options	Stroke lengths · 50 mm · 100 mm · 150 mm · 200 mm others on request	Stroke lengths · 50 mm · 100 mm · 150 mm · 200 mm others on request			

- included
- optional



						
	227 P	227 V	227 PM	227 VM	GT-PM	GT-VM
	0.3 - 300 Pa	0.3 - 300 Pa	0.3 - 300 Pa	0.3 - 300 Pa	100 Pa / 300 Pa / 600 Pa	0.3 - 300 Pa
	Pressure • ○	Volume flow • ○	Pressure • ○	Volume flow • ○	Pressure • ○	Volume flow • ○
	Adjustment directly at the display	PC + Software Handheld tool	Adjustment directly at the display	Setup directly on the actuator screwdriver	Setup directly on the actuator screwdriver	Setup directly on the actuator screwdriver
	•	•	•	•	•	•
	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable	0 - 6.25 % adjustable
le	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
	○	○	○	○	○	○
	5/10/15 Nm	5/10/15 Nm	5/10/15 Nm	5/10/15 Nm		

Here are your benefits.

Profit in practice.

More freedom for OEMs.

Gruner provides OEMs with different machine concept capabilities.

React flexibly.

The models allow much lower measurement and control of air volume flows and air speeds. As an option, higher differential pressures can be measured.

Lower costs.

The volume flow controllers allow calibration immediately after connection of the power supply.

Minimise contamination.

All models are distinctive for their very low air volume. This enables a reduced air speed ahead of the sensor and significantly reduces sensitivity to dust.

The quick way to new applications.

The VAV controllers detect and control changes in the air flow significantly faster. This opens up new possibilities for planners and architects. Detection of the flow direction, for instance, enables integration into decentralized window ventilation systems.

More design freedom for VAV boxes.

Because of the low air speed the connecting hose design can be far longer – up to 5 metres. Even if the lengths of the ventilation hoses in both directions are different, this has no effect on the measuring result.

Lower additional costs.

On the models, angle-dependent switching outputs are not an extra accessory but directly integrated on request.

Higher control accuracy.

More calibration points mean higher linearisation accuracy!

Simple problem-solving on-site.

Control accuracy and control speed are set to standard values ex works. They can however be adjusted on-site without any need to dismantle the devices.

Open for the future with iXi-Box.

The VAV controllers allow simple integration of bus logic (add-on PCB or piggyback). As the only VAV controllers they provide an open PPP protocol and facilitate full digital operation.

Modbus RTU welcome

Allows simple integration to Modbus RTU networks. Gruner uses 1/4-load drivers to reduce bus load and increase stability.

Conclusion.

The compact VAV controllers from Gruner are not only smaller, they also give you more! The unique design concept leaves conventional VAV concepts far behind where comparative values are concerned. The controllers help to lower costs and increase operating safety – and they open up entirely new applications for planners and architects.



The perfect fit...

Relays, solenoids and actuators from Gruner.

Gruner stands for flexibility, innovation and openness in electronic applications in the energy management, building management, drive technology and automotive sectors. In addition to actuators, the product range also includes solenoids and latching relays. With manufacturing locations in Germany, Tunisia, Serbia and India, the company has a worldwide presence. Find out more about the comprehensive Gruner product portfolio online at www.gruner.de

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