

*Flexibility moves.*

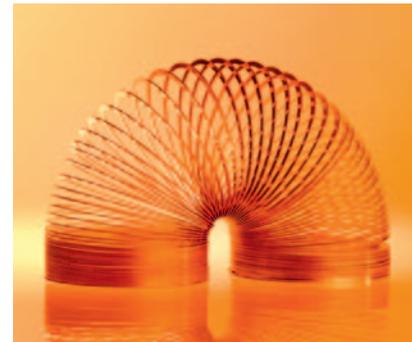
Actuators from Gruner –  
Product range overview.



## *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



# Damper actuators HVAC.



Quick Running (1–35 s)			Accessories	Positioner FGEB
<b>Type</b>	Type 225S	Type 227S		
<b>Torque</b>	2 Nm, 5s/90° 5 Nm, 20s/90°	2 Nm, 1s/90° 4 Nm, 5s/90° 5 Nm, 20s/90° 8 (15) Nm, 3...5s/90°		Surface mounting (AB) Panel mounting (EB)
<b>Control</b>				0...100% creates (0) 2...10 VDC w/ DIP switch output
2/3-point (0) 2...10 VDC or (0) 4...20 mA	• • • w/ DIP switch	• • • w/ 500 Ω		
<b>Power Supply</b>	24 VAC/DC 80...265 VAC/DC (20s only)	24 VAC/DC 80...265 VAC/DC (20s only)		15 VDC 24 VAC/DC
<b>Options</b>				
Feedback w/ potentiometer*	•	•		
Auxilliary switch(es)*	•	•		
Concentric form locking shaft and flange fixing	•	•		
V-bolt clamp for damper shaft	•	•		
Terminal connector	•	•		

\* not continuous control



Standard (60–230 s)	without Spring Return			with Spring Return		
<b>Type</b>	Type 225	Type 227	Type 363	Type 341	Type 361	Type 381
<b>Torque</b>	5 Nm, approx. 1.0 m <sup>2</sup>	5 Nm, approx. 1.0 m <sup>2</sup> 8 Nm, approx. 1.6 m <sup>2</sup>	20 Nm, approx. 4.0 m <sup>2</sup> 30 Nm, approx. 6.0 m <sup>2</sup> 40 Nm, approx. 8.0 m <sup>2</sup>	3 Nm, approx. 0.6 m <sup>2</sup> 5 Nm, approx. 1.0 m <sup>2</sup>	10 Nm, approx. 2.0 m <sup>2</sup>	20 Nm, approx. 3.0 m <sup>2</sup>
<b>Control</b>						
2/3-point (0) 2...10 VDC or (0) 4...20 mA	• • • w/ DIP switch	• • • w/ 500 Ω	• • • w/ DIP switch	•/- • • w/ 500 Ω	•/- • • w/ 500 Ω	•/- • • w/ 500 Ω
<b>Power Supply</b>	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	24 VAC/DC 80...265 VAC/DC
<b>Options</b>						
Feedback w/ potentiometer*	•	•	•			
Auxilliary switch(es)*	•	•	•	•	•	•
Concentric form locking shaft and flange fixing	•	•				
V-bolt clamp for damper shaft	•	•	•	•	•	•
Terminal connector	•		•		•	

\* not continuous control

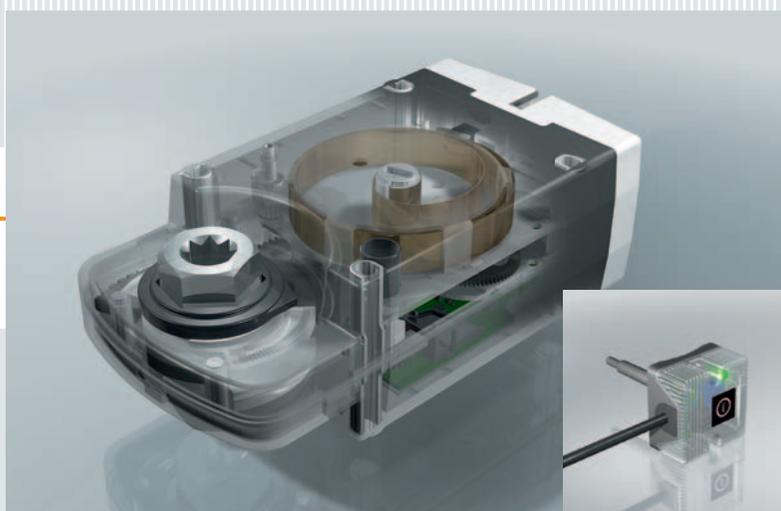
## Actuators for fire and smoke protection.



Type	Type 340	Type 360	Type 380	Type 342	Type 362	Type 382
<b>Torque</b>	5 Nm (spring) 5 Nm (motor)	10 Nm (spring) 10 Nm (motor)	20 Nm (spring) 20 Nm (motor)	15 Nm	20 Nm	40 Nm
<b>Control</b>	2-point	2-point	2-point	2-point	2-point	2-point
<b>Power Supply</b>	24 VAC/DC 230 VAC/DC	24 VAC/DC 230 VAC/DC	24 VAC/DC 230 VAC/DC	24 VAC/DC 230 VAC/DC	24 VAC/DC 230 VAC/DC	24 VAC/DC 230 VAC/DC
<b>Options</b>						
Auxilliary switches (5° + 80°)	•	•	•	•	•	•
Concentric form locking shaft 8 mm/10 mm/12 mm and flange fixing	•	•	•	•	•	•
Thermal tripping device for Ambient/ Ambient and duct	•	•	•			
Optional smoke detector connection	•	•	•	•	•	•

### Quality and transparency

Products from Gruner are based on consistent in-house production, and are subject to stringent quality controls.



# Ball valve actuators.



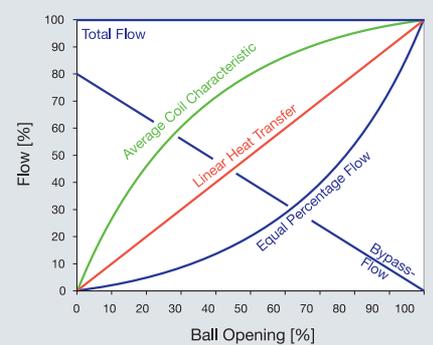
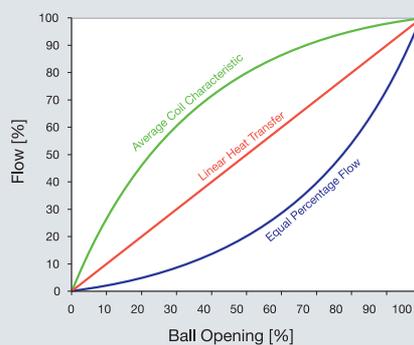
	Shut-Off and Change-Over Valves without Spring Return		Control Valves
<b>Type</b>	Type 224	Type 235	Type 225
<b>Size/Threads</b>	DN 12, 15, 20, 25, 32 Rp 3/8", 1/2", 3/4", 1", 1 1/4" R 3/4", 1", 1 1/4"	DN 12, 15, 20, 25, 32, 40 Rp 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" R 3/4", 1", 1 1/4"	DN 12, 15, 20, 25, 32, 40, 50 Rp 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" $k_{vs}$ 0.44...300 (2-way) $k_{vs}$ 0.38...126 (3-way)
<b>Control</b>	2-point (uni-directional) 3-point (uni-directional) 2/3-point (bi-directional)	2/3-point (bi-directional) (0) 2...10 VDC or (0) 4...20 mA w/ DIP switch	2/3-point (0) 2...10 VDC or (0) 4...20 mA w/ DIP switch
<b>Power Supply</b>	24 VAC 24 VAC/DC 230 VAC	24 VAC 24 VAC/DC 230 VAC	24 VAC/DC 80...265 VAC/DC
<b>Options</b>			
2-way ball valves	•	•	•
3-way ball valves			•
DVGW lead-free	•	•	
Manual override	•		•
Hot end-switches	•	•	•
Full port	•	•	•
Linear flow characteristic			•
Feedback w/ potentiometer*		•	•
Auxilliary switches*		•	•
Terminal connector			•

\* not continuous control

## Cost-effective alternatives with characterised control valves.

Gruner control valves feature a parabolic port which is a permanent part of the ball. The parabolic port provides a wide range of  $k_{vs}$  choices while maintaining equal percentage flow in 2-way valves. In 3-way valves a true linear heat transfer is accomplished. The design features also a bypass  $k_{vs}$  not exceeding 80 % of the straight through  $k_{vs}$ . This keeps always enough pressure to control and saves pumping expenses.

- Nominal widths from DN 15 to DN 50
- $k_{vs}$  values from 0.38 to 310 m<sup>3</sup>/h



# OEM actuators.



Rotary Drive	without Spring Return	with Spring Return		Linear Actuators		
Type	Type 224	Type 237		Type 223	Type 230	Type 233
<b>Torque</b>	2 Nm 5 Nm 10 Nm	26 Nm 50 Nm		<b>Force Stroke</b> 150 N Variable	600 N 60 mm	400 N 40 mm
<b>Control</b>						
2-point	•	•			•	•
3-point	•			•	•	•
2/3-point	•					
(0) 2... 10 VDC or				•	•	•
(0) 4...20 mA w/ DIP switch				•	•	•
<b>Power Supply</b>						
24 VAC		•		•	•	•
24 VAC/DC	•			•	•	•
230 VAC	•	•		•	•	•
<b>Options</b>						
	Hot end-switches	Hot end-switches		Spindle lengths	Feedback w/ potentiometer*	Feedback w/ potentiometer*
	Concentric form locking inserts	Actuator shaft (butterfly style)		· 130 mm · 180 mm · 230 mm · 300 mm Other upon request	Auxilliary switch(es)*	Auxilliary switch(es)*
	Flange mounting	AMP connector				
	Screw clamp for damper shaft			Spindle w/ internal or external thread		

\* not continuous control

# Actuators for air volume control.



Type	Type 227V / 227SV	Type 227VM	Type GUAC	Type ETN Thermo-Controller	Type GUIV Setting Devices
<b>Torque</b>	4 Nm, 5s/90° 5 Nm, 15...120s/90° 10 (15) Nm, 60...480s/90°	5 Nm, 15...120s/90° 10 (15) Nm, 60...480s/90°	Depends on the used actuator (Types 227, 232, 341, 361, 363, 381)	Heating only  Cooling only  Heating/Cooling	Setting device for all air volume controllers from Gruner. All parameters are programmed via PP-bus using the Gruner Universal Interface for air volume control (VAV, CAV, etc.) <b>GUIV-A</b> ... Monitoring and setting by service technician <b>GUIV-O</b> ... Monitoring and setting by OEM <b>GUIV-S</b> ... PP-bus/RS232-interface
<b>Control</b>					
(0) 2...10 VDC or	•	•	•	Standalone analog to VAV 0...10 VDC	All GUIV have a serial interface that can be connected to a PC. All settings can be done by software.
(0) 4...20 mA w/ 500 Ω	•	•	•		
Override Open/Close	•	•	•	Standalone digital to VAV BACnet, Johnson N2, MaxiNet	
Override $V_{max} / V_{med} / V_{min}$	•	•	•		
		On-board parametrization			
<b>Power Supply</b>	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC	
<b>Options</b>					
Variable air volume flow control	•	•	• (static or dynamic sensor)	•	
Feedback signal (0) 2...10 VDC	•	•		•	
Auxilliary switches	•			•	
Concentric form locking shaft and flange fixing	•	•	•		
V-bolt clamp for damper shaft	•	•	•		
			Pressure control, air volume control, transmitter (V, Δp)		Remote control RJ11 connector for GUIV

*When it fits ...*

Relays, solenoids and actuators from Gruner.

Gruner stands for flexibility, innovation and openness to electronics applications in the energy management, building management, drive technology and automotive sectors. In addition to actuators the product range includes solenoids and relays. With sites in Germany, Tunisia, Serbia and (most recently) India, the company has a global presence. Find out more about the comprehensive Gruner portfolio online, at [www.gruner.de](http://www.gruner.de)



**GRUNER AG**

Bürglestraße 15-17 · 78564 Wehingen · Germany  
Phone +49 7426 948-0 · Fax +49 7426 948-200  
[www.gruner.de](http://www.gruner.de) · [info@gruner.de](mailto:info@gruner.de)

**GRUNER**   
*Schalten und Bewegen*