DAFx.10(S) / DAFx.20(S) Series
ON/OFF Spring Return Actuators

Application

The **JOVENTA SPRING RETURN** electric damper-actuator series has been specially developed for the motorized operation of safety air dampers, (anti-icing) in air conditioning systems, smoke evacuation dampers and sealing dampers.

When the control signal is applied, the actuator drives the damper to the operational position, while evenly tensioning the integrated spring. After a power failure the stored energy in the spring immediately brings the damper to the safety position.

Manual operation is automatically cancelled when the actuator is in electrical operation. The compact design and universal adapter fitted with limitation of rotation angle make this JOVENTA actuator highly versatile.

Features

- ON/OFF control
- Up to 5 actuators in parallel operation possible
- Electrical connection with halogen-free cable
- Simple direct mounting with universal adapter on Ø 12 mm to 19 mm shaft or 10-12-14 mm square shaft. An optional M9220-600 Jackshaft Coupler Kit is available for 19 to 27 mm round shafts, or 16, 18, and 19 mm square shafts
- 80 mm min shaft length
- Tandem Operation possible
- Limitation of rotation angle
- Manual positioning with crank handle
- 2 auxiliary switches, 1 adjustable *(See back page for settings)*
- Automatic shut-off at end position (overload switch)
- Energy saving at end positions
- Actuators available with 1 m halogen-free cable
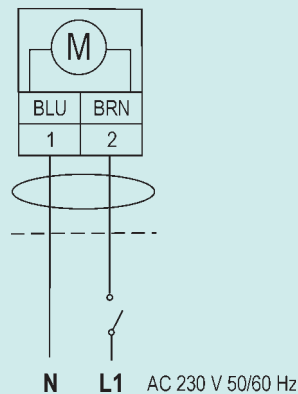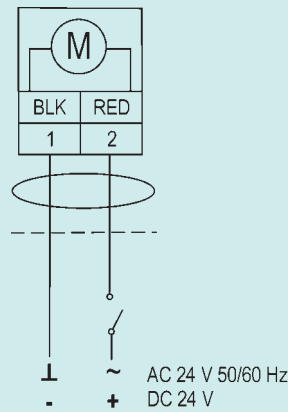- Devices meet CE requirements

Technical Specifications

Actuator	DAF1.10(S)	DAF2.10(S)	DAF1.20(S)	DAF2.20(S)
Torque	10 Nm	10 Nm	20 Nm	20 Nm
Damper area*	2.0 m²	2.0 m²	4.0 m²	4.0 m²
Running time Motor	25...57 s			
Running time Spring return	11...15 s			
Supply Voltage	AC/DC 24V	AC 230 V	AC/DC 24V	AC 230 V
Frequency	50-60 Hz			
Power Consumption				
- Running AC	17.7 VA	0.12 VA	24.6 VA	---
- Running DC	15.6 W	---	17.6 W	0.15 A
- At end position AC	5.1 VA	0.09 A	5.4 VA	0.09 A
- At end position DC	2.6 W	---	2.8 W	---
Dimensioning	20.0 VA		14.0 VA	
Control signal	ON/OFF (2-Point)			
Position signal	None			
Angle of rotation				
- Working range	90°			
- Limitation	0°...30° and 90°...60°			
Auxiliary Switches	3(1.5)A, AC 230 V			
- S1 setting range	10° fix			
- S2 setting range	25°...90° adjustable			
Cable	1.2 m halogen-free			
- Motor	2-wire 1-2			
- Switches	6-wire 21-22-23-24-25-26			
Lifetime	60'000 Rotations			
Noise level	66 dB (A)			
Protection class	II			
Degree of protection	IP 54			
Mode of action	Type1			
Ambient conditions				
- Operating temperature	–40...+55 °C / IEC 721-3-3			
- Storage temperature	–65...+85 °C / IEC 721-3-2			
- Humidity	5...95% r.F. no condensed			
Service	Maintenance-free			
Weight	2.9 kg	3.5 Kg	2.9 kg	3.5 Kg
Standards				
- Mechanics	EN 60 529 / EN 60 730-2-14			
- Electronics	EN 60 730-2-14			
- EMC Emissions	EN 50 081-1:92 / IEC 61000-6-3:96			
- EMC Immunity	EN 50 082-2:95 / IEC 61000-6-2:99			

*Caution: Please note damper manufacturer's information concerning the open/close torque.

This document is subject to change without notice.

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Wiring Diagrams

AC 24 V 50/60 Hz
DC 24 V

N   L1   AC 230 V 50/60 Hz

Auxiliary Switches (S)

| BLK/RED	BLK/BLU	BLK/GRY	WHT/RED	WHT/BLU	WHT/GRY
21	22	23	24	25	26
COM	NC	NO	COM	NC	NO

Dimensions in mm
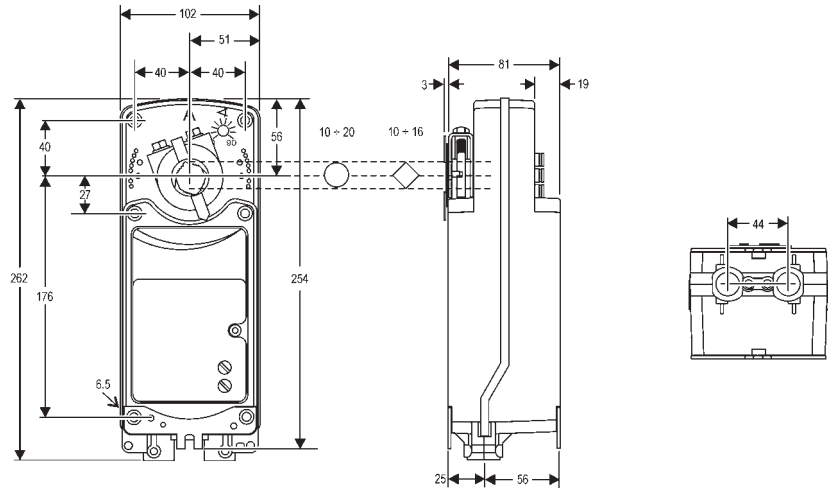
Setting the auxiliary switches

The 10S and 20S models include two integral auxiliary switches with a switch adjuster accessible on either face of the actuator.
The nominal factory setting for auxiliary switch S1 is 11° closing, and the nominal factory setting for auxiliary switch S2 is 81° opening.
The switch point of auxiliary switch S1 is fixed.
The switch point of auxiliary switch S2 is independently and continuously adjustable from 25° to 95°.
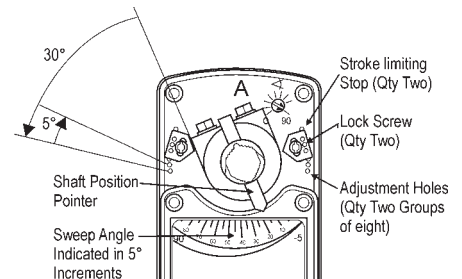The switching position can be manually changed to any required position by turning the ratchet.

Switch Adjuster
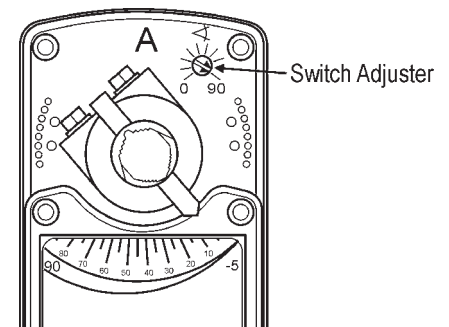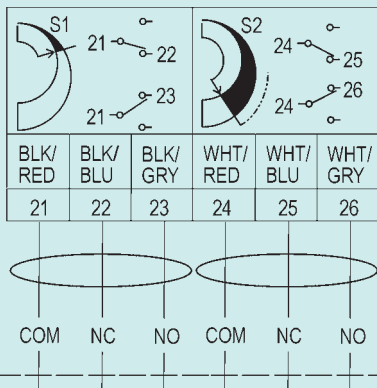
Limitation of rotation angle

Determine the desired rotation range.
If a 65° to 90° rotation range is desired, add one stroke limiting stop.
If a 35° to 60° rotation range is desired, add two stroke limiting stops.
Mount the stroke stop(s) in the desired position using the two M4 x10 mm selftapping screws provided. Tighten the screws to a torque of 4 Nm.
Manually reposition the coupler so that the coupler set screw aligns with the nodule guide that corresponds to the value determined in Step 2.
For a rotation range of 65°, mount one stroke limiting stops in the minimum stroke position.

Stroke limiting Stop (Qty Two)
Lock Screw (Qty Two)
Adjustment Holes (Qty Two Groups of eight)
Shaft Position Pointer
Sweep Angle Indicated in 5° Increments

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SPRING RETURN

JOVENTA®
The Actuator Maker

3.14

DAFx.10(S) / DAFx.20(S) Series
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Ordering Codes

Codes	Descriptions
DAF1.10	10 Nm, AC/DC 24 V
DAF1.10S	10 Nm, AC/DC 24 V, with 2 auxiliary switches
DAF2.10	10 Nm, AC 230 V
DAF2.10S	10 Nm, AC 230 V, with 2 auxiliary switches
DAF1.20	20 Nm, AC/DC 24 V
DAF1.20S	20 Nm, AC/DC 24 V, with 2 auxiliary switches
DAF2.20	20 Nm, AC 230 V
DAF2.20S	20 Nm, AC 230 V, with 2 auxiliary switches

Accessories and Replacement Parts
(Order Separately)

Codes	Descriptions
M9000-158	Tandem Mounting Kit used to Mount Two Like Models of DxF Series On/Off Electric Springback Actuators in Tandem to Deliver Twice the Torque
M9000-200	Commissioning Tool that Provides a Control Signal to Drive 24 V On/Off, Floating, Proportional, and/or Resistive Electric Actuators
M9000-604	Replacement Anti-Rotation Bracket Kit (with Screws) for DxF Series On/Off Electric Springback Actuators
M9220-600	25 mm Jackshaft Coupler Kit (with Locking Clip) for Mounting DxF Series On/Off Electric Springback Actuators on Dampers with 19 to 27 mm Round Shafts, or 16, 18, and 19 mm Square Shafts
M9220-601	Replacement Coupler Kit (with Locking Clip) for Mounting DxF Series On/Off Electric Springback Actuators on Dampers with 12 to 19 mm Round Shafts or 10, 12, and 14 mm Square Shafts
M9220-602	Replacement Locking Clips for DxF Series On/Off Electric Springback Actuators (Five per Bag)
M9220-603	Adjustable Stop Kit for DxF Series On/Off Electric Springback Actuators
M9220-604	Replacement Manual Override Cranks for DxF Series On/Off Electric Springback Actuators (Five per Bag)
M9220-610	Replacement Shaft Gripper, 10 mm Square Shaft with Locking Clip
M9220-612	Replacement Shaft Gripper, 12 mm Square Shaft with Locking Clip
M9220-614	Replacement Shaft Gripper, 14 mm Square Shaft with Locking Clip