

## HVAC CONTROL PRODUCTS

### Actuators - Rotary Actuators

#### *Silence and Small Family*

M910x-xGA-xS (Joventa DAB / DAD / DMD)	2 and 4 Nm, Non Spring Return	25
M9304-xxx-1N (Joventa DAN / DAN2 / DMN)	4 Nm, Non Spring Return	26

#### *Standard Family*

M91xx-xxx-1N(1) (Joventa DAS-DMS / DA-DM / DAL-DML / DAG-DMG)	8, 16, 24 and 32 Nm, Non Spring Return	27
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#### *Spring Return Family*

M9208-xxx-1 (Joventa DBF1.06 / DAFx.06 / DMF1.06)	8 Nm	30
M92x0-xxx-1 (Joventa DAFx.10 / DBF1.10 / DMF1.10)	10 and 20 Nm	32

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M91xx-xxx-1N4 (Joventa SAx.1xxx / SM1.1x)	8 and 16 Nm	34
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# Rotary Actuators

## Silence and Small Family

### M910x-xGA-xS

(Joventa DAB / DAD / DMD)

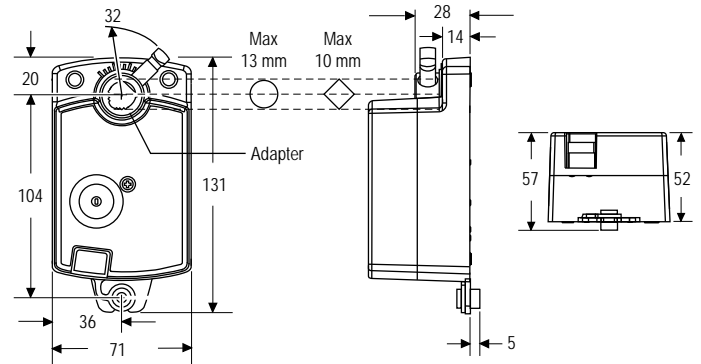
2 and 4 Nm, Non Spring Return

The Small Family electric damper actuator series have been developed to operate small air dampers in ventilation and air conditioning systems. The compact design make this actuator highly versatile.



#### Features

- Floating, ON/OFF and Proportional Control
- Load-independent running time
- Up to 5 actuators in parallel operation possible
- Actuators available with PVC cable or with Plug-in terminal block connection
- Simple direct mounting with universal adapter for fitting to  $\varnothing$  8...13 mm or with 8...10 mm square shaft. 45 mm minimum shaft length
- Selectable direction of rotation
- Manual release button



Dimensions in mm

Ordering Codes		Torque	Running Time	Damper Size	Control Signals	2 x Adjustable Auxiliary Contacts	Supply Voltage (50/60Hz)	Connection	
Johnson Controls	Joventa								
M9102-AGA-1S	DAB1.4	2 Nm	36 s	0.4 m <sup>2</sup>	Floating without timeout	---	AC 24 V	PVC-cable	
M9102-AGA-5S	DAB1.4C				Terminal block				
M9102-IGA-1S	DAB1				ON/OFF and Floating with timeout			PVC-cable	
M9102-IGA-5S	DAB1C				Terminal block				
M9104-AGA-1S	DAD1.4	4 Nm	72 s	0.8 m <sup>2</sup>	Floating without timeout			Terminal block	PVC-cable
M9104-AGA-5S	DAD1.4C				Terminal block			PVC-cable	
M9104-IGA-1S	DAD1				ON/OFF and Floating with timeout			Terminal block	PVC-cable
M9104-IGA-5S	DAD1C				Terminal block			PVC-cable	
M9104-GGA-1S	DMD1.2				Proportional 0...10 VDC	Terminal block	PVC-cable		
M9104-GGA-5S	DMD1.2C				Terminal block	PVC-cable			

# Rotary Actuators

## Silence and Small Family

### M9304-xxx-1N

(Joventa DAN / DAN2 / DMN)

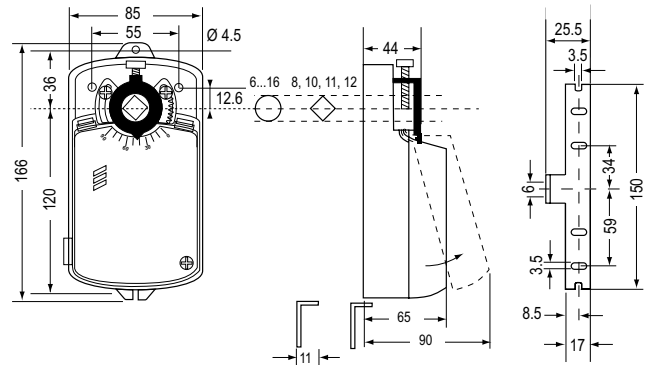
4 Nm, Non Spring Return

The Silence electric damper actuator series have been developed to operate small and medium air dampers in ventilation and air conditioning systems. The compact design and universal adapter fitted with limitation of rotation angle make this actuator highly versatile.

A key feature of the design is the Johnson Controls stem adapter which also incorporates angle-of-rotation limiting and position indication.

#### Features

- ON/OFF, Floating and Proportional Control
- Load-independent running time
- Up to 5 actuators in parallel operation possible
- Plug-in terminal block connection
- Simple direct mounting with universal adapter for fitting to Ø 6 mm to 16 mm shaft or with M9000-ZxxDN adapter kit for 8, 10, 11 and 12 mm square shaft. 45 mm min shaft length
- Selectable direction of rotation
- Limitation of rotation angle
- Manual release button
- 2 adjustable auxiliary switches
- Automatic shut-off at end position (overload switch)
- Energy saving at end positions
- Actuators available with 1 m halogen-free cable
- Customized versions available



Dimensions in mm

Ordering Codes		Torque	Running Time	Damper Size	Control Signals	2 x Adjustable Auxiliary Contacts	Supply Voltage (50/60Hz)
Johnson Controls	Joventa *						
M9304-AGA-1N	DAN1N	4 Nm	35 s	0.8 m <sup>2</sup>	ON/OFF and Floating	---	24 VAC/DC
M9304-AGC-1N	DAN1.SN					•	
M9304-ADA-1N	DAN2N					---	230 VAC
M9304-ADC-1N	DAN2.SN					•	
M9304-ACA-1N	DAN5N					---	48 VDC
M9304-AKC-1N	DAN5.SN					•	
M9304-BDA-1N	DAN2.C					---	230 VAC
M9304-BDC-1N	DAN2.SC					•	
M9304-GGA-1N	DMN1.2N				DC 1...10 V	---	24 VAC/DC
M9304-GKA-1N	DMN5.2N					---	48 VAC/DC

**Note**

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

## Rotary Actuators

### Standard Family

## M91xx-xxx-1N(1)

(Joventa DAS-DMS / DA-DM / DAL-DML / DAG-DMG)

8, 16, 24 and 32 Nm, Non Spring Return

The Standard electric actuators have been specially designed for use with small and medium-sized air dampers and for terminal control units in air volume control systems.

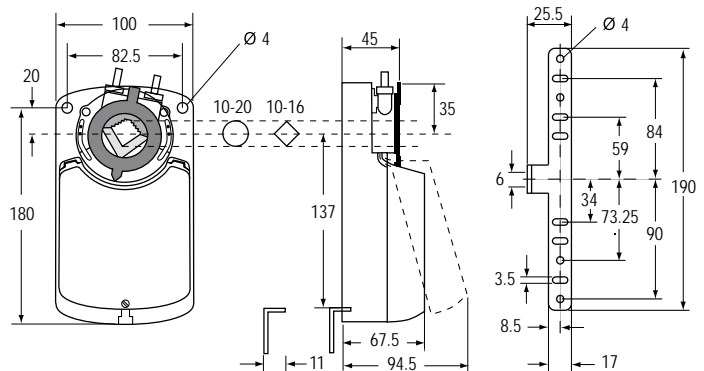
Thanks to their very small size and clever construction they are also ideal for applications where space is limited.

A key feature of the design is the special Johnson Controls spindle adapter which also incorporates angle-of-rotation limiting and position indication.



### Features

- ON/OFF, Floating and Proportional Control
- Load independent running time
- Paralleling of up to 5 actuators possible
- Screw terminal connections
- Universal adapter for:  
round spindles from 10 to 20 mm dia. or  
Square spindles 10 ...16 mm with min. 48 mm ax length
- Choice of rotation
- Angle-of-rotation limiting
- Manual control by pushbutton
- 2 auxiliary switches
- Automatic end stops
- Power saving at end stops
- Customising available
- IP54



Dimensions in mm

Standard Family

M91xx-xxx-1N(1) (Joventa DAS-DMS / DA-DM / DAL-DML / DAG-DMG)

Ordering Codes		Running Time	Damper Size	Control Signals	2 x Auxiliary Contacts	Feedback Potentiometer	Supply Voltage (50/60Hz)	
Johnson Controls	Joventa*							
<b>8 Nm</b>								
M9108-AGA-1N	DAS1	30 s	1.5 m <sup>2</sup>	ON/OFF and Floating	---	---	24 VAC/DC	
M9108-AGC-1N	DAS1.S				•	---		
M9108-AGE-1N	DAS1.P1				---	1 KOhm		
M9108-AGD-1N	DAS1.P2				---	140 Ohm		
M9108-AGF-1N	DAS1.P4				---	2 KOhm		
M9108-ADA-1N	DAS2				---	---		
M9108-ADC-1N	DAS2.S				•	---		
M9108-ADE-1N	DAS2.P1				---	1 KOhm		
M9108-ADD-1N	DAS2.P2				---	140 Ohm		
M9108-ADF-1N	DAS2.P4				---	2 KOhm		
M9108-GGA-1N	DMS1.1				Proportional 0(2)...10 VDC 0(4)...20 mA	---	---	24 VAC/DC
M9108-GGC-1N	DMS1.1S					•	---	
M9108-GDA-1N	DMS2.2			Proportional 0(2)...10 VDC		---	---	230 VAC
M9108-GDC-1N	DMS2.2S					•	---	
M9108-GDA-1N1	DMS2.5					---	---	
M9108-GDC-1N1	DMS2.5S					•	---	
<b>16 Nm</b>								
M9116-AGA-1N	DA1	80 s	3 m <sup>2</sup>	ON/OFF and Floating	---	---	24 VAC/DC	
M9116-AGC-1N	DA1.S				•	---		
M9116-AGE-1N	DA1.P1				---	1 KOhm		
M9116-AGD-1N	DA1.P2				---	140 Ohm		
M9116-AGF-1N	DA1.P4				---	2 KOhm		
M9116-ADA-1N	DA2				---	---		
M9116-ADC-1N	DA2.S				•	---		
M9116-ADE-1N	DA2.P1				---	1 KOhm		
M9116-ADD-1N	DA2.P2				---	140 Ohm		
M9116-ADF-1N	DA2.P4				---	2 KOhm		
M9116-GGA-1N	DM1.1				Proportional 0(2)...10 VDC 0(4)...20 mA	---	---	24 VAC/DC
M9116-GGC-1N	DM1.1S					•	---	
M9116-GDA-1N	DM2.2			Proportional 0(2)...10 VDC		---	---	230 VAC
M9116-GDC-1N	DM2.2S				•	---		
M9116-GDA-1N1	DM2.5				---	---		
M9116-GDC-1N1	DM2.5S				•	---		

Note

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

## Standard Family

## M91xx-xxx-1N(1) (Joventa DAS-DMS / DA-DM / DAL-DML / DAG-DMG)

Ordering Codes		Running Time	Damper Size	Control Signals	2 x Auxiliary Contacts	Feedback Potentiometer	Supply Voltage (50/60Hz)	
Johnson Controls	Joventa*							
<b>24 Nm</b>								
M9124-AGA-1N	DAL1	125 s	4.5 m <sup>2</sup>	ON/OFF and Floating	---	---	24 VAC/DC	
M9124-AGC-1N	DAL1.S				•	---		
M9124-AGE-1N	DAL1.P1				---	1 KOhm		
M9124-AGD-1N	DAL1.P2				---	140 Ohm		
M9124-AGF-1N	DAL1.P4				---	2 KOhm		
M9124-ADA-1N	DAL2				---	---		
M9124-ADC-1N	DAL2.S				•	---	230 VAC	
M9124-ADE-1N	DAL2.P1				---	1 KOhm		
M9124-ADD-1N	DAL2.P2				---	140 Ohm		
M9124-ADF-1N	DAL2.P4				---	2 KOhm		
M9124-GGA-1N	DML1.1				---	---		24 VAC/DC
M9124-GGC-1N	DML1.1S				•	---		
M9124-GDA-1N	DML2.2			---	---	230 VAC		
M9124-GDC-1N	DML2.2S			•	---			
M9124-GDA-1N1	DML2.5			---	---			
M9124-GDC-1N1	DML2.5S			•	---			
<b>32 Nm</b>								
M9132-AGA-1N	DAG1	140 s	6 m <sup>2</sup>	ON/OFF and Floating	---	---	24 VAC/DC	
M9132-AGC-1N	DAG1.S				•	---		
M9132-AGE-1N	DAG1.P1				---	1 KOhm		
M9132-AGD-1N	DAG1.P2				---	140 Ohm		
M9132-AGF-1N	DAG1.P4				---	2 KOhm		
M9132-ADA-1N	DAG2				---	---		
M9132-ADC-1N	DAG2.S				•	---	230 VAC	
M9132-ADE-1N	DAG2.P1				---	1 KOhm		
M9132-ADD-1N	DAG2.P2				---	140 Ohm		
M9132-ADF-1N	DAG2.P4				---	2 KOhm		
M9132-GGA-1N	DMG1.1	200 s		Proportional 0(2)...10 VDC 0(4)...20 mA	---	---	24 VAC/DC	
M9132-GGC-1N	DMG1.1S				•	---		

**Note**

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

# Rotary Actuators

## Spring Return Family

### M9208-xxx-1

(Joventa DBF1.06 / DAFx.06 / DMF1.06)

8 Nm



The spring return electric damper-actuator series has been specially developed for the motorized operation of air dampers in air conditioning systems.

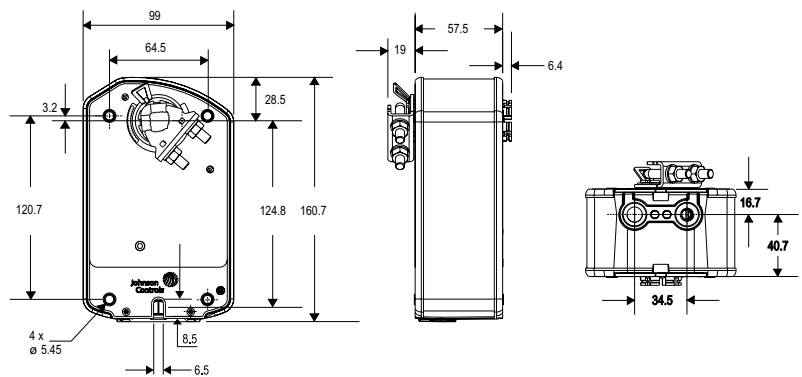
When the control signal is applied the actuator drives the damper to the operational position, while evenly tensioning the integrated spring. After a power failure the stored energy in the spring immediately brings the damper to the safety position.

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 actuator highly versatile.

#### Features

- ON/OFF and Floating control signal
- Up to 5 actuators in parallel operation possible
- Electrical connection with halogen-free cable
- Simple direct mounting with universal adapter on Ø 8 mm to 16 mm shaft or 6 mm to 12 mm square shaft. An optional M9208-600 Jackshaft Coupler Kit is available for 12 to 19 mm round shafts, or 10 mm to 14 mm square shafts
- Limitation of rotation angle
- Manual positioning with crank handle
- 2 auxiliary switches, 1 adjustable



Dimensions in mm

Ordering Codes		Torque	Running Time		Control Signals	2 x Auxiliary contacts	Supply Voltage (50/60Hz)
Johnson Controls	Joventa*		Motor	Spring			
M9208-AGA-1	DBF1.08N	8 Nm	150 s	17...25 s	ON/OFF or Floating	---	24 VAC / 24 VDC
M9208-AGC-1	DBF1.08SN					●	
M9208-BGA-1	DAF1.08N		55...71 s	13...26 s	ON/OFF	---	24 VAC
M9208-BGC-1	DAF1.08SN					●	
M9208-BDA-1	DAF2.08N		55...71 s	13...26 s	ON/OFF	---	230 VAC
M9208-BDC-1	DAF2.08SN					●	
M9208-GGA-1	DMF1.08N		150 s	17...25 s	Proportional 0...10 VDC 2...10 VDC	---	24 VAC / 24 VDC
M9208-GGC-1	DMF1.08SN					●	

## Spring Return Family

M9208-xxx-1 (*Joventa DBF1.06 / DAFx.06 / DMF1.06*)**Accessories and Replacement Parts (Order Separately)**

Ordering Codes	Descriptions
<b>M9000-604</b>	Replacement Anti-Rotation Bracket Kit for M9208, M9210 and M9220 Series Electric Spring Return Actuators (quantity 1)
<b>M9208-100</b>	Remote Mounting Kit, including Mounting Bracket, M9208-150 Crankarm, Ball Joint and mounting fastener (quantity 1)
<b>M9208-150</b>	Crankarm (quantity 1)
<b>M9208-600</b>	Large Shaft Coupler Kit (with Locking Clip) for Mounting M9208-xxx-1 Series Electric Spring Return Actuators on dampers with round shafts from 12 to 19 mm or square shafts from 10 to 14 mm (quantity 1)
<b>M9208-601</b>	Replacement Standard Coupler Kit (with Locking Clip) for mounting M9208-xxx-1 Series Electric Spring Return Actuators on dampers with round shafts from 8 to 16 mm or square shafts from 6 to 12 mm (quantity 1)
<b>M9208-602</b>	Replacement Locking Clips for M9208-xxx-1 Series Electric Spring Return Actuators (quantity 5)
<b>M9208-603</b>	Adjustable Stop Kit for M9208-xxx-1 Series Electric Spring Return Actuators (quantity 1)
<b>M9208-604</b>	Replacement Manual Override Cranks for M9208 Series Electric Spring Return Actuators with long crank radius: 72 mm (quantity 5)
<b>M9208-605</b>	Replacement Manual Override Cranks for M9208 Series Electric Spring Return Actuators with short crank radius: 46.5 mm (quantity 5)



# Rotary Actuators

## Spring Return Family

### M92x0-xxx-1

(Joventa DAFx.10 / DBF1.10 / DMF1.10)

10, 20 Nm

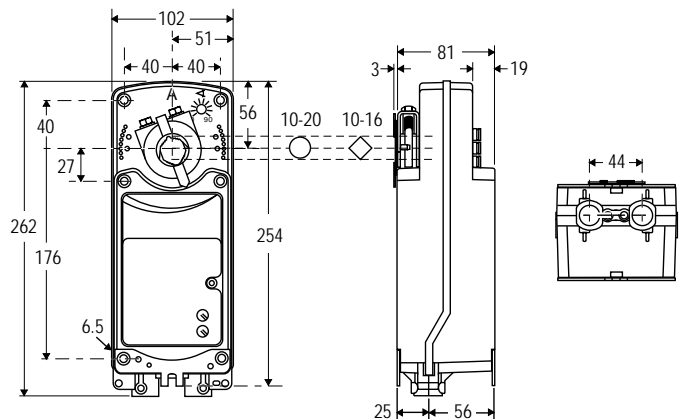


The M9210 and M9220 Series Actuators are direct mount, spring return electric that provide reliable control of dampers and valves in Heating, Ventilating, and Air Conditioning (HVAC) systems.

The Actuators are available for use with on/off, floating, and proportional controllers. These bidirectional actuators do not require a damper linkage, and are easily installed on dampers.

#### Features

- ON/OFF, Floating and Proportional Control
- Two or three models mounted in tandem deliver twice or triple the torque
- Up to 5 actuators in parallel operation possible
- Optional adjustable end stops.  
The Optional Adjustable End Stops are used to shorten the actuator stroke electronic stall detection throughout entire rotation range that extends the life of the actuator by deactivating the actuator motor when an overload condition is detected
- Integrated cables halogen-free cables
- IP54 (NEMA2)
- Rated Aluminium Enclosure
- Easy-to-Use Locking manual override with auto release and crank storage
- Energy saving at end position
- Two Integral gold Auxiliary switches (xxC Models)



Dimensions in mm

Ordering Codes		Torque	Running Time		Damper Size	Control Signals	2 x Auxiliary contacts	Supply Voltage (50/60Hz)
Johnson Controls	Joventa*		Motor	Spring				
<b>10 Nm</b>								
M9210-AGA-1	DBF1.10	10 Nm	150 s	20 s	2.0 m <sup>2</sup>	ON/OFF and Floating	---	AC/DC 24 V
M9210-AGC-1	DBF1.10S		25...57 s	11...15 s		ON/OFF	•	230 VAC
M9210-BDA-1	DAF2.10						---	AC/DC 24 V
M9210-BDC-1	DAF2.10S						•	
M9210-BGA-1	DAF1.10		150 s	26 s		Proportional 0(2)...10 VDC	---	AC/DC 24 V
M9210-BGC-1	DAF1.10S						•	
M9210-GGA-1	DMF1.10						---	
M9210-GGC-1	DMF1.10S						•	
M9210-HGA-1	DHF1.10		150 s	26 s		Proportional 0(2)...10 VDC with Span offset	---	AC/DC 24 V
M9210-HGC-1	DHF1.10S	•						

**Note**

\* : by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

## Spring Return Family

## M92x0-xxx-1 (Joventa DAFx.10 / DBF1.10 / DMF1.10)

Ordering Codes		Torque	Running Time		Damper Size	Control Signals	2 x Auxiliary contacts	Supply Voltage (50/60Hz)
Johnson Controls	Joventa*		Motor	Spring				
<b>20 Nm</b>								
M9220-AGA-1	DBF1.20	20 Nm	150 s	20 s	2.0 m <sup>2</sup>	ON/OFF and Floating	---	AC/DC 24 V
M9220-AGC-1	DBF1.20S						•	
M9220-BDA-1	DAF2.20						---	230 VAC
M9220-BDC-1	DAF2.20S		•					
M9220-BGA-1	DAF1.20		25...57 s	11...15 s	4.0 m <sup>2</sup>	ON/OFF	---	AC/DC 24 V
M9220-BGC-1	DAF1.20S						•	
M9220-GGA-1	DMF1.20						---	
M9220-GGC-1	DMF1.20S						•	
M9220-HGA-1	DHF1.20		150 s	26 s	Proportional 0(2)...10 VDC	---		
M9220-HGC-1	DHF1.20S					•		
					Proportional 0(2)...10 VDC with Span offset	---		

**Note**

\* : by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

**Accessories and Replacement Parts (Order Separately)**

Ordering Codes	Description
DMPR-KC003*	178 mm Blade Pin Extension (without Bracket) for Johnson Controls® Direct Mount Damper Applications
M9000-158	Tandem Mounting Kit used to Mount Two Models of M9220-xxx-3 Series Proportional Electric Spring Return Actuators
M9000-153	Crank arm
M9000-170	Remote Mounting Kit, Horizontal. Kit includes Mounting Bracket, M9000-153 Crank Arm, Ball Joint and Mounting Bolts
M9000-171	Remote Mounting Kit, Vertical. Kit includes Mounting Bracket, M9000-153 Crank Arm, Ball Joint and Mounting Bolts
M9000-200	Commissioning Tool that Provides a Control Signal to Drive 24 V Floating, Floating, Proportional and/or Resistive Electric Actuators
M9000-604	Replacement Anti-rotation Bracket Kit (with Screws) for M9220-xxx-3 Series Proportional Electric Spring Return Actuators
M9220-600	25 mm Jackshaft Coupler Kit (with Locking Clip) for Mounting M9220-xxx-3 Series Proportional Electric Spring Return 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 M9220-xxx-3 Series Proportional Electric Spring Return Actuators on Damper with 12 to 19 mm Round Shafts, or 10, 12 and 14 mm Square Shafts
M9220-602	Replacement Locking Clips for M9220-xxx-3 Series Proportional Electric Spring Return Actuators (FiveperBag)
M9220-603	Adjustable Stop Kit for M9220-xxx-3 Series Proportional Electric Spring Return Actuators
M9220-604	Replacement Manual Override Cranks for M9220-xxx-3 Series Proportional Electric Spring Return 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

**Note**

\* : Furnished with the damper and may be ordered separately.

## Rotary Actuators

*Special and Security Family*

### M91xx-xxx-1N4

*(Joventa SAx.1xxx / SM1.1x)*

8 and 16 Nm



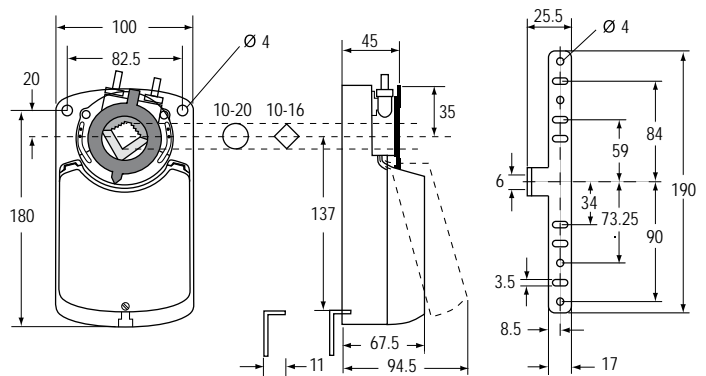
The Special electric actuators have been specially designed for use with small and medium-sized air dampers and for terminal control units in air volume control systems.

Thanks to their very small size and clever construction they are also ideal for applications where space is limited.

A key feature of the design is the special Johnson Controls spindle adapter which also incorporates angle-of-rotation limiting and position indication.

#### Features

- ON/OFF, Floating and Proportional Control
- Paralleling of up to 5 actuators possible
- Screw terminal connections
- Universal adapter for:  
Round spindles from 10 to 20 mm  $\varnothing$   
or adapter Z01DN... for Square spindles 10 to 16 mm,  
min. ax length 48 mm
- Choice of rotation
- Angle-of-rotation limiting
- Manual control by pushbutton
- Automatic end stops
- Power saving at end stops
- Customising available
- IP54



Dimensions in mm

## Special and Security Family

### M91xx-xxx-1N4 (*Joventa SAx.1xxx / SM1.1x*)

Ordering Codes		Running Time	Damper Size	Control Signals	2 x Auxiliary Contacts	Feedback Potentiometer	Supply Voltage (50/60Hz)		
Johnson Controls	Joventa*								
<b>8 Nm</b>									
M9108-AGA-1N4	SA1.10	8 s	1.5 m <sup>2</sup>	ON/OFF and Floating	---	---	AC/DC 24 V		
M9108-AGC-1N4	SA1.10S				•	---			
M9108-AGE-1N4	SA1.10P1				---	1 KOhm			
M9108-AGD-1N4	SA1.10P2				---	140 Ohm			
M9108-AGF-1N4	SA1.10P4				---	2 KOhm			
M9108-ADA-1N4	SA2.10				---	---			
M9108-ADC-1N4	SA2.10S				•	---	230 VAC		
M9108-ADE-1N4	SA2.10P1				---	1 KOhm			
M9108-ADD-1N4	SA2.10P2				---	140 Ohm			
M9108-ADF-1N4	SA2.10P4				---	2 KOhm			
M9108-GGA-1N4	SM1.10			Proportional 0(2)...10 VDC 0(4)...20 mA	---	---	AC/DC 24 V		
M9108-GGC-1N4	SM1.10(S)				•	---			
<b>16 Nm</b>									
M9116-AGA-1N4	SA1.12			16 s	3.0 m <sup>2</sup>	ON/OFF and Floating	---	---	AC/DC 24 V
M9116-AGC-1N4	SA1.12S	•	---						
M9116-AGE-1N4	SA1.12P1	---	1 KOhm						
M9116-AGD-1N4	SA1.12P2	---	140 Ohm						
M9116-AGF-1N4	SA1.12P4	---	2 KOhm						
M9116-ADA-1N4	SA2.12	---	---						
M9116-ADC-1N4	SA2.12S	•	---				230 VAC		
M9116-ADE-1N4	SA2.12P1	---	1 KOhm						
M9116-ADD-1N4	SA2.12P2	---	140 Ohm						
M9116-ADF-1N4	SA2.12P4	---	2 KOhm						
M9116-GGA-1N4	SM1.12	Proportional 0(2)...10 VDC 0(4)...20 mA	---			---	AC/DC 24 V		
M9116-GGC-1N4	SM1.12(S)		•			---			

**Note**

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

# Rotary Actuators

## Special and Security Family

### M91xx-GAx-1.01

(Joventa SMxx.5)

8, 16, 24 Nm



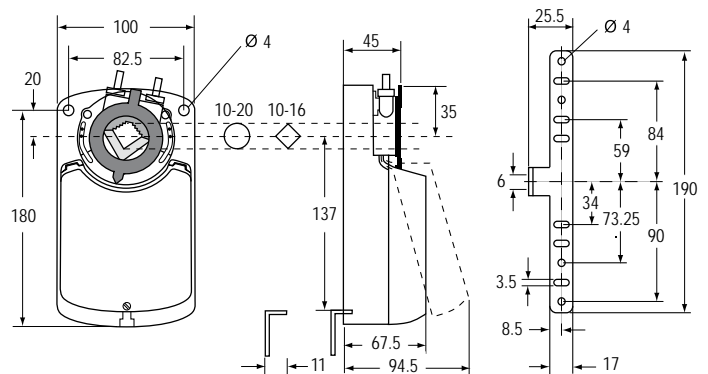
The Special electric actuators have been specially designed for use with medium and large air dampers.

Thanks to their very small size and clever construction they are ideal for applications where space is limited.

A key feature of the design is the special Johnson Controls spindle adapter which also incorporates angle-of-rotation limiting and position indication.

#### Features

- Proportional Control signal
- Paralleling of up to 5 actuators possible
- Screw terminal connections
- Universal adapter for:  
Round spindles from 10...20 mm  
Square spindles from 10...16 mm min.ax length 48 mm
- Choice of rotation
- Angle-of-rotation limiting
- Manual control by pushbutton
- 2 floating auxiliary switches
- Automatic end stops
- Power saving at end stops
- Customising available
- IP54



Dimensions in mm

Ordering Codes		Torque	Running Time	Damper Size	Signals Y1	2 x Auxiliary contacts	Supply Voltage (50-60Hz)
Johnson Controls	Joventa*						
M9108-GAA-1.01	SMS4.5	8 Nm	30..45 s	1.5 m <sup>2</sup>	0(4)...20 mA	---	110 VAC
M9108-GAC-1.01	SMS4.5S					●	
M9116-GAA-1.01	SM4.5	16 Nm	80..110 s	3.0 m <sup>2</sup>		---	
M9116-GAC-1.01	SM4.5S					●	
M9124-GAA-1.01	SML4.5	24 Nm	125..160 s	4.5 m <sup>2</sup>		---	
M9124-GAC-1.01	SML4.5S					●	

**Note**

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

# Rotary Actuators

## Special and Security Family

### M9116-Axx-1

(Joventa SAx.30)

16 Nm



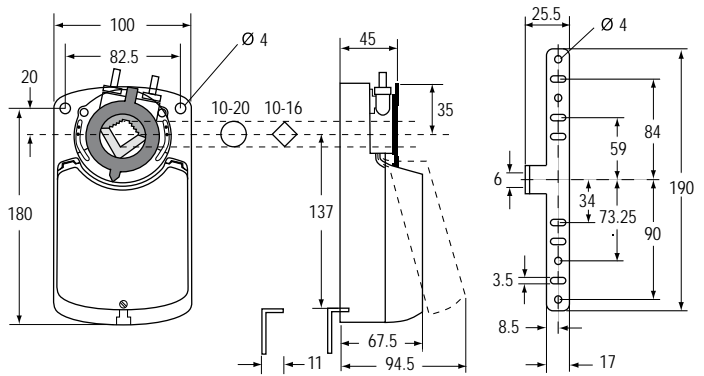
The Special electric actuators have been specially designed for use with medium and large air dampers.

Thanks to their very small size and clever construction they are ideal for applications where space is limited.

A key feature of the design is the special Johnson Controls spindle adapter which also incorporates angle-of-rotation limiting and position indication.

#### Features

- ON/OFF and Floating control
- Paralleling of up to 5 actuators possible
- Screw terminal connections
- Universal adapter for:  
Round spindles from 10...20 mm  
Square spindles from 10...16 mm min. ax length 48 mm
- Low noise level
- Choice of rotation
- Angle-of-rotation limiting
- Manual control by pushbutton
- Automatic end stops
- Power saving at end stops
- Customising available
- IP54



Dimensions in mm

Ordering Codes		Torque	Running Time	Damper Size	Control Signals	2 x Auxiliary Contacts	Supply Voltage (50/60Hz)
Johnson Controls	Joventa*						
M9116-AAA-1	SA4.30	16 Nm	80...110 s	3 m <sup>2</sup>	ON/OFF and Floating	---	100 VAC
M9116-AAC-1	SA4.30S					•	

**Note**

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

# Rotary Actuators

## Special and Security Family

### S9208-BxC-33x

(Joventa SAFx.08Sx/12)

8 Nm

The S9208 Security Fire electric, Spring Return damper actuator series has been specially developed for the motorized operation of fire protection dampers.

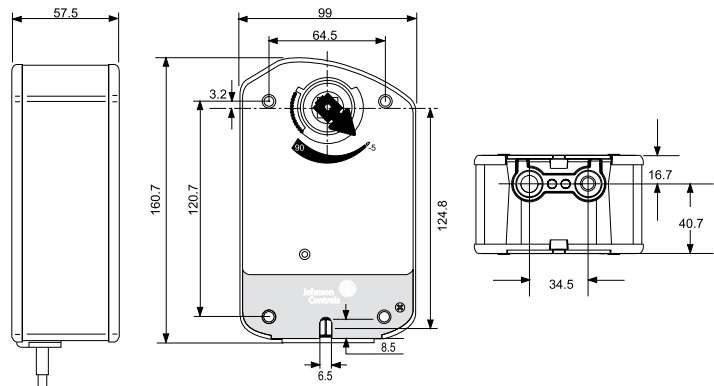
When the control signal is applied the actuator drives the damper to the operational position, while evenly tensioning the integrated spring.

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.

#### Features

- ON/OFF control signal
- 12 mm square shaft and 10 mm, 8 mm adapter inside the package
- Connection with halogen-free cable
- ST1.72E temperature sensor.  
Switch point of temperature sensor ca. 72°C
- Actuator temperature sensor to monitor ambient sensor.
- Low noise level
- Manual positioning with crank handle
- 2 fixed auxiliary switches (8° and 83°)



Dimensions in mm

Ordering Codes		Supply Voltage (50-60Hz)	Description
Johnson Controls	Joventa		
S9208-BGC-33	SAF1.08S/12	24 VAC / VDC	Without sensor
S9208-BGC-33A	SAF1.08SA/12		With ambient thermosensor
S9208-BGC-33B	SAF1.08SB/12		With duct sensor
S9208-BGC-33C	SAF1.08SC/12		With duct and ambient sensors
S9208-BDC-33	SAF2.08S/12	230 VAC	Without sensor
S9208-BDC-33A	SAF2.08SA/12		With ambient thermosensor
S9208-BDC-33B	SAF2.08SB/12		With duct sensor
S9208-BDC-33C	SAF2.08SC/12		With duct and ambient sensors



# Rotary Actuators

## Special and Security Family

### S92x0-BxC-3xx

(Joventa SAFx.10 / SAFx.20)

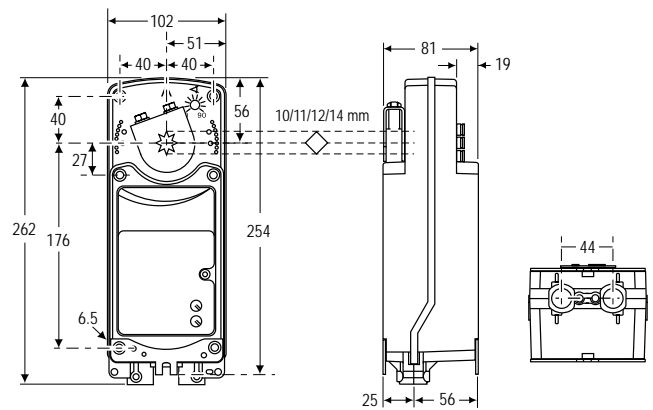
10, 20 Nm

The S9210 and S9220 Security Fire electric, spring return damper-actuator series has been specially developed for the motorized operation of safety dampers e.g. fire protection 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.



#### Features

- ON/OFF Control
- 10/11/12/14 mm steel adapter for square shaft
- Ambient temperature sensor and direct connection of duct temperature sensor
- Low noise level
- Energy saving at end position
- Integrated cables halogen-free cables
- IP54 (NEMA2)
- Rated Aluminium Enclosure
- Easy-to-Use Locking manual override with auto release and crank storage
- Energy saving at end position
- Two Integral gold Auxiliary switches (xxC Models)



Dimensions in mm

#### Accessories and Replacement Parts (Order Separately)

Ordering Codes	Description
<b>DMPR-KC003*</b>	178 mm Blade Pin Extension (without Bracket) for Johnson Controls® Direct Mount Damper Applications
<b>M9000-158</b>	Tandem Mounting Kit used to Mount Two Models of M9220-xxx-3 Series Proportional Electric Spring Return Actuators
<b>M9000-153</b>	Crank arm
<b>M9000-170</b>	Remote Mounting Kit, Horizontal. Kit includes Mounting Bracket, M9000-153 Crank Arm, Ball Joint and Mounting Bolts
<b>M9000-171</b>	Remote Mounting Kit, Vertical. Kit includes Mounting Bracket, M9000-153 Crank Arm, Ball Joint and Mounting Bolts
<b>M9000-200</b>	Commissioning Tool that Provides a Control Signal to Drive 24 V Floating, Floating, Proportional and/or Resistive Electric Actuators
<b>M9000-604</b>	Replacement Anti-rotation Bracket Kit (with Screws) for M9220-xxx-3 Series Proportional Electric Spring Return Actuators
<b>M9220-600</b>	25 mm Jackshaft Coupler Kit (with Locking Clip) for Mounting M9220-xxx-3 Series Proportional Electric Spring Return Actuators on Dampers with 19 to 27 mm Round Shafts, or 16, 18 and 19 mm Square Shafts
<b>M9220-601</b>	Replacement Coupler Kit (with Locking Clip) for Mounting M9220-xxx-3 Series Proportional Electric Spring Return Actuators on Damper with 12 to 19 mm Round Shafts, or 10, 12 and 14 mm Square Shafts
<b>M9220-602</b>	Replacement Locking Clips for M9220-xxx-3 Series Proportional Electric Spring Return Actuators (FiveperBag)
<b>M9220-603</b>	Adjustable Stop Kit for M9220-xxx-3 Series Proportional Electric Spring Return Actuators
<b>M9220-604</b>	Replacement Manual Override Cranks for M9220-xxx-3 Series Proportional Electric Spring Return Actuators (Five per Bag)
<b>M9220-610</b>	Replacement Shaft Gripper, 10 mm Square Shaft with Locking Clip
<b>M9220-612</b>	Replacement Shaft Gripper, 12 mm Square Shaft with Locking Clip
<b>M9220-614</b>	Replacement Shaft Gripper, 14 mm Square Shaft with Locking Clip

**Note** \* Furnished with the damper and may be ordered separately.



Special and Security Family  
S92x0-BxC-3xx (*Joventa SAFx.10 / SAFx.20*)

Ordering Codes		Power Supply	Squareshaft Adapter	Sensor
Johnson Controls	Joventa			
<b>10 Nm</b>				
S9210-BDC-31	SAF2.10S/10	AC 230 V	10 mm	---
S9210-BDC-31A	SAF2.10SA/10			Ambient Sensor
S9210-BDC-31B	SAF2.10SB/10			Duct Sensor
S9210-BDC-31C	SAF2.10SC/10			Ambient and Duct Sensor
S9210-BDC-32	SAF2.10S/11		11 mm	---
S9210-BDC-32A	SAF2.10SA/11			Ambient Sensor
S9210-BDC-32B	SAF2.10SB/11			Duct Sensor
S9210-BDC-32C	SAF2.10SC/11			Ambient and Duct Sensor
S9210-BDC-33	SAF2.10S/12		12 mm	---
S9210-BDC-33A	SAF2.10SA/12			Ambient Sensor
S9210-BDC-33B	SAF2.10SB/12			Duct Sensor
S9210-BDC-33C	SAF2.10SC/12			Ambient and Duct Sensor
S9210-BDC-34	SAF2.10S/14		14 mm	---
S9210-BDC-34A	SAF2.10SA/14			Ambient Sensor
S9210-BDC-34B	SAF2.10SB/14			Duct Sensor
S9210-BDC-34C	SAF2.10SC/14			Ambient and Duct Sensor
S9210-BGC-31	SAF1.10S/10	AC/DC 24 V	10 mm	---
S9210-BGC-31A	SAF1.10SA/10			Ambient Sensor
S9210-BGC-31B	SAF1.10SB/10			Duct Sensor
S9210-BGC-31C	SAF1.10SC/10			Ambient and Duct Sensor
S9210-BGC-32	SAF1.10S/11		11 mm	---
S9210-BGC-32A	SAF1.10SA/11			Ambient Sensor
S9210-BGC-32B	SAF1.10SB/11			Duct Sensor
S9210-BGC-32C	SAF1.10SC/11			Ambient and Duct Sensor
S9210-BGC-33	SAF1.10S/12		12 mm	---
S9210-BGC-33A	SAF1.10SA/12			Ambient Sensor
S9210-BGC-33B	SAF1.10SB/12			Duct Sensor
S9210-BGC-33C	SAF1.10SC/12			Ambient and Duct Sensor
S9210-BGC-34	SAF1.10S/14		14 mm	---
S9210-BGC-34A	SAF1.10SA/14			Ambient Sensor
S9210-BGC-34B	SAF1.10SB/14			Duct Sensor
S9210-BGC-34C	SAF1.10SC/14			Ambient and Duct Sensor

## Special and Security Family

### S92x0-BxC-3xx (*Joventa SAFx.10 / SAFx.20*)

Ordering Codes		Power Supply	Squareshaft Adapter	Sensor
Johnson Controls	Joventa			
S9220-BDC-31	SAF2.20S/10	AC 230 V	10 mm	---
S9220-BDC-31A	SAF2.20SA/10			Ambient Sensor
S9220-BDC-31B	SAF2.20SB/10			Duct Sensor
S9220-BDC-31C	SAF2.20SC/10			Ambient and Duct Sensor
S9220-BDC-32	SAF2.20S/11		11 mm	---
S9220-BDC-32A	SAF2.20SA/11			Ambient Sensor
S9220-BDC-32B	SAF2.20SB/11			Duct Sensor
S9220-BDC-32C	SAF2.20SC/11			Ambient and Duct Sensor
S9220-BDC-33	SAF2.20S/12		12 mm	---
S9220-BDC-33A	SAF2.20SA/12			Ambient Sensor
S9220-BDC-33B	SAF2.20SB/12			Duct Sensor
S9220-BDC-33C	SAF2.20SC/12			Ambient and Duct Sensor
S9220-BDC-34	SAF2.20S/14		14 mm	---
S9220-BDC-34A	SAF2.20SA/14			Ambient Sensor
S9220-BDC-34B	SAF2.20SB/14			Duct Sensor
S9220-BDC-34C	SAF2.20SC/14			Ambient and Duct Sensor
S9220-BGC-31	SAF1.20S/10	AC/DC 24 V	10 mm	---
S9220-BGC-31A	SAF1.20SA/10			Ambient Sensor
S9220-BGC-31B	SAF1.20SB/10			Duct Sensor
S9220-BGC-31C	SAF1.20SC/10			Ambient and Duct Sensor
S9220-BGC-32	SAF1.20S/11		11 mm	---
S9220-BGC-32A	SAF1.20SA/11			Ambient Sensor
S9220-BGC-32B	SAF1.20SB/11			Duct Sensor
S9220-BGC-32C	SAF1.20SC/11			Ambient and Duct Sensor
S9220-BGC-33	SAF1.20S/12		12 mm	---
S9220-BGC-33A	SAF1.20SA/12			Ambient Sensor
S9220-BGC-33B	SAF1.20SB/12			Duct Sensor
S9220-BGC-33C	SAF1.20SC/12			Ambient and Duct Sensor
S9220-BGC-34	SAF1.20S/14		14 mm	---
S9220-BGC-34A	SAF1.20SA/14			Ambient Sensor
S9220-BGC-34B	SAF1.20SB/14			Duct Sensor
S9220-BGC-34C	SAF1.20SC/14			Ambient and Duct Sensor

# Rotary Actuators

## Valves Family

### VA9104-xGA-1S

(Joventa BAD1.4 / BAD1 / BMD1.2)

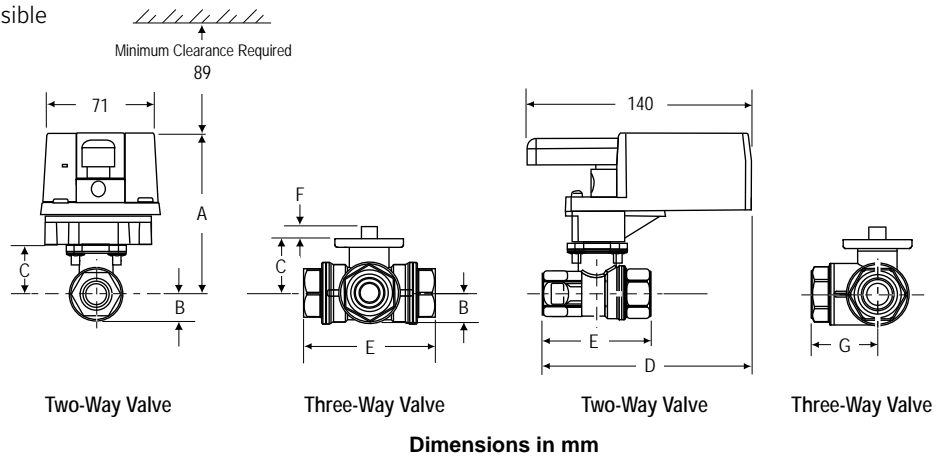
4 Nm

The electric Actuator series have been developed for operation of ball valves.

These synchronous, motor driven actuators are used to provide accurate positioning on VG1000 series DN15, DN20 and DN25 ball valves.

#### Features

- ON/OFF, Floating with Timeout (*IGA models only*) and Proportional Control
- Load-independent runnin time
- Up to 5 actuators in parallel operation possible
- Manual release button
- 1.2 m PVC cable
- Selectable direction of rotation
- Automathic shut-off at end position



Valve Size (DN)*	A	B	C	D	E	F	G
DN15	98	17	31	129	64	9	32
DN20	98	17	31	133	71	9	36
DN25	100	19	33	141	87	9	43

**Note**

\* On models with the flow-characterizing disk, the disk is located in Port A. Port A must be the Valve inlet.

Ordering Codes		Running Time	Control Signals	Supply Voltage (50/60Hz)
Johnson Controls	Joventa			
VA9104-AGA-1S	BAD1.4	72 s	Floating without Timeout	24 VAC
VA9104-IGA-1S	BAD1		ON/OFF and Floating with Timeout	
VA9104-GGA-1S	BMD1.2		Proportional 0(2)...10 VDC 0(4)...20 mA	

# Rotary Actuators

## Valves Family

### M9108-xxx-5

(Joventa BAS1 / BAS2 / BMS1.1)

8 Nm



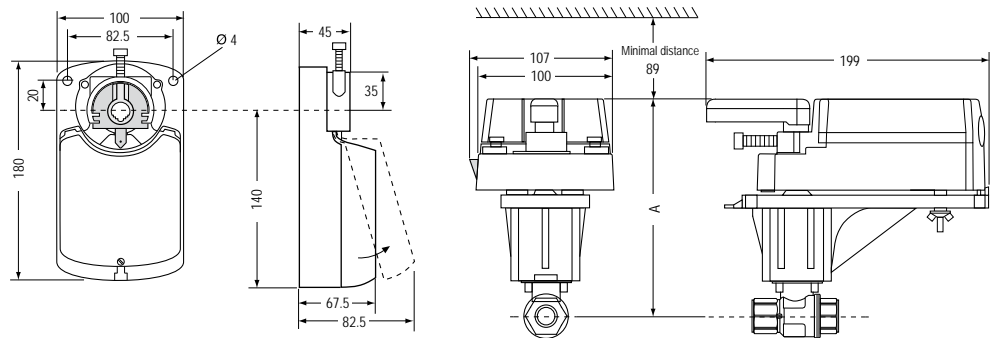
The M9108-xxx-5 electric actuator series have been developed for operating VG1000 series ball valves.

The actuators can be mounted onto the valves by the means of the M9000-525-5 linkage kit.

#### Features

- ON/OFF, Floating and Proportional Control
- Halogen-free connecting wire
- Load-independent running time
- Easy assembly on the console
- Selectable direction of rotation
- Manual adjustment by pushing the release button and turning the handle with position indicator (the release button does not automatically spring back into position)
- Automatic switching off in the limit positions
- Customized versions available

	A
DN15	160
DN20	160
DN25	162
DN32	173
DN40	177
DN50	182



Dimensions in mm

Ordering Codes		Torque	Running Time	Control Signals	2 x Auxiliary Contacts	Supply Voltage (50/60Hz)
Johnson Controls	Joventa					
M9108-AGA-5	BAS1	8 Nm	30 s	ON/OFF and Floating	---	AC/DC 24 V
M9108-AGC-5	BAS1.S				•	
M9108-ADA-5	BAS2				---	230 VDC
M9108-ADC-5	BAS2.S			•		
M9108-GGA-5	BMS1.1			Modulating	---	AC/DC 24 V
M9108-GGC-5	BMS1.1S				•	

# Rotary Actuators

## Valves Family

### M9116-xxx-1N2

(Joventa MA1 / MA2 / MM1.1 / MM2.2)

16 Nm



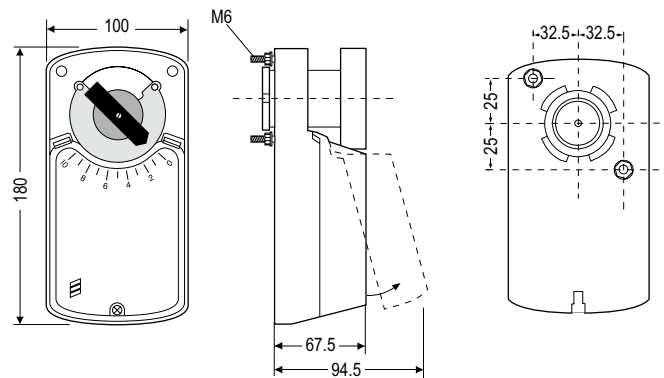
These electric actuators have been specially designed for the motorised operation of various types of water valves and fittings such as mixing valves, butterfly valves and ball valves.

The mechanical design of the actuators is such that, with the aid of mounting kits, they can be used on many different types of valves and fittings.

The universal coupling between the actuator and the final controlling element is simplicity itself to use since it provides both; a positive drive and flexibility.

#### Features

- ON/OFF, Floating and Proportional Control
- Load independent running time
- Screw terminal connections
- Universal adapter with knob for manual operation and position indication
- Reversible
- Automatic end stops
- Power saving at end stops
- Customising available
- IP54



Dimensions in mm

#### Accessories for mixer mounting kits

- ZMA001 for Esbe mixers
- ZMA002 for Centra-Duplex mixers
- ZMA003 for Holter mixers
- ZMA004 for GF ball valves

Ordering Codes *		Torque	Running time	Control signals	2 x Auxiliary contacts	Supply voltage (50/60Hz)	
Johnson Controls	Joventa *						
M9116-AGA-1N2	MA1	16 Nm	120 s	ON/OFF and Floating	---	AC/DC 24 V	
M9116-AGC-1N2	MA1.S				●		
M9116-ADA-1N2	MA2				---	AC 230 V	
M9116-ADC-1N2	MA2.S				●		
M9116-GGA-1N2	MM1.1			Proportional 0(2)...10 VDC 0...20 mA	---	AC/DC 24 V	
M9116-GGC-1N2	MM1.1S				●		
M9116-GDA-1N2	MM2.2				Proportional 0(2)...10 VDC 0...10 VDC	---	AC 230 V
M9116-GDC-1N2	MM2.2S					●	

**Note**

\* by adding a K after the type number you will acquire the same model with a Halogene free cable (1 m)

## Rotary Actuators

### Valves Family

## M9206-xxx-5S

(DBF1.06 / DAFx.06 / DMF1.06)

6 Nm

The M9206-xxx-5S Series Actuators are direct-mount, spring return electric actuators intended for use with on/off, floating, or proportional controllers. BGx models operate on AC 24 V power, AGx and GGx models operate on AC/DC 24 V power, and BDx models operate on AC 230 V power.

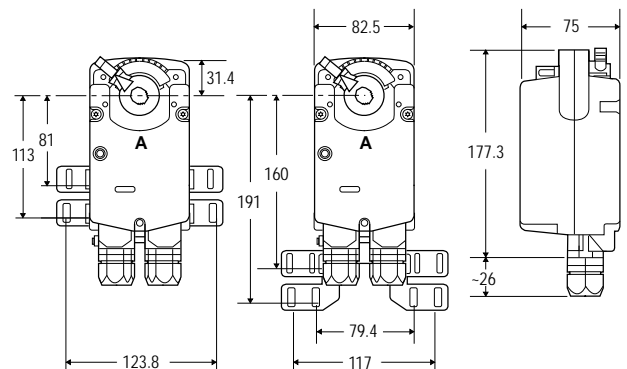
These bidirectional actuators are to be mounted onto Johnson Controls VG1000 Series Forged Brass Ball Valves using the M9000-520-5 Ball Valve Linkage Kit.

The M9206-xxx-5S Series Electric Spring Return Actuators provide a running torque of 6 Nm. The rotation range is mechanically adjustable. An integral line voltage auxiliary switch is available on the M9206-xxB models to indicate end-stop position, or to perform switching functions within the selected rotation range. Position feedback is provided on proportional control models through a proportional DC voltage signal.



### Features

- ON/OFF, Floating and Proportional Control
- Automatic Stroke Calibration at Installation.
- Reversible Mounting Design.
- Electronic Stall Detection Throughout Entire Rotation Range
- Removable Coupler
- Integral Auxiliary Switch (xxB Models)
- 24 VAC, 24 VAC/VDC and 230 VAC Power Options; 0(2)...10 VDC and 0(4)... 20 mA Input Signal Options
- Ambient Operating Temperature Limits of -32 to 60°C



Dimensions in mm

Ordering Codes		Torque	Running Time	Control Signals	Input Signal	1 x Auxiliary Contacts	Supply Voltage (50/60Hz)	
Johnson Controls	Joventa							
M9206-AGA-5S	DBF1.06	6 Nm	60...90 s	ON/OFF and Floating	24 VAC/VDC	---	24 VAC/VDC	
M9206-AGB-5S	DBF1.06S					•		
M9206-BDA-5S	DAF1.06		10...40 s	ON/OFF	230 VAC	---	230 VAC	
M9206-BDB-5S	DAF1.06S					•		
M9206-BGA-5S	DAF2.06					24 VAC	---	24 VAC
M9206-BGB-5S	DAF2.06S						•	
M9206-GGA-5S	DMF1.06		25...40 s	Proportional	0(2)...10 VDC 0(4)...20 mA*	---	24 VAC/VDC	
M9206-GGB-5S	DMF1.06S					•		

#### Note

\* 0(4) to 20 mA input signal requires field furnished 500 Ω resistor.

## HVAC CONTROL PRODUCTS

### Valves

#### Terminal Unit Valves

<b>V5000</b>	<i>DN10...20, PN16</i>	<b>49</b>
<b>VG4000</b>	<i>DN15...20, PN16</i>	<b>51</b>
<b>VG5000</b>	<i>DN15...25, PN16</i>	<b>52</b>
<b>VG6000</b>		<b>55</b>

#### Threaded Control Valves

<b>VG1000</b>	<i>DN15...50, PN40</i>	<b>56</b>
<b>VG7000</b>	<i>DN15...50, PN16</i>	<b>60</b>
<b>VGS800W1N</b>		<b>63</b>

#### Flanged Control Valves

<b>VG8000H</b>	<i>DN15...150, PN25</i>	<b>64</b>
<b>VG8000N</b>	<i>DN15...150, PN16</i>	<b>68</b>
<b>VG8300N</b>	<i>DN40...150, PN16, pressure balanced</i>	<b>72</b>
<b>VG9000</b>	<i>DN15...100, PN6 and PN10</i>	<b>73</b>