

# MZ20A

## Zone Actuator - Modulating Control

MZ20A is a zone actuator designed to provide modulating control together with VZ\*19\* zone valves. The M20A actuator is used in fan-coil-units, induction units, small reheaters and recoolers, and for zone control applications. Actuators are available in two modulating versions:

- MZ20A with a selectable command range
- MZ20A-R 0-10 V only

### Specifications

Power consumption	1.1 W (1.2 VA)
Supply voltage	21.6 to 26.4 Vac (50/60 Hz)
Speed	18 s/mm (50 Hz) - 15 s/mm (60 Hz)
Temperatures	
Working	-5...55°C
Storage	-25...65 °C
Humidity (max)	95% non condensing
Stem force	200 N
Max stroke	6,5 mm
Connection cable	3 wire 1,5 m
Protection class	IP43 (vertical mounting) IP 41 (horizontal mounting)
Suitable valves	see table on page 3
Manual override	3mm hex key
Sound level	35 dBA
Weight	162 gr
Approvals	EMC 2004/108/CE according to the EN 61326-1 standard. LVD 2006/95/CE according to the EN 61010-1 standard for the products powered 230 V.



Reliable longtime operation is ensured from no mechanical feedback potentiometer and no mechanical end switches. Automatic synchronization function provides self adjusting close off. Based on a full stroke running time of 100 s, valve positioning and flow adjustment is very exact.

Manual override available on all versions.

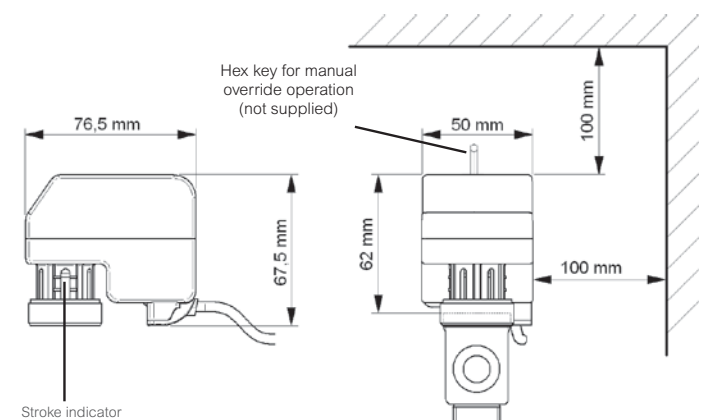
### Ordering Table

Part number	Description	Control signal
845 5051 000	MZ20A	0...10V, 2...10V, 1...5V, 6...10V, 6...9V, 4...7V, 8...11V
845 5052 000	MZ20A-R	0...10V

### Accessories

Part number	Description
911 6006 000	10 x 24 Vac cable, 6m, MZ20A/B

### Dimensions mm



## Function

MZ20A actuators are electric modulating. The valve stem movement is produced by rotation of a screw spindle connected, through a gear train, to a synchronous bidirectional motor.

An internal magnetic hysteresis coupling limits the torque on the valve stem, avoiding the use of microswitches and protecting the actuator from overload at each stroke end point.

The assembly of the actuator on to the valve is quick and trouble free due to the M30 knurled ring nut, this connection allows the actuator to be mounted by hand at any angle on the valve for optimum cable positioning. The cable is a 3 wire electrical connection 1.5m long.

All MZ20 actuators have stroke indication.

A micro-processor is used to accurately position the actuator based on control input signal. The close off position is synchronised, self adjusted, when the actuator is initially energised and at each point when the stem reaches 0% and 100% of travel.

All MZ20 actuators allow manual override by means of a 3mm hex socket. The manual override must not be operated with power tools . e.g. an electric screwdriver.

The MZ20 actuator is maintenance free.

## Mounting

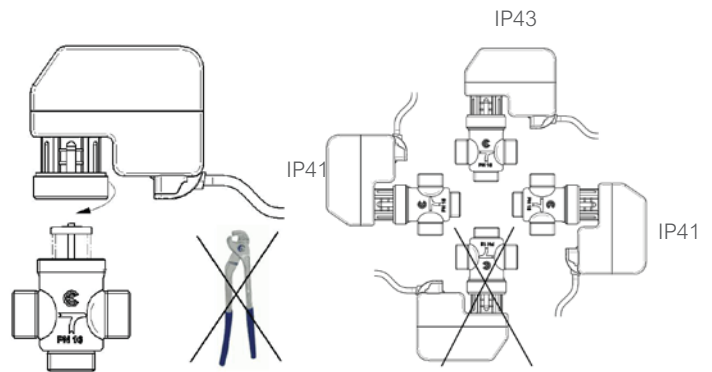
**It is necessary to disconnect power to the actuator before operating the manual override.**

Before mounting to the valve, make sure pipes are clean, free from weld slag, perfectly aligned with the valve body and not subjected to vibrations.

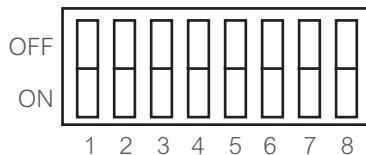
The protection degree declared (IP44) is granted only if the valve is mounted with the actuator upwards.

The actuator is able to operate in any mounting position, but it is advisable not to install it upside down.

The actuator is assembled onto the valve by screwing the M30 x 1.5 knurled ring. No tools are necessary to mount the actuator onto the valve and damage may occur to the actuator or valve if tools are used.



## Control Range and Direct/Inverse Action, MZ20A



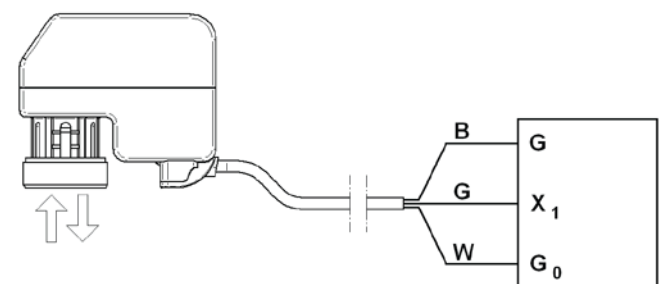
ON	OFF	N. DIP.
100% 0%	0% 100%	1
0..10 V	—	2
6..9 V	—	3
1..5 V	—	4
2..10 V	—	5
4..7 V	—	6
6..10 V	—	7
8..11 V	—	8

All VZ\*19\* Valves are stem up closed



MZ20A-R accepts a 0...10V control signal only.

MZ20A has 7 different control signals in addition to the selection of direct or reverse action. The actuator is configured using an embedded micro-switch.

## Electrical Connections



## Valve Selection and Close off performance with MZ20

		 <b>VZ*19E</b> Flat face external thread		 <b>VZ*19C</b> Compression End Connection*		Max Close-off (kPa) MZ20		
<b>Two-way valves</b>								
Size	Kvs	Valve Part No.	End Connection	Valve Part No.	End Connection	A-AB		
DN 15	0.25	VZ219E-15BP01	G1/2A	VZ219C-15BP01	15mm O/D	400		
	0.4	VZ219E-15BP02		VZ219C-15BP02				
	0.6	VZ219E-15BP03		VZ219C-15BP03				
	1	VZ219E-15BP04		VZ219C-15BP04				
	1.6	VZ219E-15BP05		VZ219C-15BP05				
	2	VZ219E-15BP06		VZ219C-15BP06				
DN 20	2.5	VZ219E-20BP07	G3/4A	VZ219C-20BP07	22mm O/D	250		
	4	VZ219E-20BP08				150		
	6.0	VZ219E-20BP09						
<b>Three-way valves</b>								
	Kvs		Valve Part No.	End Connection	Valve Part No.	End Connection	A-AB	B-AB
	A-AB	B-AB						
DN 15	0.25	0.25	VZ319E-15BP01	G1/2A	VZ319C-15BP01	15mm O/D	400	
	0.4	0.25	VZ319E-15BP02		VZ319C-15BP02			
	0.6	0.4	VZ319E-15BP03		VZ319C-15BP03			
	1	0.6	VZ319E-15BP04		VZ319C-15BP04			
	1.6	1	VZ319E-15BP05		VZ319C-15BP05			
	2	1.6	VZ319E-15BP06		VZ319C-15BP06			
DN 20	2.5	1.6	VZ319E-20BP07	G3/4A	VZ319C-20BP07	22mm O/D	350	
	4	2.5	VZ319E-20BP08				100	40
	6.0	4	VZ319E-20BP09					
<b>Three-way valves with integral by-pass (4 ports)</b>								
DN 15	0.25	0.25	VZ419E-15BP01	G1/2A	VZ419C-15BP01	15mm O/D	400	
	0.4	0.25	VZ419E-15BP02		VZ419C-15BP02			
	0.6	0.4	VZ419E-15BP03		VZ419C-15BP03			
	1	0.6	VZ419E-15BP04		VZ419C-15BP04			
	1.6	1	VZ419E-15BP05		VZ419C-15BP05			
	2	1.6	VZ419E-15BP06		VZ419C-15BP06			
DN 20	2.5	1.6	VZ419E-20BP07	G3/4A	VZ419C-20BP07	22mm	350	
	4	2.5	VZ419E-20BP08				100	40
	6.0	4	VZ419E-20BP09					

Nuts and olives supplied with the compression end connection valve

