Data sheet

Modulating controlled actuators
AME 10, AME 20, AME 30
AME 13, AME 23, AME 33 - spring return function

Description


AME 10


AME 13


AME 20, AME 30


AME 23, AME 33

The actuators with or without safety function are available for the modulating controllers with the control Y signal. The spring return actuators can be used to provide safety shut off on power failure. They are used with VS2, VM2, VB2, VRBZ, VZ, VMV and AVQM valves.

In addition to basic function such as manual control and position indication, the actuators are also equipped with force sensitive switch-off to ensure that actuators and valves are not exposed to overloading. This function automatically ensures the self-adjustment of the end positions on the valve.

Main data:
- 24 V version
- AME 10, 13 - spindle speed 14 s/mm
- AME 20, 23 - spindle speed 15 s/mm
- AME 30, 33 - spindle speed 3 s/mm
- spring return function (DIN 32730 registration).

Note:
The use of AME actuators together with VS2 DN 15 is not recommendable.
Linear characteristics as in VS2 DN 15 valves is not recommendable in DHW production.

Ordering

Type	Supply voltage	Code No.
AME 10	24 V~	**082G3005**
AME 20		**082G3015**
AME 30		**082G3017**

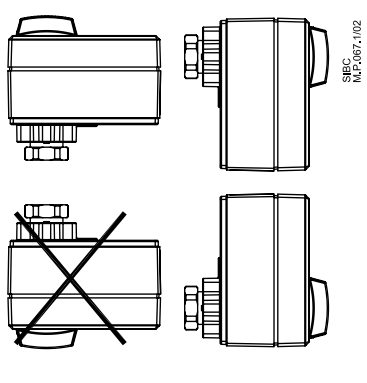
Spring return function - DIN 32730 approval

Type	Supply voltage	Code No.
AME 13	24 V~	**082G3006**
AME 23		**082G3016**
AME 33		**082G3018**

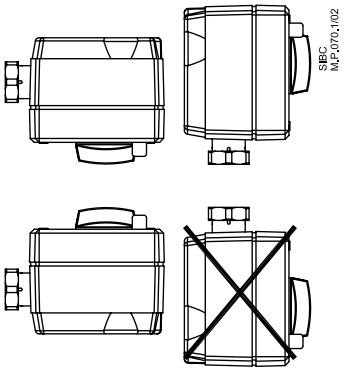
Technical data

Type	AME 10	AME 13	AME 20	AME 23	AME 30	AME 33
Supply voltage	24V~, +10 … –15%					
Power consumption	4 VA	9 VA	4 VA	9 VA	9 VA	14 VA
Frequency	50 Hz/60 Hz					
Spring return function	-	x	-	x	-	x
Control input Y	0 … 10 V (2 … 10 V) Ri = 24 kΩ 0 … 20 mA (4 … 20 mA) Ri = 500 Ω					
Output signal X	0 … 10 V (2 … 10 V)					
Power output	300 N		450 N			
Spindle travel	5 mm		10 mm			
Spindle speed	14 s/mm		15 s/mm		3 s/mm	
Max. medium temperature inside the pipe	130 °C		150 °C			
Ambient temperature	0 … +55 °C					
Storage and transport temperature	–40 … +70 °C					
Enclosure	IP 54					
Weight	0.6 kg	0.8 kg	1.45 kg	1.5 kg	1.45 kg	1.5 kg
CE - marking in accordance with standards	EMC- Directive 2004/108/EEC: EN 60730-1, EN 60730-2-14					

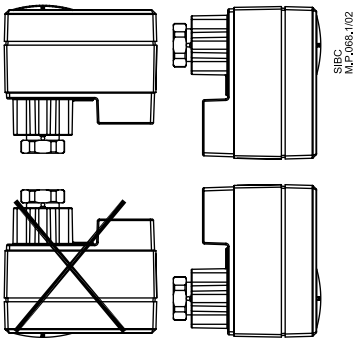
Installation



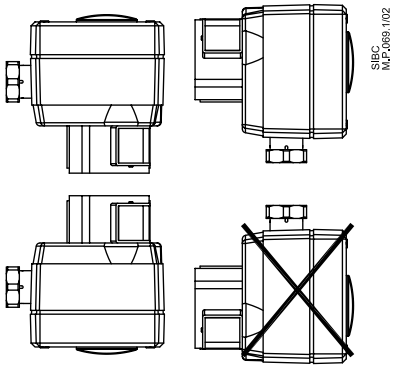
AME 10



AME 20, AME 30

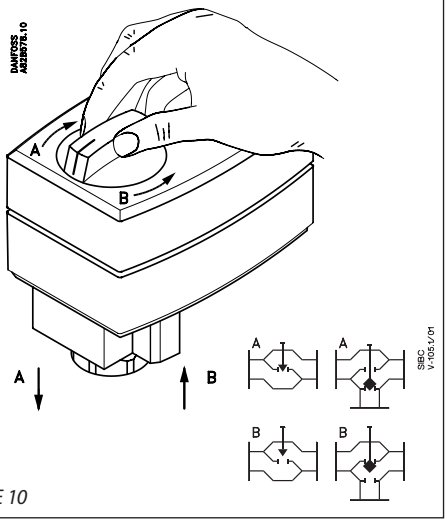


AME 13

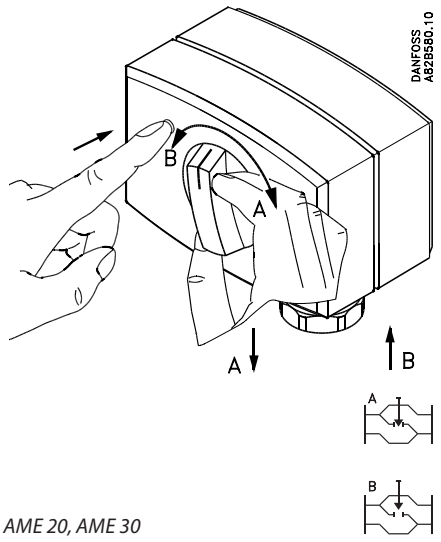


AME 23, AME 33

Manual Override

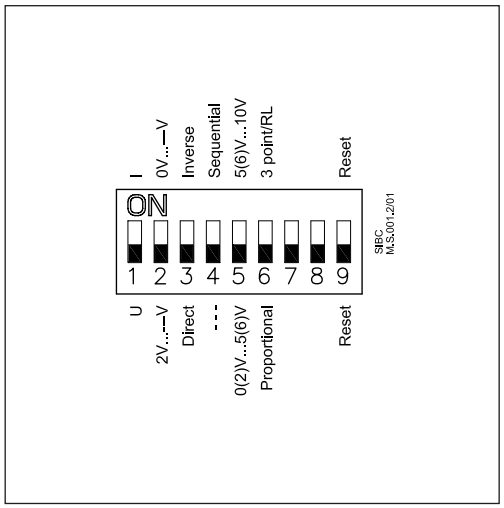


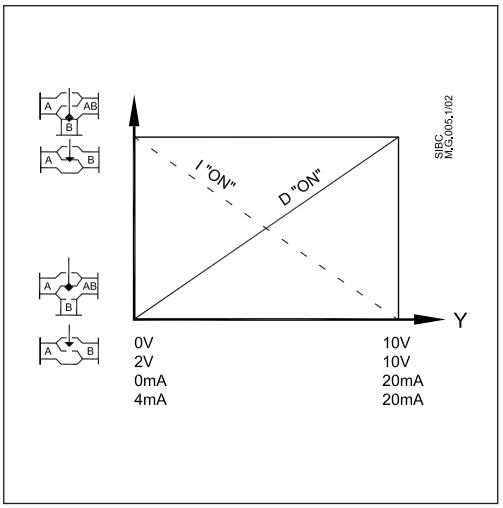
AME 10



AME 20, AME 30

DIP switch setting





The actuator has a function selection DIP switch under the removable cover. In particular, if SW6 is set to ON, the actuator will perform as 3-point actuator.
The switch provides the following functions:

• SW1: U/I - Input signal type selector:
If set to OFF position, voltage input is selected. If set to ON position, current input is selected.

• SW2: 0/2 - Input signal range selector:
If set to OFF position, the input signal is in the range from 2 V to 10 V (voltage input) or from 4 mA to 20 mA (current input). If set to ON position, the input signal is in the range from 0 V to 10 V (voltage input) or from 0 mA to 20 mA (current input).

• SW3: D/I - Direct or inverse acting selector:
If set to OFF position, the actuator is direct acting (stem lowers as voltage increases). If actuator is set to ON position the actuator is inverse acting (stem raises as voltage increases).

• SW4: 0..5V/5...10V - Normal or sequential mode selector:
If set to OFF position, the actuator is working in range 0(2)..10V or 0(4)..20mA. If set to ON position, the actuator is working in sequential range; 0(2)..5 (6)V or (0(4)..10 (12)mA) or (5(6)..10V) or (10(12)..20mA).

• SW5: —/Seq - Input signal range in sequential mode:
If set to OFF position, the actuator is working in sequential range 0(2)..5 (6)V or 0(4)..10 (12)mA.
If set to ON position, the actuator is working in sequential range; 5(6)..10V or 10(12)..20mA.

• SW6: Prop./3-pnt - Modulating or 3-point mode selector:
If set to OFF position, the actuator is working normally according to control signal. If set to ON position, the actuator is working as 3-point actuator.

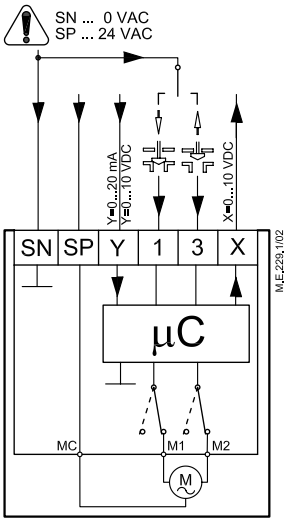
• SW7: LOG/LIN - Not in use.

• SW8: 100% K_{VS}/Reduced K_{VS} - Not in use.

• SW9: Reset:
Changing this switch position will cause the actuator to go through a self stroking cycle.

Wiring

24 Vac only



SP 24 V~ .....Power supply

SN 0 V .....Common

Y 0 to 10 V .....Input signal
(2 to 10 V)
0 to 20 mA
(4 to 20 mA)

X 0 to 10 V .....Output signal
(2 to 10 V)

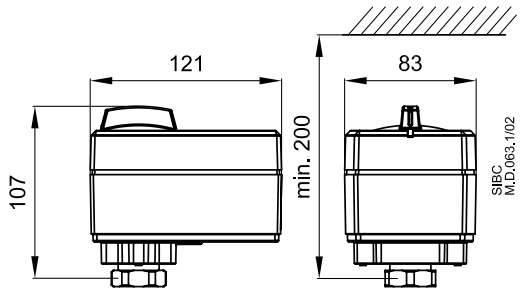
Wiring length	Recommended square of the wiring
0 - 50 m	0.75 mm^2
> 50 m	1.5 mm^2

Automatic self stroking feature
When power is first applied, the actuator will automatically adjust to the length of the valve stroke. Subsequently, the self stroking feature can be re-initialised by changing position of SW9.

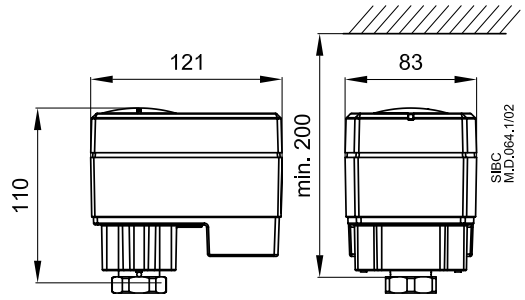
Diagnostic LED
The red diagnostic LED is located on the pcb under the cover. It provides indication of three operational states: Actuator Healthy (Permanently ON), Self Stroking (Flashes once per second), Error (Flashes 3 times per second - seek technical assistance).

Dimensions

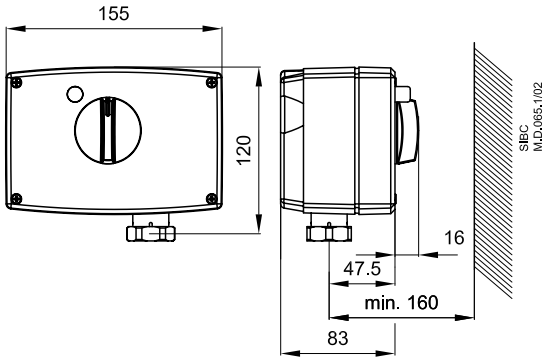
AME 10



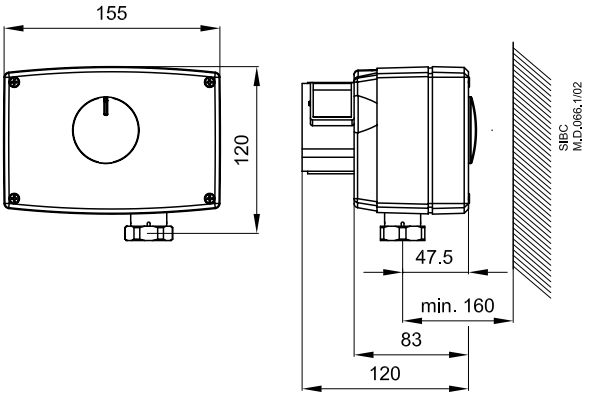
AME 13



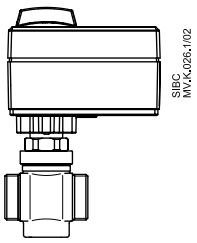
AME 20, AME 30



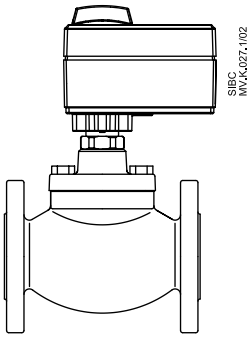
AME 23, AME 33



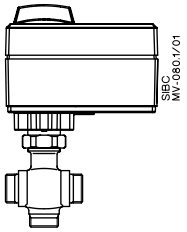
Actuators - valves combinations



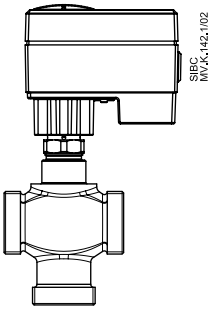
AME 10, AME 13 +
VM2 (DN 15 - 25)
VS2 (DN 20 - 25)*



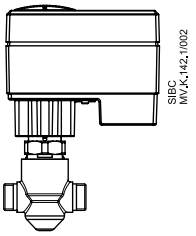
AME 10, AME 13 +
VB2 (DN 15 - 20)



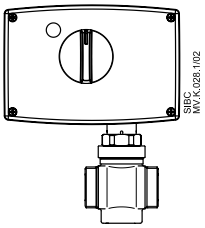
AME 10 +
VMV (DN 15 - 40)



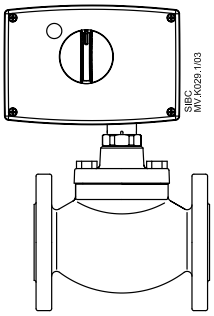
AME 10, 13 +
VRBZ (DN 20 - 40)



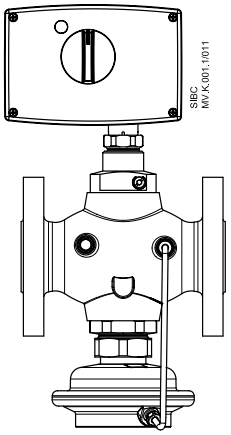
AME 10, 13 +
VZ (DN 15 + 20)



AME 20/30, AME 23/33 +
VM2 (DN 15 - 50)
VS2 (DN 20 - 25)*



AME 20/30, AME 23/33 +
VB2 (DN 15 - 50)



AME 20/30, AME 23/33 +
AVQM (DN 15 - 50)

** The use of AME actuators together with VS2 DN 15 is not recommendable. Linear characteristics as in VS2 DN 15 valves is not recommendable in DHW production.*