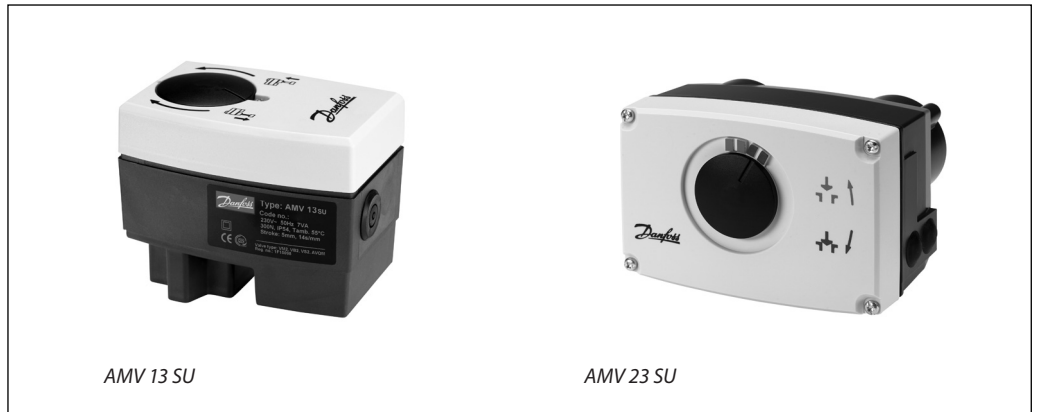


Data sheet

# Actuators for three point control

## AMV 13 SU, AMV 23 SU - safety function (spring up)

Description



The actuators with safety function are mainly used with VZ valves (AMV 13 SU) or with VS, VM or VB valves (AMV 13 SU, AMV 23 SU) or AVQM (AMV 23 SU). Safety version is activated automatically in case of power failure or if the power supply is switched off by the safety thermostat.

The actuator automatically adapts its stroke to valve end positions which reduces commissioning time. Optional feedback potentiometer is available on special request.

- The actuator has some special features:
- The advanced design incorporates load related 'switch-off' to ensure that actuators and valves are not exposed to overload.
  - Digital feedback end position indication signal for valve end position is available by terminal 4 or 5.
  - Low weight and robust.
  - Spring return version

**Main data:**

- Nominal voltage:
  - 24 Vac, 50 Hz/60 Hz
  - 230 Vac, 50 Hz/60 Hz
- Force:
  - AMV 13SU ..... 300 N
  - AMV 23SU ..... 450 N
- Stroke:
  - AMV 13SU ..... 5.5 mm
  - AMV 23SU ..... 10 mm
- Speed:
  - AMV 13SU ..... 14 s/mm
  - AMV 23SU ..... 15 s/mm
- Max. medium temperature: 130 °C
- Self stroking

Ordering

**Actuators**

Type	Supply voltage	Speed	Code No.
AMV 13 SU (spring up)	24 V~	14 s/mm	<b>082H3043</b>
AMV 13 SU (spring up)	230 V~	14 s/mm	<b>082H3042</b>
AMV 23 SU (spring up)	24 V~	15 s/mm	<b>082G3041</b>
AMV 23 SU (spring up)	230 V~	15 s/mm	<b>082G3040</b>

**Accessories for AMV 23 SU**

Type	Code No.
Additional switch (2x)	<b>082G3201</b>
Additional switch (2x) and potentiometer (10 kΩ)	<b>082G3202</b>
Additional switch (2x) and potentiometer (1 kΩ)	<b>082G3203</b>

Technical data

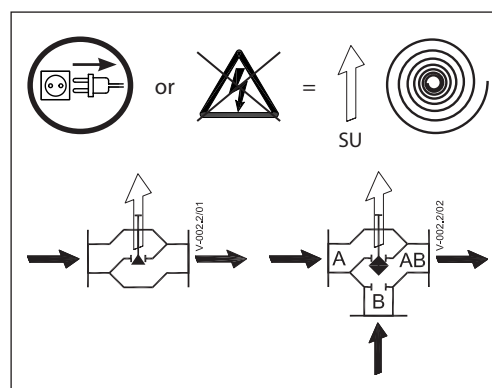
Type		AMV 13 SU	AMV 23 SU
Power supply	Vac	24, 230; +10 to -15%	
Power consumption	VA	7	
Frequency	Hz	50/60 - 24 V version / 50 - 230 V version	
Control input		3-point	
Closing force	N	300	450
Max. stroke	mm	5.5	10
Speed	s/mm	14	15
Max. medium temperature		130	150
Ambient temperature	°C	0 ... 55	
Storage and transport temp.		-40 ... 70	
Ambient humidity		5-95 % r.h., non-condensing	
Protection Class		II	I (230 V); III (24 V)
Grade of enclosure		IP 54	
Weight	kg	0.8	1.45
- marking in accordance with standard		Low Voltage Directive (LVD) 2014/35/EU: EN 60730-1, EN 60730-2-14 Electromagnetic Compatibility Directive (EMC) 2014/30/EU: EN 61000-6-2, EN 61000-6-3	

Safety function

The safety function will fully open or close the valve when the power is removed, depending upon the spring action selected. Valve selection will also affect the spring action. The safety function unit is factory fitted to the rear of the actuator.

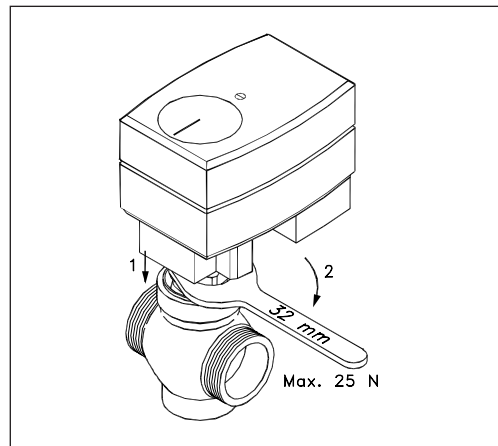
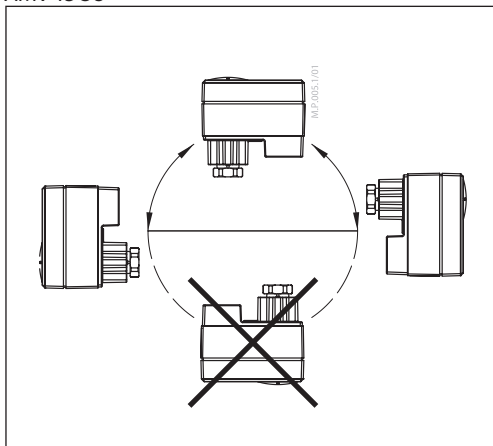
Valve type	If safety version is activated than port A-AB will be
VZ	CLOSED
VS	OPENED
VM	OPENED
VB	OPENED

**Note:** Do not use safety activations for ON/OFF regulation.

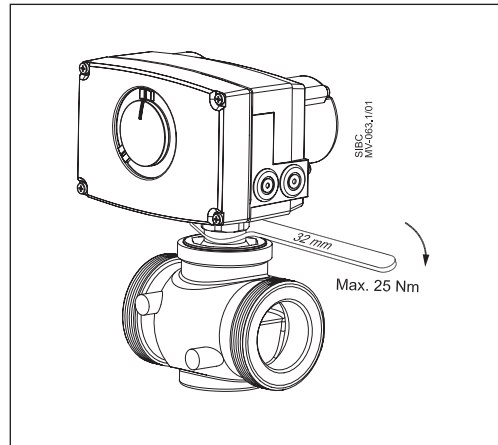
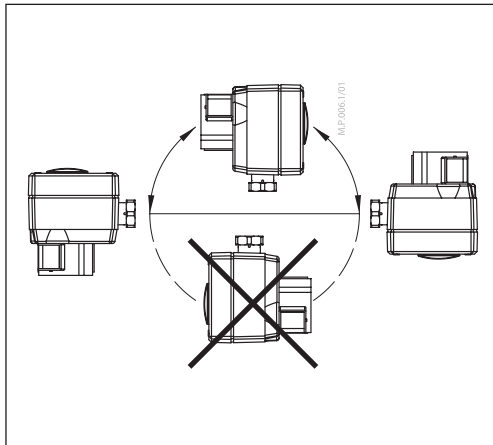


Installation

AMV 13 SU



AMV 23 SU



**Mechanical**

The actuator should be mounted with the valve stem in either horizontal position or pointing upwards.

The actuator is fixed to the valve body by means of a mounting ring, which requires no tools for mounting. The ring should be tightened by hand.

**Electrical**

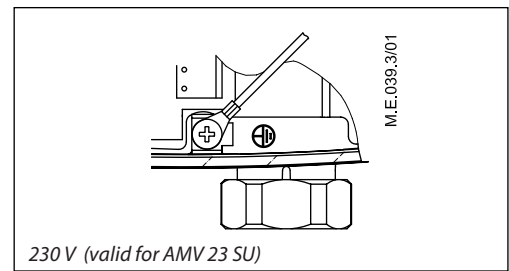
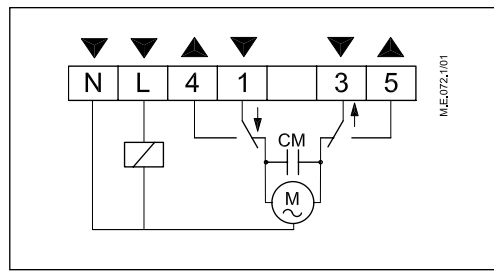
**Important:** It is strongly recommended that the mechanical installation is completed before the electrical installation.

**Note:** Two cable entries are provided for M 16x1.5 cable glands. One entry is provided with a rubber grommet. Note that in order to maintain the enclosure's IP rating, appropriate cable glands must be used.

**Wiring**

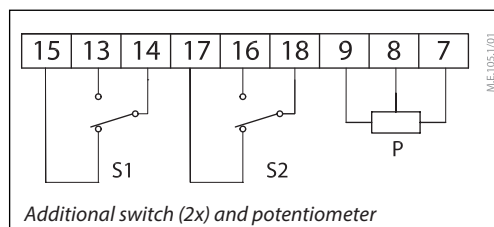
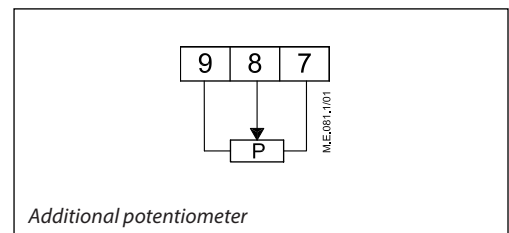
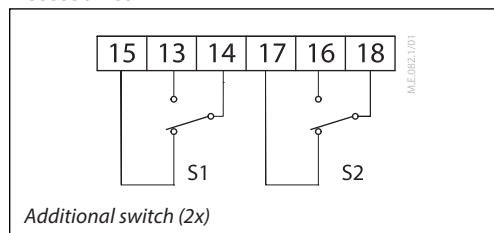


**230 Vac version:**  
Do not touch anything on the PCB! Lethal voltage!



N	0 V	Neutral
L	24/230 Vac	Power supply
1	24/230 Vac	Input
3		
4, 5		Output

**Accessories**



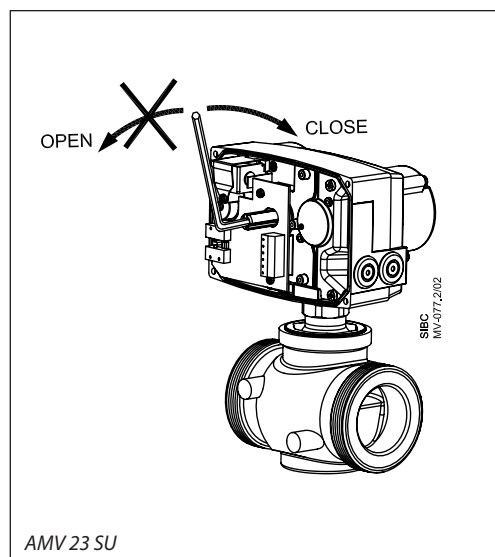
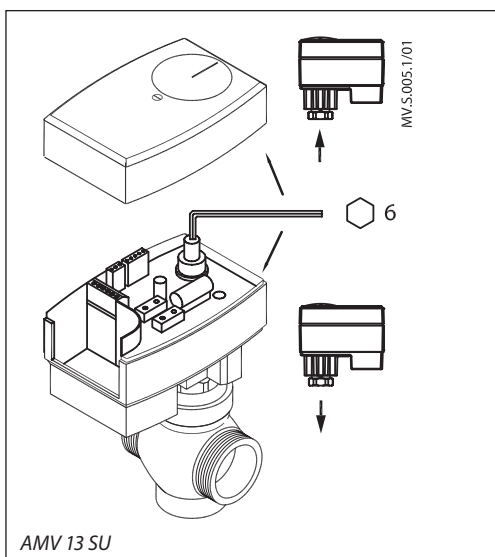
**Commissioning**

Complete the mechanical and electrical installation and perform the necessary checks and tests:

- Turn on the power.
- Set the appropriate control signal and check that the valve stem direction is correct for the application.

The unit is now fully commissioned.

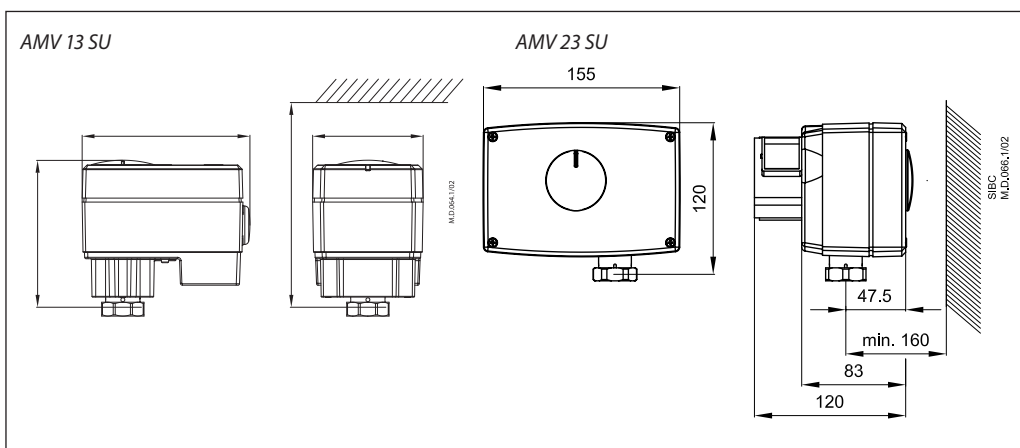
Manual override



On spring versions manual override is achieved by disconnecting the power supply, removing the cover and inserting a 6 mm Allen key for AMV 13 SU, a 5 mm Allen key for AMV 23 SU (not supplied) into the top of the positioning spindle and turning the key against the spring. Observe the direction of rotation symbol. To hold a manual override position, the key must be wedged.

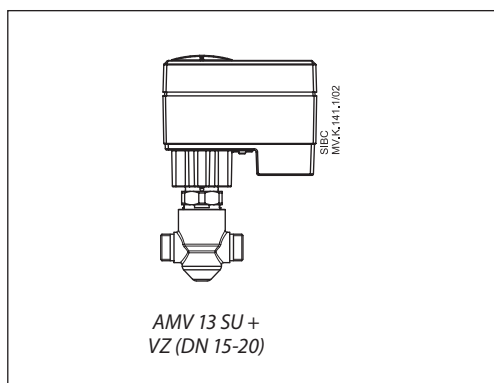
**If manual override has been used then X and Y signal are not correct until the actuator reaches its end position. If this is not accepted reset the actuator.**

Dimensions

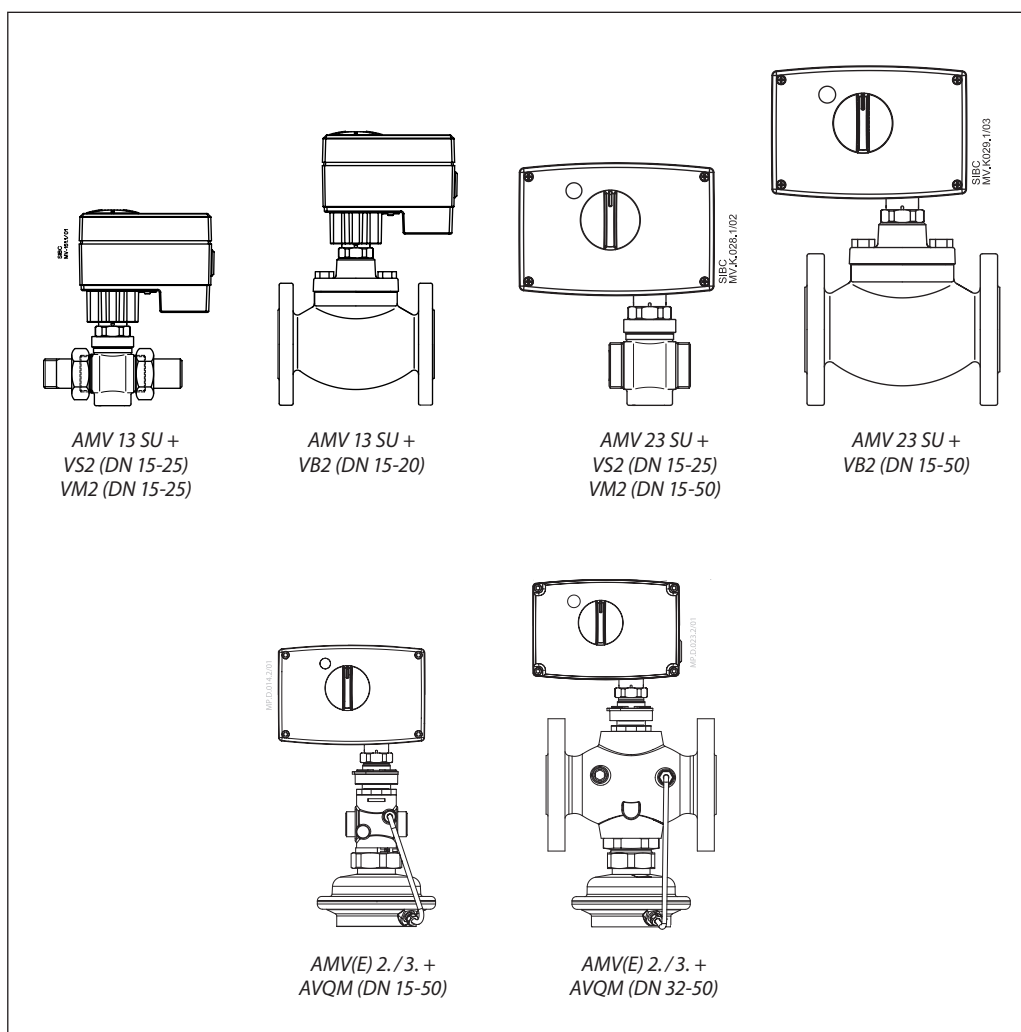


**Actuator - valve combinations**

- which close port A-AB if safety version is activated



- which open port A-AB if safety version is activated)







**Danfoss A/S**

Climate Solutions • danfoss.com • +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product.

All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.