Data sheet

Actuators for modulating or 3-point control
AMV(E) 413, AMV(E) 613, 633 - with safety function
AMV(E) 410, AMV(E) 610 - without safety function

Description / Application



AMV 410, 413
AME 410, 413



AMV(-H) 610, 613, 633
AME(-H) 610, 613, 633

AMV(E) 410, 413 is an electrical actuator with synchronous motor and gear.
AMV(E) 610, 613, 633 is an electrohydraulic actuator with a hydraulic pump and magnetic valves.

The actuators can be used in connection with the following valves:
- two way: VFG 2 (21), VFG 25, VFU 2 (NC), VFGS 2 (Steam), DN 15 - 250
- combination valve: AFQM (flow controller with integrated valve), DN 40 - 125

The Danfoss controller ECL or other controllers can be applied, using either three point step signal or modulated signal. The actuators are applied mainly in heating and district heating systems for water and steam up to 350 °C.

The actuators fullfil following demands:
- Design-tested acc. to DIN EN 60 730
- DIN EN 50081-2 and DIN EN 50082-2
- Type-tested acc. to DIN 32730 (safety function): Types: AMV(E) 413, 613, 633

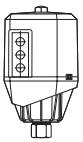
Main data:
Nominal voltage:
- 230 V / 50 Hz and 24 V / 50 Hz

Input signal:
- Three-point control signal
- Modulate control signal 0(4) - 20 mA / 0(2) - 10 V

Manual adjustment:
- Electrical
- Mechanical

Additional equipment:
- End switch
- Potentiometer

Ordering

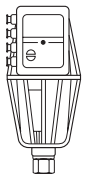


Type	Safety function	Control input/ Supply voltage	Pos. time (s/mm)	End switch	Code No.
AMV 410	-	Three point step signal/ 230 V~	15	-	**082G0608**
				1	**082G0609**
AMV 413	x			-	**082G0611**
				1	**082G0612**
AME 410	-	0(4) - 20 mA dc 0(2) - 10 V dc/ 24V~		2	**082G0610**
AME 413	x			2	**082G0613**

Accessories for AMV 410/413

Type	Code No.
Auxiliary Switch	**082G0695**
Potentiometer 5 kOhm	**082G0696**
Potentiometer 1 kOhm	**082G1535**

Ordering *(continuous)*

Type		Safety function	Control input/ Supply voltage	Pos. time (s/mm)	End switch	Code No.
	AMV 610	-	Three point step signal/ 230 V~	15	2	**082G0614**
	AMV 613	x		15	2	**082G0616**
	AMV 613-Y60 [1]	x		15	2	**082G0617**
	AMV 633	x		4	2	**082G0618**
	AMV-H 613 [2]	x		15	2	**082G0621**
	AME 610	-		15	2	**082G0615**
	AME 613	x	0(4) - 20 mA dc 0(2) - 10 V dc/ 230V~	15	2	**082G0619**
	AME 633	x		4	2	**082G0620**
	AME-H 613 [2]	x		15	2	**082G0622**

[1] *Valve stroke Y60 for higher kvs DN 150 - 250*
[2] *Version with mechanical adjustment and safety function, not type tested acc. DIN 32 730*

Technical data

Actuators AMV / AME 410, 413

Actuator type		AMV 413	AMV 410	AME 413	AME 410
Safety function [1]		x	-	x	-
Power supply/frequency		230 V, +10 to - 15 % 50/60 Hz		24 V, +10 to - 15 % 50/60 Hz	
Power consumption	VA	10	4	12	6
Input signal		Three-point step signal 230 V / 50 Hz		0(4) - 20 mA dc 0(2) - 10 V dc [2]	
Output signal positioning stroke		-			
Stroke	mm	20			
End switches (2 pieces)		230 V, 1A		24 V, 1A	
Positioning time	s/mm	15			
Approx. positioning time with safety return function	s/mm stroke	0.5 to 1	-	0.5 to 1	-
Positioning force	N	800	1000	800	1000
Power failure response		Safety return function, stem to drive out	Stem remains in last position	Safety return function, stem to drive out	Stem remains in last position
Protection code EN 60 529		IP 54 [3]			
Max. ambient temperature	°C	-10 to +50			
Max. storage temperature		-40 to +70			
Manual positioning		Electrical			
Weight	kg	2.8	2.1	2.8	2.1
Body material		Polyamide, glass fiber reinforced			
Union nut / connection and materials		Brass / steel			

[1] *Effective direction: stem to drive out, i.e. valve to close.*
[2] *Effective direction can be adapted to requirements.*
[3] *If the valve is mounted with the actuator hanging IP 52*

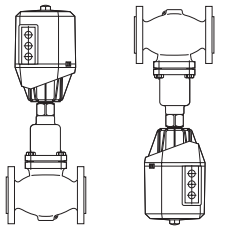
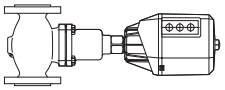
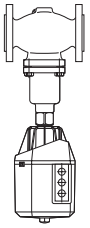
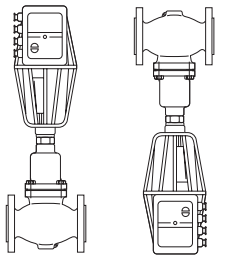
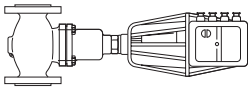
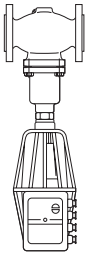
Technical data *(continuous)*

Actuators AMV(-H) / AME(-H) 610, 613, 633

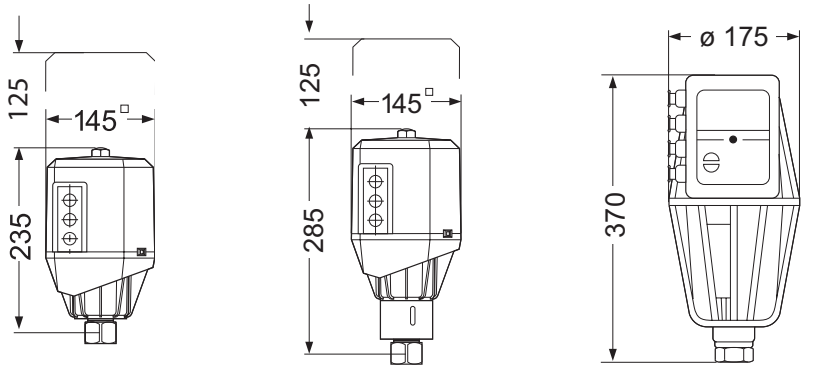
Actuator type		AMV 610	AMV 613	AMV-H 613 AMV 633	AME 610	AME 613	AME-H AME 633
Safety function [1]		-	x	x	-	x	x
Power supply/frequency		230 V, +10 to - 15 %, 50/60 Hz					
Power consumption	VA	15					
Input signal		Three-point step signal 230 V / 50 Hz			0(4) - 20 mA dc 0(2) - 10 V dc [2]		
Output signal positioning stroke		0(4) - 20 mA dc					
Stroke	mm	30					
End switches (2 pieces)		Change-over switch, alternating voltage max. 250 V, 1A					
Positioning time	s/mm	15 (4 - version AMV / AME 633)					
Approx. positioning time with safety return function	s/mm stroke	-	0.5 to 1		-	0.5 to 1	
Positioning force	N	1200					
Power failure response		Stem remains in last position	Safety return function, stem to drive out		Stem remains in last position	Safety return function, stem to drive out	
Protection code EN 60 529		IP 54					
Max. ambient temperature	°C	-10 to +50					
Max. storage temperature		-40 to +70					
Manual positioning		Electrical					
		-	-	mechanic.	-	-	mechanic.
Weight	kg	4					
Body material		Polyamide, glass fiber reinforced, ABS					
Union nut / connection and materials		Brass / steel					
CE - Confirmation		In accordance with following directives: Low Voltage Directive 73/23/EEC and 93/68/EEC, EN 60730/2/14 EMC - Directive 89/336/EEC, 92/31/EEC, 93/68/EEC, EN 50081-1 DIN 32730 DIN EN 50081-2 DIN EN 50082-2 DIN EN 60730 DIN EN 61010-1					

1) Effective direction: stem to drive out, i.e. valve to close.
2) Effective direction can be adapted to requirements.

Installation position

Type	Hotwater		Steam
AMV / AME 410, 413			
AMV / AME 610, 613, 630, 633			
	Independent of temperature and nominal diameter	up to 120 °C, nominal diameter up to DN 80	

Dimensions

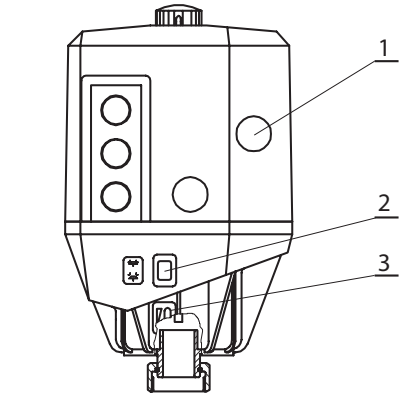


AMV / AME 410 *AMV / AME 413* *AMV / AME 610, 613, 633*

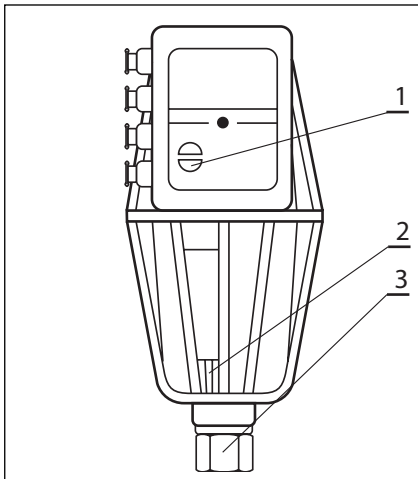
Design

AMV / AME 410, 413
- **1** Display of direction of motion
- **2** Electrical manual adjustment by push-button
- 3 Stroke indicator

AMV / AME 610, 613, 633
- **1** Electrical manual adjustment by rotary switch
- **2** Stroke indicator
- **3** Union nut

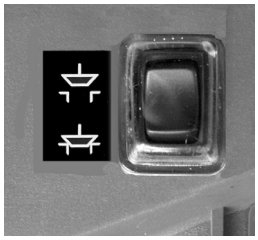


AMV / AME 410, 413

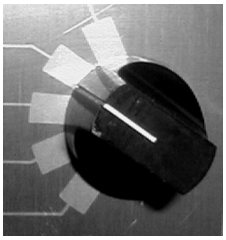


AMV / AME 610, 613, 633

Manual adjusting



Electrical operation AMV / AME 410, 413



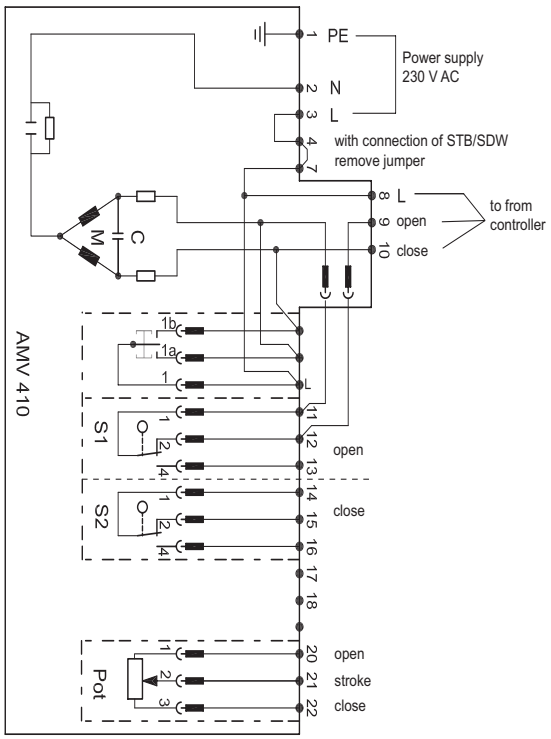
Electrical operation AMV(-H) / AME(-H) 610, 613, 633



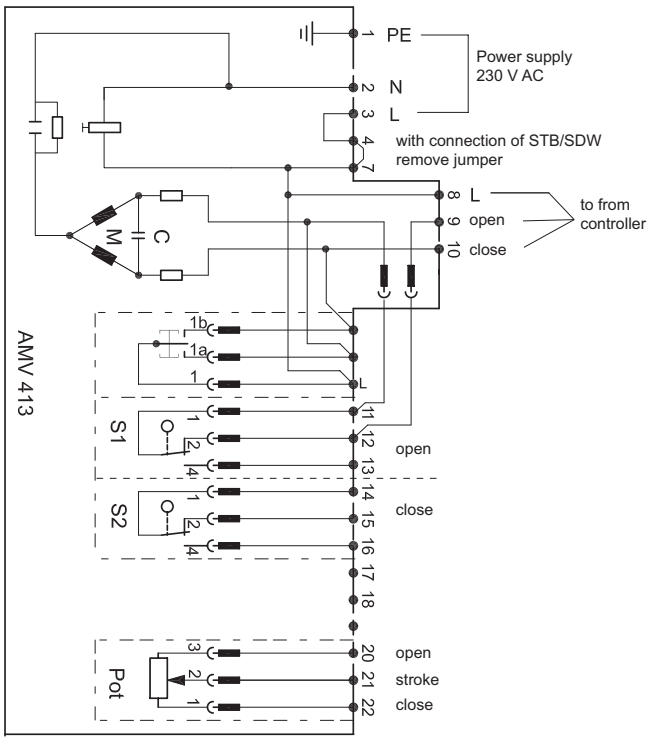
Mechanical operation AMV(-H) / AME(-H) 610, 613

Wiring / Connection diagramm

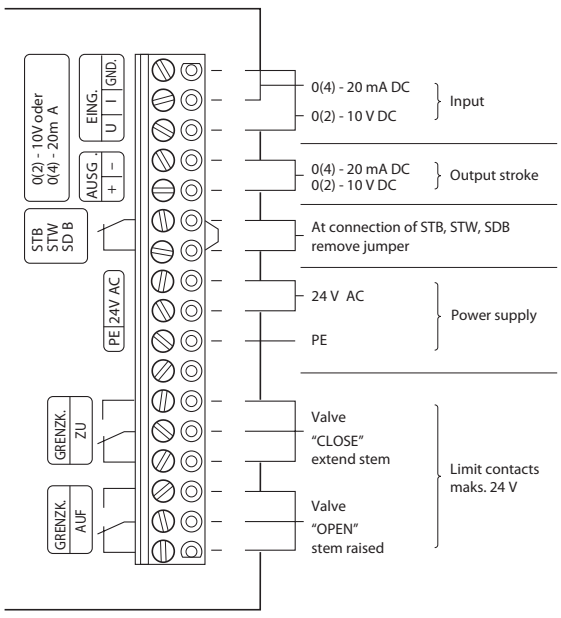
AMV 410



AMV 413

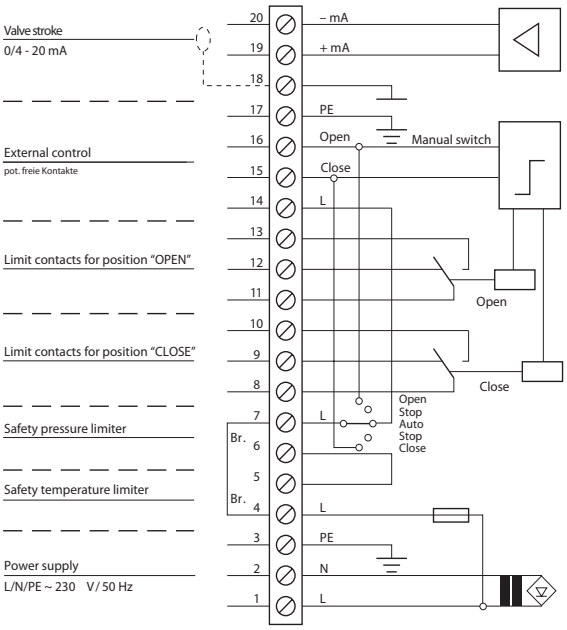


AME 410, 413

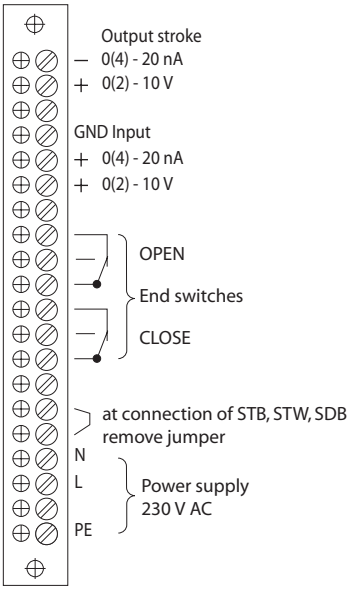


Wiring / Connection diagramm *(continuous)*

AMV 610, 613, 633

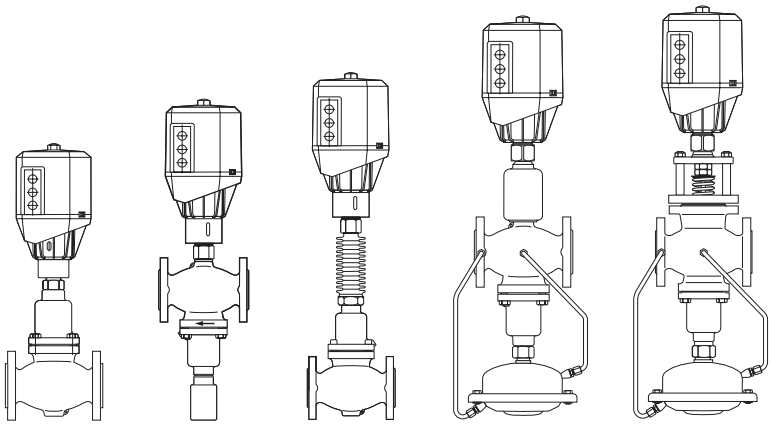


AME 610, 613, 633



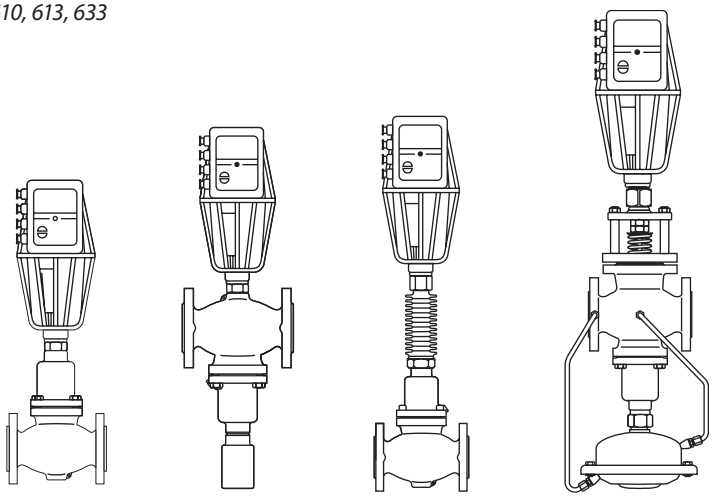
Actuator - valve combinations

AMV / AME 410, 413



Valve type	VFG 2 VFG 21 VFG 25	VFU 2	VFGS 2	AFQM 6	AFQM
DN	15 - 80	15 - 65	15 - 80	40, 50	65, 80
Medium	Hot water		Steam	Hot water	
Max. temp. (°C)	200 (VFG 2) 150 (VFG 21) 200 (VFG 25)	200	350	150	150
PN	16, 25, 40				25
Remark		NC valve, actuator with safety function	with extension piece ZF4, ZF5	Flow control with integrated control valve	

AMV(-H) / AME(-H) 610, 613, 633



Valve type	VFG 2 VFG 21 VFG 25	VFU 2	VFGS 2	AFQM
DN	15 - 250	15 - 125	15 - 250	65 - 125
Medium	Hot water		Steam	Hot water
Max.temp. (°C)	200	200	350	150
PN	16, 25, 40			25
Remark		NC valve, actuator with safety function	with extension piece ZF4, ZF5	Flow control with integrated control valve

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