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LDM®

01 - 02.4
08.24.GB

CONTROL VALVES

RV 111 COMAR line

POWER THROUGH IDEAS
www.ldmvalves.com

COMAR line

The valves series RV 111 COMAR are control valves of a compact construction with external threaded coupling connection. The valves excel with minimum dimensions and weight, quality control function and a high tightness in closed position. Thanks to an unique LDMspline®, flow characteristic which has been optimized for thermodynamic processes control, the valves are ideal for applications in heating and air-conditioning. In regard of a sophisticated design of internal parts and long service life of packing, the valves fulfill every demand for a long-time service without necessary maintenance.

The valves are optionally manufactured either two-way or three-way. The part of the delivery is a screw joint enabling a quick and easy installation to an appliance.

Assembled with electromechanic actuators, the valve can be controlled with 3-point or continuous signal. The part of the delivery of valves RV 111 R is also a hand wheel which can be used for the valve control until assembling with an actuator (**LDM, Siemens** or **Sauter**).

Application

Used materials for throttling trim which consist of plug made of high-quality stainless steel and soft sealing elemnts, ensure a hermetic tightness in both ports and enable the valves to be used not only in common warm-water and hot-water regulation circuits in heating but also in applications with special characteristic features of process medium such as in refrigerating industry and air-conditioning.

Process media

The valves series RV 111are suitable for applications where process medium is water or air. Further they can be used for refrigerating media and other non-aggressive liquids or gases with temperature ranging from +2 °C to +150 °C. The valves are not applicable to conditions with cavitation. Sealing surfaces of control trim are resistant to common sludge or water impurities. Yet it is recommended to pipe a strainer in front of valve to ensure a reliable function and tightness in case there are abrasive particles present.

Installation

The valves can be installed in any position except position when the actuator is under the valve body. The flow direction is indicated on the valve body - inlet ports are indicated by letters A and B, outlet port AB.

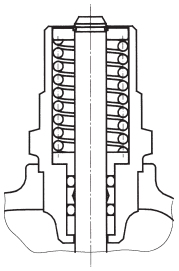
Flow characteristic selection in regard of valve stroke

To make right selection of valve flow characteristic, it is suitable to carry out checking of what stroke values will be reached in different operation states. We recommend to carry out such checking at least for minimal, nominal and maximal flow rates. The principle for flow characteristic selection is to avoid, if possible, 5 - 10% of the beginning and end of the valve stroke range.

To calculate valve stroke at different operating conditions with different types of flow characteristics is possible with the advantage of using LDM's calculation programme **VENTILY**. The programme serves for complete design of valve from Kv calculation to specification of a concrete valve with its actuator.

Packing O-ring EPDM

Well proven type of packing with sealing elements made of high quality EPDM is suitable for operating with temperature of, +2 to +130°C. The packing excels with its reliability and long time tightness. Its properties ensure safe usage in no-maintanance applications. Main preferences of the packing is low frictional forces, sealing capability in both ports (even when there is underpressure in the valve) and service life exceeding 500 000 cycles.



RV 111 R

Control Valves
COMAR line

DN 15 - 40
PN 16

Valves **RV 111 R** are suitable for connection with actuators **LDM** and **Siemens**

Technical data

Series	**RV 111 R**	
Type of valve	Two-way, reverse, control valve	Three-way control valve
Nominal size range	DN 15 to 40	
Nominal pressure	PN 16	
Body material	Grey cast iron EN-JL 1030	
Plug material	Stainless steel 1.4021	
Operating temperature range	+2 to +150°C	
Connection	Externally threaded coupling + screw joints Flanges with raised faces Externally threaded coupling + weld unions	
Material of weld unions	DN 15 to 32 ... 1.0036 / 11 373.0 DN 40 ... 1.0308 / 11 353.0	
Type of plug	Contoured or V-ported, with soft seat sealing	
Flow characteristic	LDMspline®, linear	Linear / linear
Kvs value	0.16 to 25 m^3/hour	0.25 to 25 m^3/hour
Leakage rate	Class IV. - S1 acc. to ČSN-EN 1349 (5/2001) (<0.0005 % Kvs)	
Rangeability r	min 50 : 1	
Packing	O - ring EPDM	

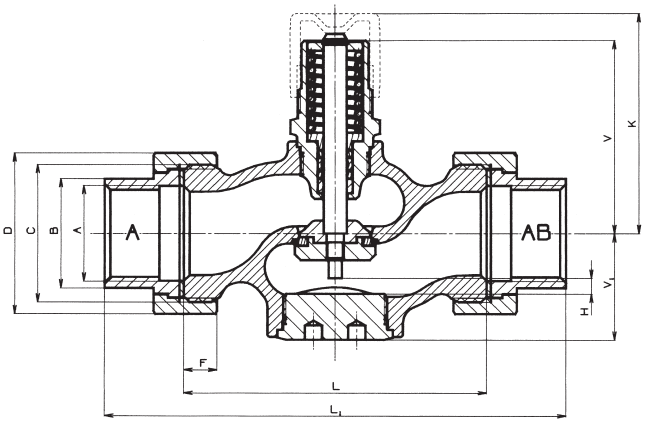
Maximal permissible operating pressures [Mpa]

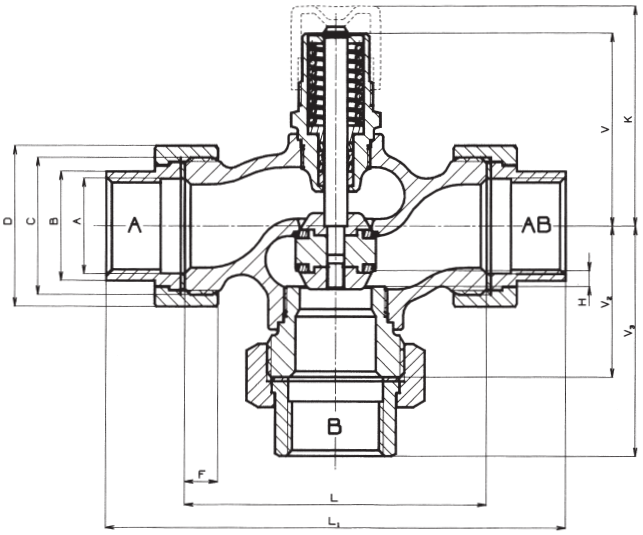
Material	PN	Temperature [°C]	
		120	150
Grey cast iron EN-JL 1030 (EN-GJL-200)	**16**	1,60	1,44

Dimensions and weights of RV 111 R/T with threaded connection and RV 111 R/W with weld unions

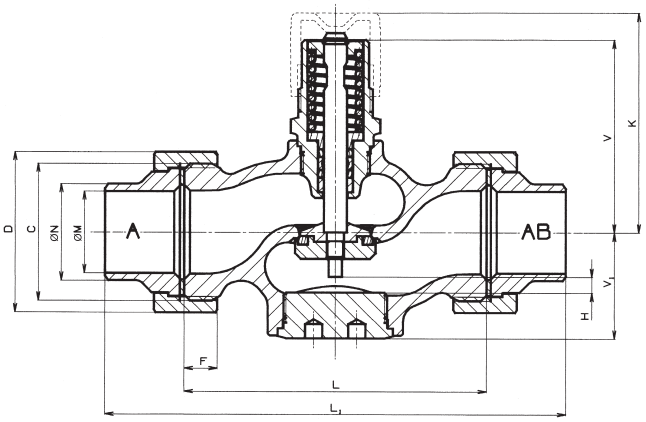
DN	L	L_1	V	V_1	V_2	V_3	K	A	B	C	D	ØM	ØN	F	H	m 2-way	m 3-way
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	[kg]
15	100	146	67	36.5	50	73	77	Rp 1/2	25	G 1	41	16.1	21.3	9	5,5	1.15	1.35
20	100	149	67	36.5	50	74.5	77	Rp 3/4	32	G 1 1/4	51	21.7	26.9	10	5,5	1.45	1.75
25	105	160	67	37	52.5	80	77	Rp 1	38	G 1 1/2	56	29.5	33.7	11	5,5	1.7	2.15
32	130	193	78	49	65	96.5	88	Rp 1 1/4	47	G 2	71	37.2	42.4	12	5,5	3.0	3.8
40	140	207	78	49	70	103.5	88	Rp 1 1/2	53	G 2 1/4	76	43.1	48.3	14	5,5	3.5	4.4

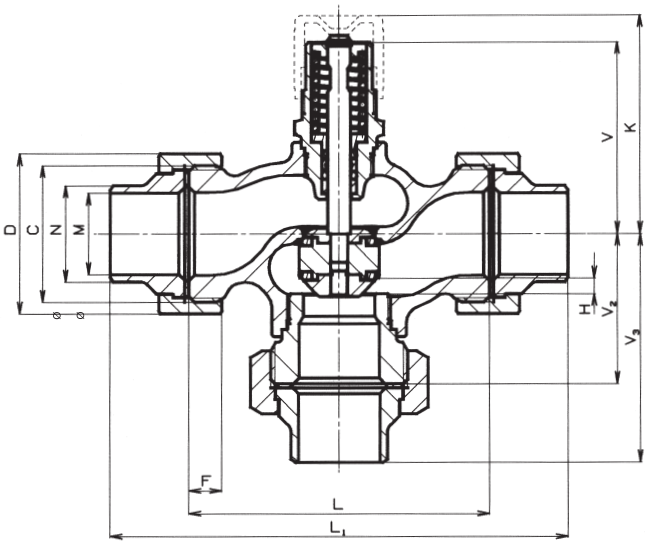
Valves RV 111 R/T with threaded connection





Valves RV 111 R/W with weld unions

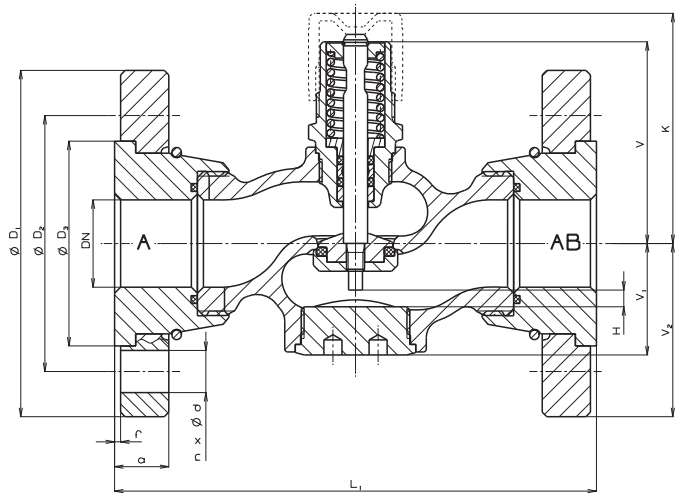


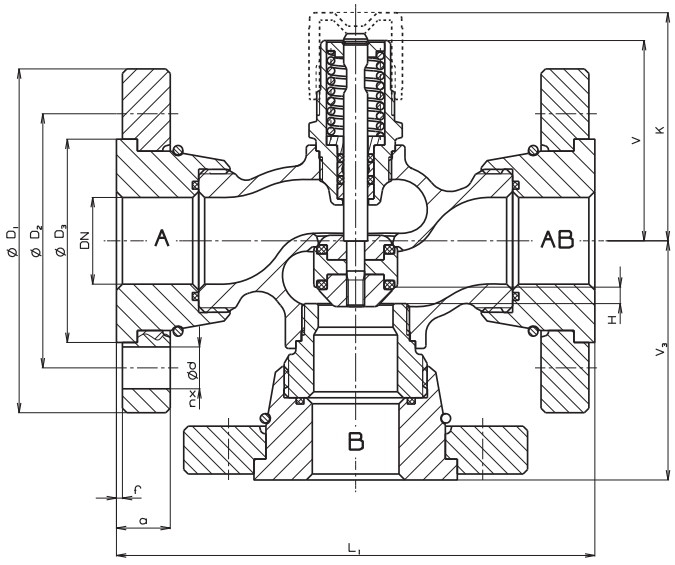


Dimensions and weights of RV 111 R/F with flanges

DN	L_1	V	V_1	V_2	V_3	$ØD_1$	$ØD_2$	$ØD_3$	a	f	n	Ød	K	H	m 2-way	m 3-way
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[kg]	[kg]
15	130	67	36.5	42.5	65	95	65	45	16	2	4	14	77	5,5	2.3	3.1
20	150	67	36.5	52.5	75	105	75	58	16	2	4	14	77	5,5	3.2	4.4
25	160	67	37	57.5	80	115	85	68	18	2	4	14	77	5,5	3.8	5.3
32	180	78	49	70	90	140	100	78	18	2	4	18	88	5,5	5.9	8.1
40	200	78	49	75	100	150	110	88	19	3	4	18	88	5,5	6.9	9.5

Valves RV 111 R/F with raised-faced flanges





Kvs and differential pressure values

DN	Kvs [m³ / hour]								Δp_{max}
	1	2	3	4	5	6	7	8	kPa
15	4.0	2.5	1.6	1.0	0.63	0.4	0.25	0.16[1)]	400
20	6.3	---	---	---	---	---	---	---	350
25	10.0	---	---	---	---	---	---	---	200
32	16.0	---	---	---	---	---	---	---	110
40	25.0	---	---	---	---	---	---	---	60

Two-way execution DN 15 to 25 - flow characteristic LDMspline®, DN 32 and 40 - flow characteristic linear.

Three-way execution - linear characteristic in both ports.

[1)] applies to two-way execution only

Valve complete specification No. for ordering RV 111 R

		XX	XXX	X	X X	X X	XX	/	XXX	-	XX	/	X
1. Valve	Control valve	**RV**											
2. Series	Valve with external thread		**111**										
3. Type of actuating	Hand wheel with possibility of using electric actuator			**R**									
4. Execution	Two-way				**2**								
	Three-way				**3**								
5. Body material	Grey cast iron				**3**								
6. Flow characteristic	Linear (2-way execution DN 32, 40 and 3-way execution)					**1**							
	LDMspline® (two-way execution DN 15 to 25)					**3**							
7. Kvs	Column No. acc. to Kvs values table					**X**							
8. Nominal pressure	PN 16						**16**						
9. Max. temperature °C	150 °C								**150**				
10. Nominal size	DN 15 to 40										**XX**		
11. Connection	Threaded connection												**T**
	Raised-faced flanges												**F**
	Weld unions												**W**

Ordering example: **RV 111 R 2331 16/150-25/T**
Actuator must be specified separately

Available actuators

LDM	Electric actuator **ANT3-5.10**	AC 24 V, 3-position control
	Electric actuator **ANT3-5.11**	AC/DC 24 V, control 0(2) - 10V, (0)4 - 20 mA
	Electric actuator **ANT3-5.10SC**	AC/DC 24 V, 3-position control, fail-safe function
	Electric actuator **ANT3-5.11SC**	AC/DC 24 V, control 0(2) - 10V, (0)4 - 20 mA, fail-safe function
	Electric actuator **ANT3-5.20, ANT3-5.22**	AC 230 V, 3-position control
	Electric actuator **ANT3-5.21**	AC 230 V, control 0(2) - 10V, (0)4 - 20 mA
	Electric actuator **ANT3-5.20SC**	AC 230 V, 3-position control, fail-safe function
	Electric actuator **ANT3-5.21SC**	AC 230 V, control 0(2) - 10V, (0)4 - 20 mA, fail-safe function
Siemens	Electric actuator **SSC31**	AC 230 V, 3-position control
	Electric actuator **SSC161.05HF**	AC/DC 24 V, control DC 0...10V
	Electric actuator **SSC161.35HF**	AC/DC 24 V, control DC 0...10V, fail-safe function
	Electric actuator **SSC81**	AC 24 V, 3-position control
	Electric actuator **SAS 31.00; 31.03**	AC 230 V, 3-position control
	Electric actuator **SAS 31.50; 31.53**	AC 230 V, 3-position control, fail-safe function
	Electric actuator **SAS 61.03**	AC/DC 24 V, proportional control
	Electric actuator **SAS 61.33; 61.53**	AC/DC 24 V, proportional, fail-safe function
	Electric actuator **SAS 81.00; 81.03**	AC/DC 24 V, 3-position control
	Electric actuator **SAS 81.33**	AC/DC 24 V, 3-position control, fail-safe function

RV 111 S

Control Valves
COMAR line

DN 15 - 40
PN 16

Valves **RV 111 S** are suitable for connection with actuators **Sauter**

Technical data

Series	**RV 111 R**	
Type of valve	Two-way, reverse, control valve	Three-way control valve
Nominal size range	DN 15 to 40	
Nominal pressure	PN 16	
Body material	Grey cast iron EN-JL 1030	
Plug material	Stainless steel 1.4021	
Operating temperature range	+2 to +150°C	
Connection	Externally threaded coupling + screw joints Flanges with raised faces Externally threaded coupling + weld unions	
Material of weld unions	DN 15 to 32 ... 1.0036 / 11 373.0 DN 40 ... 1.0308 / 11 353.0	
Type of plug	Contoured or V-ported, with soft seat sealing	
Flow characteristic	LDMspline®, linear	Linear / linear
Kvs value	0.16 to 25 m^3/hour	0.25 to 25 m^3/hour
Leakage rate	Class IV. - S1 acc. to ČSN-EN 1349 (5/2001) (<0.0005 % Kvs)	
Rangeability r	min 50 : 1	
Packing	O - ring EPDM	

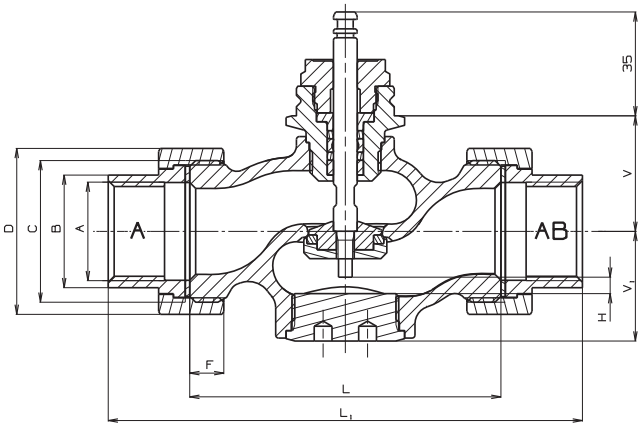
Maximal permissible operating pressures [Mpa]

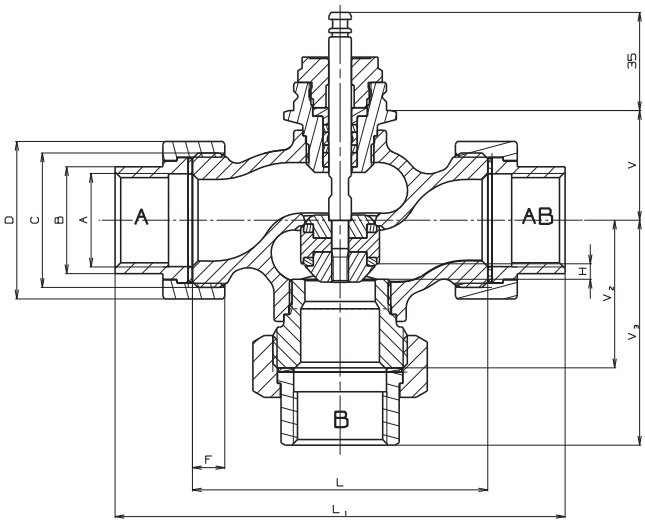
Material	PN	Temperature [°C]	
		120	150
Grey cast iron EN-JL 1030 (EN-GJL-200)	**16**	1,60	1,44

Dimensions and weights of RV 111 S/T with threaded connection and RV 111 S/W with weld unions

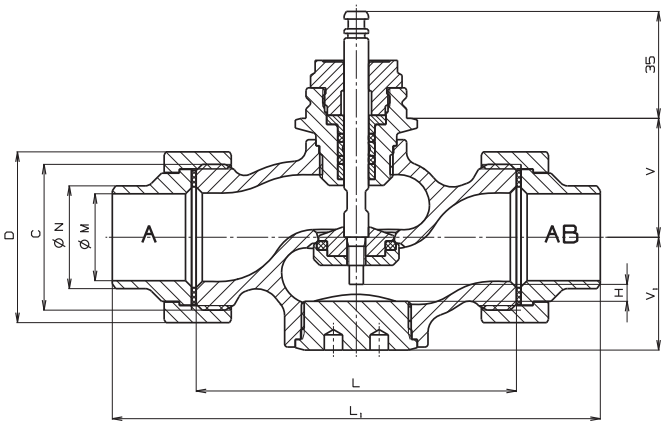
DN	L	L_1	V	V_1	V_2	V_3	K	A	B	C	D	ØM	ØN	F	H	m 2-way	m 3-way
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	[kg]
15	100	146	39	36.5	50	73	77	Rp 1/2	25	G 1	41	16.1	21.3	9	5,5	1.15	1.35
20	100	149	39	36.5	50	74.5	77	Rp 3/4	32	G 1 1/4	51	21.7	26.9	10	5,5	1.45	1.75
25	105	160	39	37	52.5	80	77	Rp 1	38	G 1 1/2	56	29.5	33.7	11	5,5	1.7	2.15
32	130	193	50	49	65	96.5	88	Rp1 1/4	47	G 2	71	37.2	42.4	12	5,5	3.0	3.8
40	140	207	50	49	70	103.5	88	Rp1 1/2	53	G 2 1/4	76	43.1	48.3	14	5,5	3.5	4.4

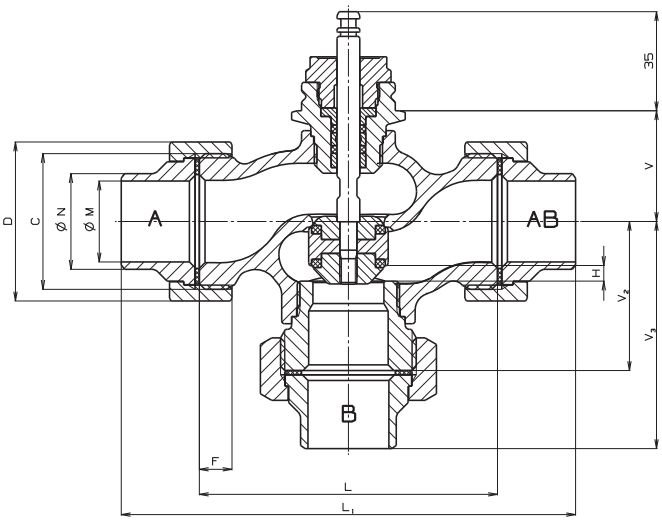
Valves RV 111 S/T with threaded connection





Valves RV 111 S/W with weld unions

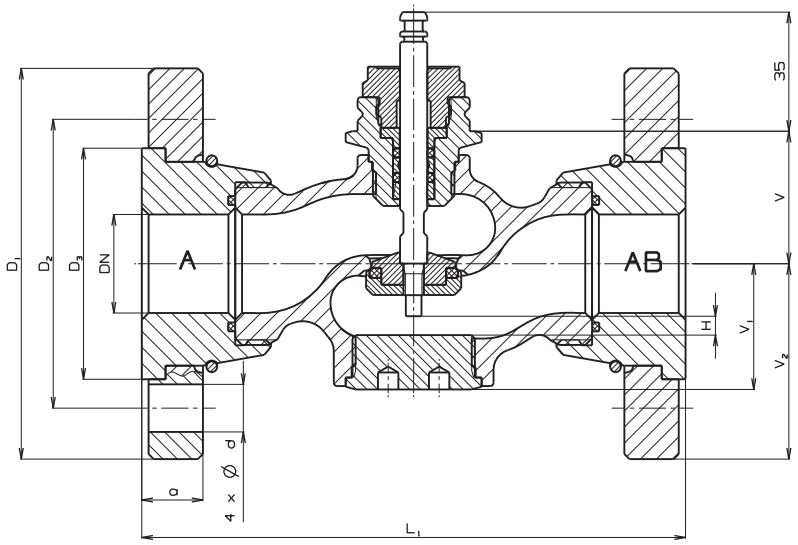


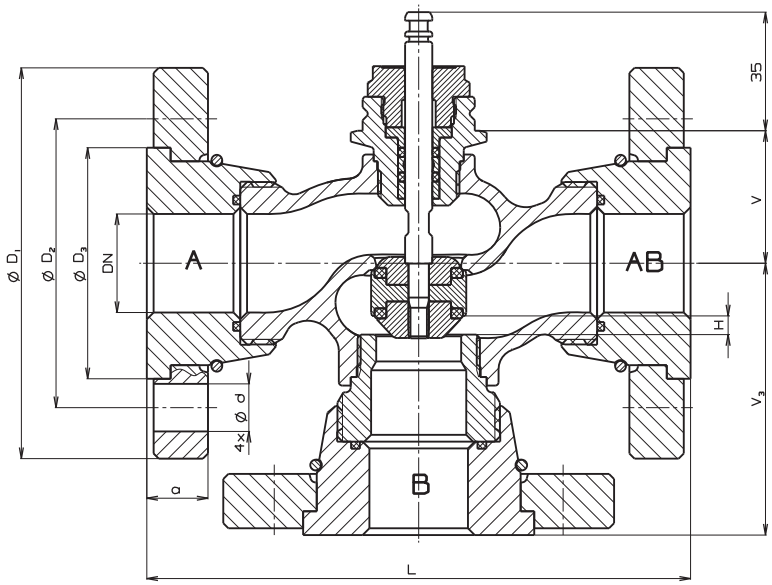


Dimensions and weights of RV 111 S/F with flanges

DN	L_1	V	V_1	V_2	V_3	$ØD_1$	$ØD_2$	$ØD_3$	a	f	n	Ød	K	H	m 2-way	m 3-way
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[kg]	[kg]
15	130	39	36.5	42.5	65	95	65	45	16	2	4	14	77	5,5	2.3	3.1
20	150	39	36.5	52.5	75	105	75	58	16	2	4	14	77	5,5	3.2	4.4
25	160	39	37	57.5	80	115	85	68	18	2	4	14	77	5,5	3.8	5.3
32	180	50	49	70	90	140	100	78	18	2	4	18	88	5,5	5.9	8.1
40	200	50	49	75	100	150	110	88	19	3	4	18	88	5,5	6.9	9.5

Valves RV 111 S/F with raised-faced flanges





Kvs and differential pressure values

DN	Kvs [m³ / hour]								Δp_{max}	
	1	2	3	4	5	6	7	8	250 N	500 N
15	4.0	2.5	1.6	1.0	0.63	0.4	0.25	0.16 [1]	400	400
20	6.3	---	---	---	---	---	---	---	400	400
25	10.0	---	---	---	---	---	---	---	350	400
32	16.0	---	---	---	---	---	---	---	220	400
40	25.0	---	---	---	---	---	---	---	130	300

Two-way execution DN 15 to 25 - flow characteristic LDMspline®, DN 32 and 40 - flow characteristic linear.

Three-way execution - linear characteristic in both ports.

[1] applies to two-way execution only

Valve complete specification No. for ordering RV 111 S

		XX	XXX	X	X X	X X	XX	/	XXX	-	XX	/	X
1. Valve	Control valve	**RV**											
2. Series	Valve with external thread		**111**										
3. Type of actuating	Hand wheel with possibility of using electric actuator			**S**									
4. Execution	Two-way				**2**								
	Three-way				**3**								
5. Body material	Grey cast iron				**3**								
6. Flow characteristic	Linear (2-way execution DN 32, 40 and 3-way execution)					**1**							
	LDMspline® (two-way execution DN 15 to 25)					**3**							
7. Kvs	Column No. acc. to Kvs values table					**X**							
8. Nominal pressure	PN 16						**16**						
9. Max. temperature °C	150 °C								**150**				
10. Nominal size	DN 15 to 40										**XX**		
11. Connection	Threaded connection												**T**
	Raised-faced flanges												**F**
	Weld unions												**W**

Ordering example: **RV111 S 2331 16/150-25/T**
Actuator must be specified separately

Available actuators

Sauter	Electric actuator **AVM 105**	AC 24 V or 230 V, 3-position control 250 N
	Electric actuator **AVM 115**	AC 24 V or 230 V, 3-position control, 500N
	Electric actuator **AVM 105S**	AC 24 V, SUT control technology 0-10V, 250N
	Electric actuator **AVM 115S**	AC 24 V, SUT control technology 0-10V, 500N

Electric actuators

LDM

ANT3-5.1x(SC)
ANT3-5.2x(SC)

Electromechanical actuators ANT3-5 are designed to control the regulating valves LDM series RV 111 COMAR line. Its connection to the valve ensures a zero clearance between stem of the actuator and the valve so the precise regulating ability is ensured even for minimal position changes. The actuators are self-adaptive. The end positions are limited by the valve stroke. To communicate with a control system, the actuators are equipped with either standard 3-position control or proportional control (options: 0..10 V, 2..10 V, 0..20 mA or 4..20 mA). The version marked "SC" contains electronically controlled fail-safe function activated by power supply failure, by valves with proportional control by failure of voltage at NF terminal as well. In setting mode for the actuators with proportional control it is possible to define a final position in percentage of the stroke value. The actuator automatically runs into that position when the fail-safe function is induced. Standard setting is position "closed". As a source of energy for the fail-safe function, there are block of capacitors which are continuously charged when the actuator is in operation. Service life of capacitors is 10 years what corresponds with service life of the actuator under standard conditions. All the types of ANT actuator are equipped with hand wheel for manual operating.

Properties

- Easy assembly to the valve without the necessity of any adjusting. No tools required
- Self-adaptive function precisely sets the stroke range according to the limit positions of the valve stroke
- Hand wheel for operating in case of emergency
- Stroke indicator for information on actual open position of the valve
- Option of equipping with resistance feedback or adjustable position switch (for actuators with 3-position control without safety function)
- Intelligent microprocessor control (for actuators with a fail-safe function and proportional control)
- Automatic recognition of presence of impurities between the seat and plug of the valve including an algorithm for self-cleaning function (for actuators with proportional control)
- Option of control signal 0..10 V, 2..10 V, 0..20 mA, 4..20 mA (for actuators with proportional control)
- Option of adjusting a final position for actuators with fail-safe function in range of 0..100% of the stroke
- Possibility to read history and detection of failures (for actuators with microprocessor)
- Long service life and reliability with a sophisticated and patented design due to a selection of high quality materials
- Feedback 0(2)-10V or 0(4)-20mA for actuators with microprocessor control
- Posibility of digital control (protocol MODBUS)
- Adjustable user setting of deadband and suppression of control signal zero
- The possibility of control signal direction available

Application

The actuators in combination with LDM valves are designed especially for applications in heating, air-conditioning and refrigerating. There they can take advantage of combination of control flow characteristic LDMspline® optimized for heat transfer processes and precision and reliability provided by simple mechanic design. In some applications, it is possible to make use of its fail-safe function which is induced by voltage failure at given terminal and puts the valve to previously defined position.

Technical data of actuators ANT3-5

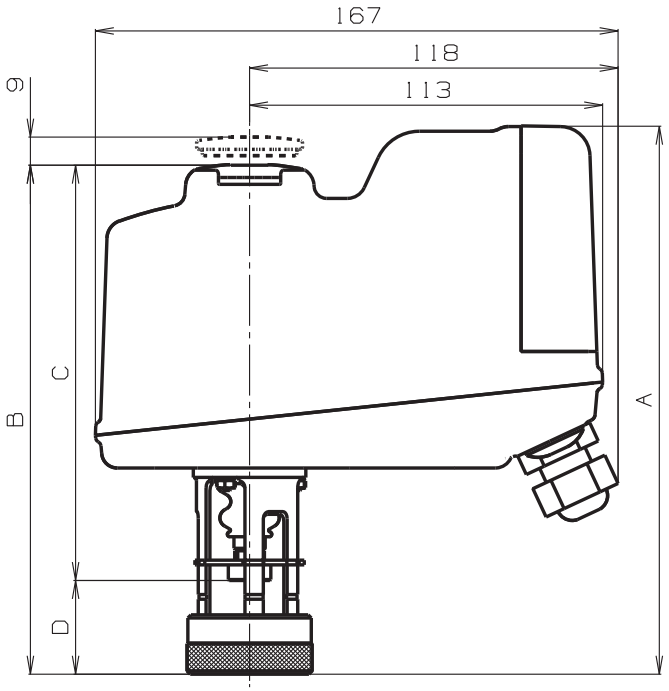
Type ANT3-...	5.10	5.11	5.10SC	5.11SC	5.20	5.22	5.21	5.20SC	5.21SC
Voltage (± 10%)	24 V AC	24 V AC/DC			230 V AC				
Frequency	50 Hz								
Control	3-position	0..10V, 4..20mA[2]	3-position	0..10V, 4..20mA[2]	3-position		0..10V, 4..20mA[2]	3-position	0..10V, 4..20mA[2]
Power consumption	1,5 VA	14 VA			3 VA		10 VA		
Nominal force	300 N + 30%								
Nominal stroke	ANT3-5.xx ... 5,5 mm								
Open-close run time 50 Hz	66 s	8 s	33 s	8 s	66 s	33 s	8 s	33 s	8 s
Fail-safe function	---	---	8 s	8 s	---	---	---	8 s	8 s
Feedback	100Ω, 1kΩ[1]	0(2) - 10 V; 0(4) - 20 mA[2]			100 Ω, 1 kΩ[1]		0(2) - 10 V; 0(4) - 20 mA[2]		
Adjustable position switch	PS1[1]	---			PS1[1]		---		
Impedance of input control signal	---	≥10 kΩ (V) 250 Ω (mA)	---	≥10 kΩ (V) 250 Ω (mA)	---		≥10 kΩ (V) 250 Ω (mA)	---	≥10 kΩ (V) 250 Ω (mA)
Enclosure	IP 54 (IEC 60529)								
Medium max. temp.	150°C								
Ambient temp. range	-5 to +55°C								
Ambient humidity range	5 .. 95 % relative humidity								
Storage conditions	-15 to +55 °C, 5 .. 95 % relative humidity								
Weight	0,7 kg		0,8 kg		0,7 kg			0,8 kg	

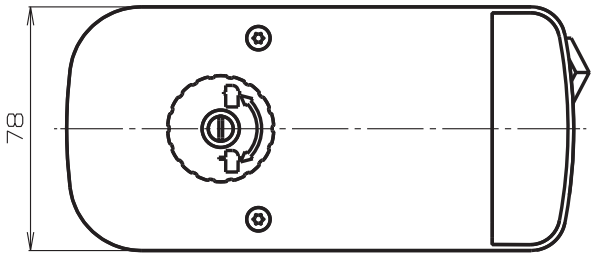
[1] Optional accessories. One piece of accessory can be used only. Must be specified in order.
[2] Standard equipment. It shall be clearly specified in the order (type and range of feedback signal, basic execution 0-10V)

Optional accessories

Resistance position transmitter 0..100 Ω nebo 0..1000 Ω / (for 3-position control actuators only without safety function)
Adjustable position switch PS1 (for 3-position control actuators only without safety function)

Wiring diagrams of actuators





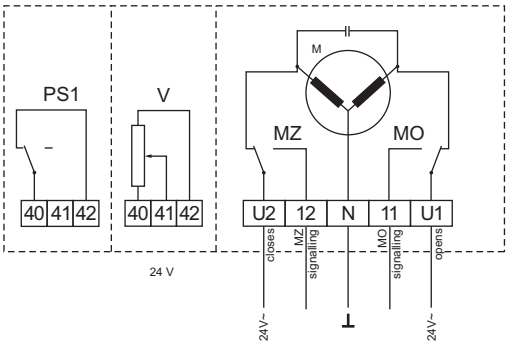
A = 172 mm
B = 159 mm
C = 133 mm
D = 26 mm

Wiring diagrams of actuators

Poznámka: ANT3-5 ... closes the valve by retracting its stem:

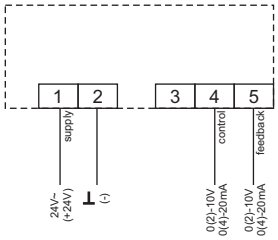
ANT3-5.10

3-position control, 24 V AC



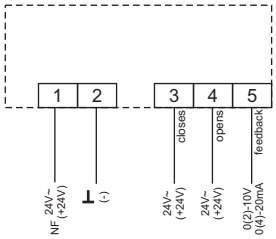
ANT3-5.11

Proportional control, 24 V AC/DC



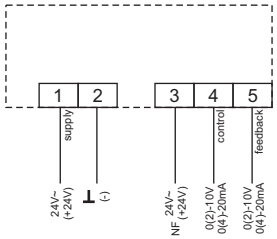
ANT3-5.10SC

3-position control, 24 V AC/DC, fail-safe function



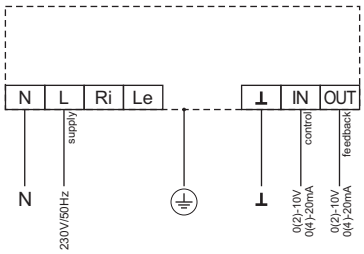
ANT3-5.11SC

Proportional control, 24 V AC/DC, fail-safe function



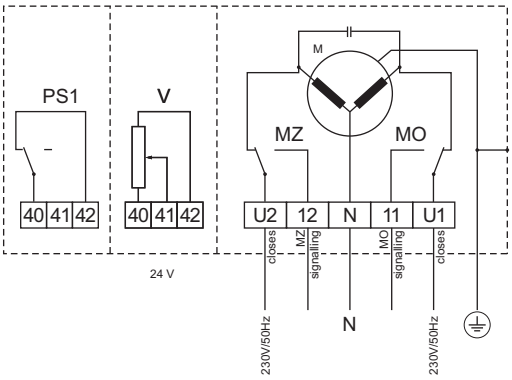
ANT3-5.21

Proportional control, 230 V AC



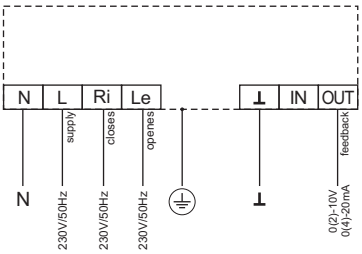
ANT3-5.20
ANT3-5.22

3-position control, 230 V AC



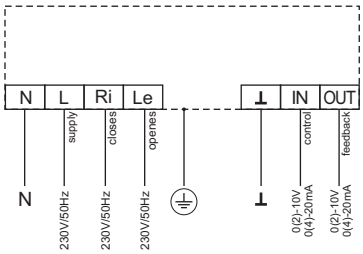
ANT3-5.20SC

3-position control, 230 V AC, fail-safe function



ANT3-5.21SC

Proportional control, 230 V AC, fail-safe function



MO power switch for "Open" position
MZ power switch for "Closed" position
M motor
V feedback 100W or 1000W
Ps1 adjustable position switch (max. zatížitelnost 0,5 A)
NF terminal fail-safe function
11, 12 terminals signalling of end positions (max. 0,5 A)

The range and the type of input and output control signal can be adjusted by wiring

Electric actuators

Siemens

SSC31
SSC161...
SSC81

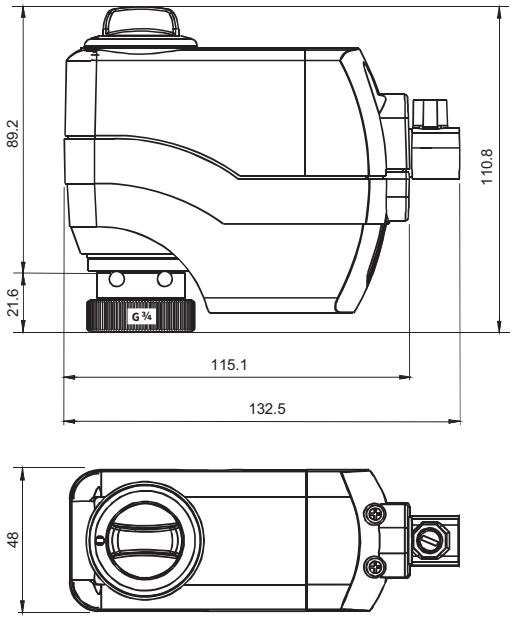
Technical data

Type	SSC31	SSC161.05HF	SSC161.35HF	SSC81
Voltage	AC 230 V	DC 24 V or AC 24 V		AC 24 V
Frequency	50 / 60 Hz			
Motor power	6 VA	3 VA	3,5 VA	0,8 VA
Control	3 - bodové	DC 0 - 10 V		3 - bodové
Feedback	---	DC 0 - 10 V		---
Open-close running time	150 s	30 s		150 s
Fail-safe function	---	---	30 s	---
Nominal force	300 N			
Stroke	5,5 mm			
Enclosure	IP 40	IP 54		IP 40
Proces medium max. t.	2 to 110°C	2 to 120°C		2 to 110°C
Ambient temp. range	5 to 50°C			
Ambient humidity range	0 ... 95 % without condensation			
Weight	0,26 kg	0,29 kg	0,34 kg	0,25 kg

→ See original producer's catalogue sheets for further detailed information about actuators

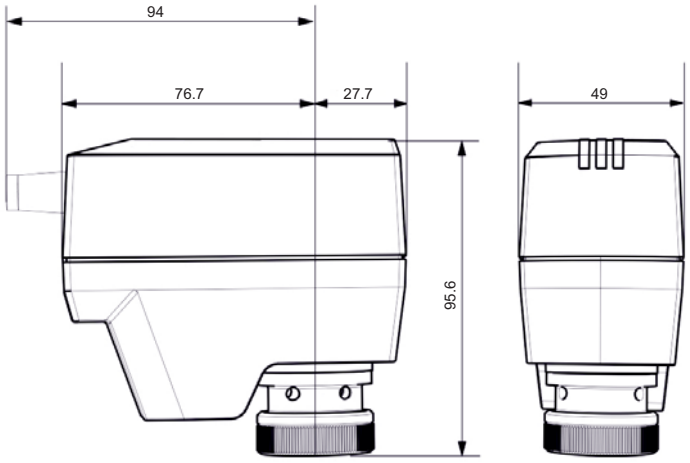
Dimensions of actuator SSC31, SSC81

All dimensions in mm



Dimensions of actuator SSC161.05HF, SSC161.35HF

All dimensions in mm



Electric actuators

Siemens

SAS

Technical data

Type	31.00	31.03	31.50	31.53	61.03	61.33	61.53	81.00	81.03	81.33
Voltage	230 V AC				24 V AC/DC					
Frequency	50 Hz									
Motor power	2,8 VA	3,5 VA		5,5 VA	5,3 VA	5,9 VA	5,8 VA	2,2 VA	2,5 VA	3,4 VA
Control	3 - position				0 - 10 V; 4 - 20 mA; 1000 Ohm			3 - position		
Open-close running time	120 s	30 s	120 s	30 s	30 s			120 s	30 s	
Fail-safe function	---		28 s	14 s	---	14 s		---		14 s
Nominal force	400 N									
Stroke	5,5 mm									
Enclosure	IP 54 (in vertical mounting position)									
Proces medium max. t.	130 °C									
Ambient temp. range	-5 to 50 °C									
Ambient humidity range	5 to 95 % without condensation									
Hand control	YES		NO		YES		NO	YES		
Weight	0,4 kg		0,68 kg		0,4 kg		0,68 kg	0,4 kg		

→ See original producer's catalogue sheets for further detailed information about actuators

Accesories

ASC 9.6	Auxiliary switch
ASK 39.2	Weather resistance cover

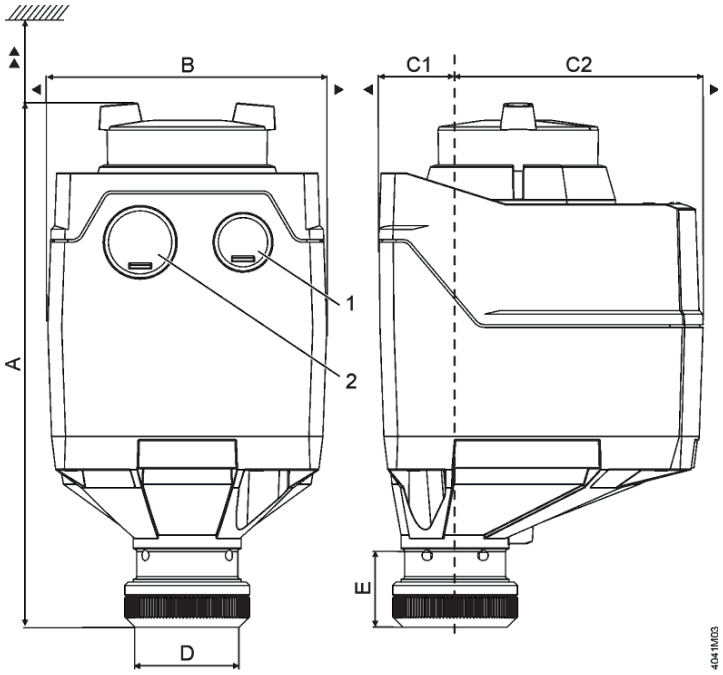
Function

Calibration
Conduct during initial commissioning.
The actuator deploys to the top and bottom end position; measured values are saved.

Reverse function (NC) of actuator
Upon power loss the actuator with reverse function (NC) retracts spindle into the actuator which means that straight-line port of the valve is being closed.

Foreign body protection
After detection of clogging, 3 attempts are made to overcome clogging. If the attempts made are unsuccessful, the actuator continues to follow the positioning signal within the restricted range only (LED continues to blink red).

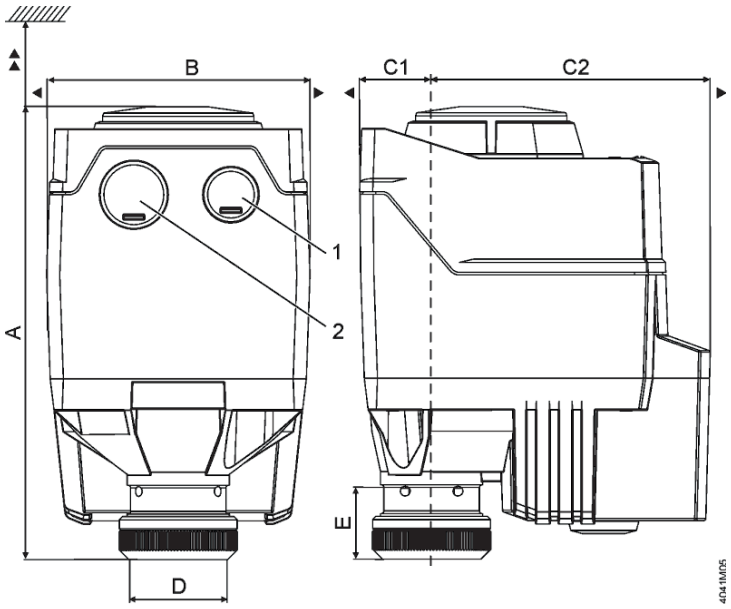
Actuators SAS with hand control



Product no.	A [mm]	B [mm]	C [mm]	C1 [mm]	C2 [mm]	D [mm]	E [mm]	▶ [mm]	▶▶ [mm]	Weight [kg]	1	2
SAS..	151	80	93	21,9	71,1	29,9	21,8	100	200	0,4	M16 [1]	M20 [1]
S ASK39.2	155	126	248	99	149	29,9	21,8	100	200	0,5	M16 [1]	M20 [1]

[1] SAS..U: ½" (Ø 21,5 mm)

Actuators SAS without hand control



Product no.	A [mm]	B [mm]	C [mm]	C1 [mm]	C2 [mm]	D [mm]	E [mm]	▶ [mm]	▶▶ [mm]	Weight [kg]	1	2
SAS..	137.6 [1] / 151 [2]	80	93	21,9	71,1	29,9	21,8	100	200	0,4	M16 [1]	M20 [1]
S ASK39.2	155	126	248	99	149	29,9	21,8	100	200	0,5	M16 [1]	M20 [1]

[1] black cover [2] blue manual adjuster

Elektrické pohony

Sauter

AVM 105
AVM 115

Technical data

Type	AVM 105 F100	AVM 105 F120	AVM 105 F122	AVM 115 F120	AVM 115 F122
Voltage	230 V AC	230 V AC	24 V AC	230 V AC	24 V AC
Frequency	50 / 60 Hz				
Motor power	4,5 VA	4,0 VA	1,7 VA	4,0 VA	1,7 VA
Control	3-position; 2-position				
Open-close running time	30 s	120 s			
Nominal force	250 N			500 N	
Stroke	max. 8 mm				
Enclosure	IP 54				
Process medium max. temp.	100°C, with cooling intermediate piece 130°C or 150°C				
Ambient temperature range	-10 to 55°C				
Ambient humidity limit	< 95% relative humidity without condensation				
Hand control	Little handle - additional accessories				
Weight	0,7 kg				

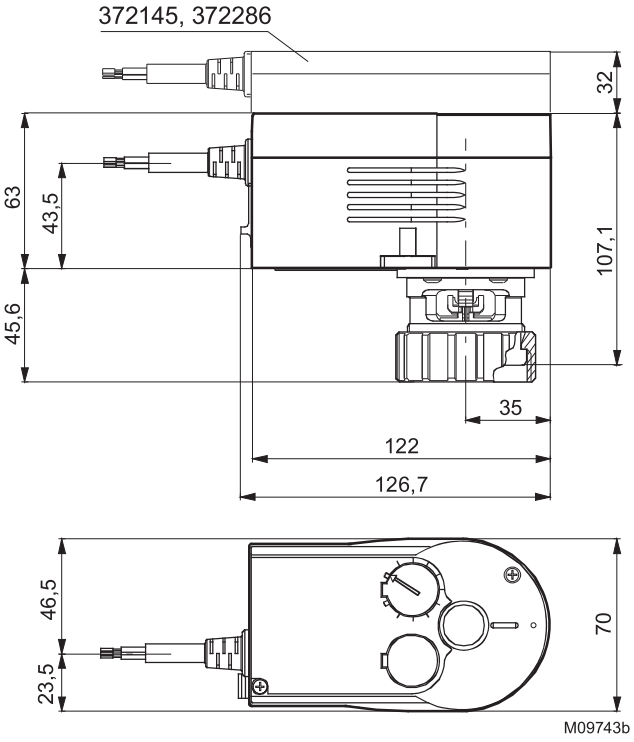
→ See original producer's catalogue sheets for further detailed information about actuators

Accessories

0372145 001*)	Single auxiliary change-over contacts. MV 505795
0372145 002*)	Double auxiliary change-over contacts. MV 505795
0372249 001	Intermediate piece required for media temperature >100 °C (recommended for temperature < 10 °C); MV 505932
0372249 002	Intermediate piece required for media temperature up to 150°C; MV 505932
0372286 001*)	Potentiometer 130 W; MV 505795
0372286 002*)	Potentiometer 1000 W; MV 505795
0372286 003*)	Potentiometer 5000 W; MV 505795
0372320 001	Allen key for manual adjustment

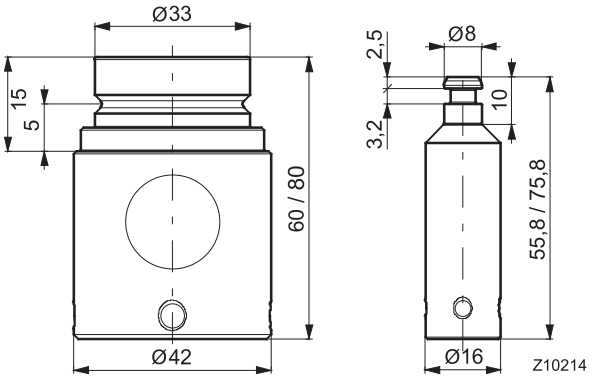
*) Only one potentiometer or one set of auxiliary contacts can be fitted to each drive!

Actuator dimensions

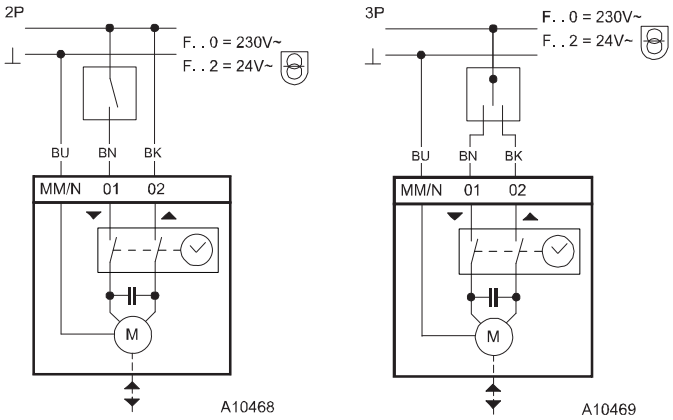


Cooling intermediate piece

0372249 001 / 002

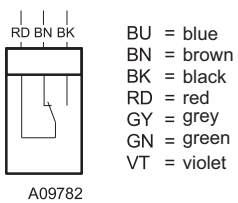


Wiring diagram



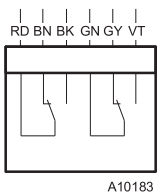
Accessories

372145 001

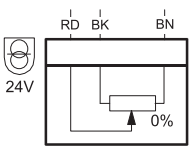


BU = blue
BN = brown
BK = black
RD = red
GY = grey
GN = green
VT = violet

372145 002



0372286



Electric actuators

Sauter

AVM 105S
AVM 115S

Technical data

Type	AVM 105S F132	AVM 115S F132
Voltage	Electric actuator with SUT technology	
Frequency	24 V AC 230 V AC ± 20%, 50..60 Hz / 24 V DC +20% / -10%	
Motor power	8,5 VA	8,7 VA
Control	0 - 10 V; 3-position; 2-position	
Open-close running time	Adjustable 35, 60, 120 s	Adjustable 60, 120 s
Nominal force	250 N	500 N
Stroke	max. 8 mm	
Enclosure	IP 54	
Process medium max. temp.	100°C, with cooling intermediate piece 130°C or 150°C	
Ambient temperature range	-10 to 55°C	
Ambient humidity limit	< 95% relative humidity without condensation	
Hand control	Little handle - additional accessories	
Weight	0,7 kg	

→ See original producer's catalogue sheets for further detailed information about actuators

Accessories

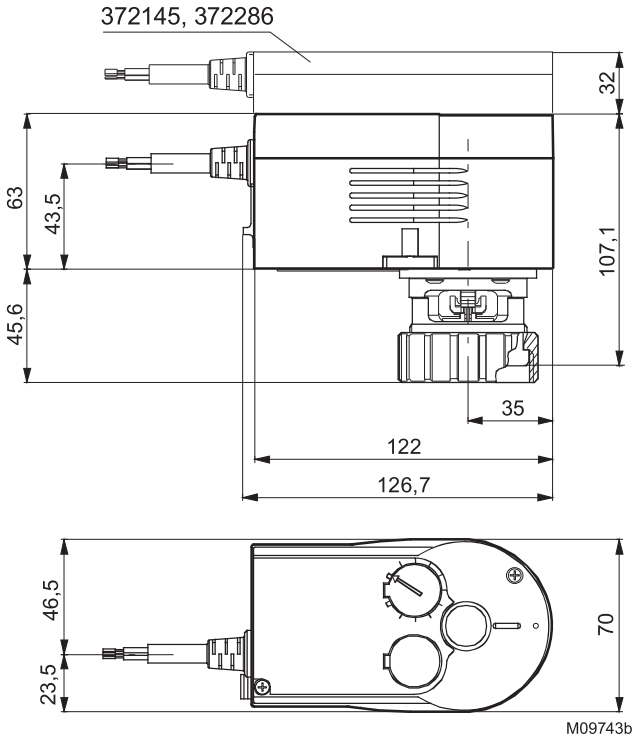
0313529 001	Split-range unit for setting sequences; to be fitted in separate distribution box as per MV 505671
0372145 001*)	Single auxiliary change-over contacts. MV 505795
0372145 002*)	Double auxiliary change-over contacts. MV 505795
0372249 001	Intermediate piece required for media temperature >100 °C (recommended for temperature < 10 °C); MV 505932
0372249 002	Intermediate piece required for media temperature up to 150°C; MV 505932
0372286 001*)	Potentiometer 130 W; MV 505795
0372286 002*)	Potentiometer 1000 W; MV 505795
0372286 003*)	Potentiometer 5000 W; MV 505795
0372320 001	Allen key for manual adjustment
0372462 001	CASE Drives PC Tool for configuration of actuators per computer; MV 506101

*) Only one potentiometer or one set of auxiliary contacts can be fitted to each drive!

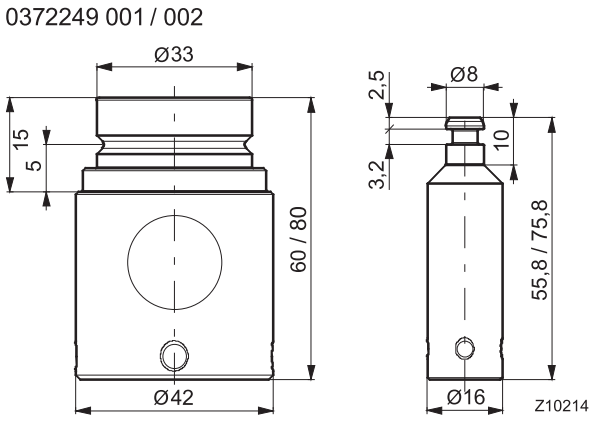
SUT - Sauter Universal Technology

→ Stepping motor with SUT (SAUTER Universal Technology) electronic control unit and electronic load-dependent cut-off
→ Automatic detection of control signal applied (continuous or switching)
→ The type of characteristic curve (linear, quadratic or equal percentage) can be set in the actuator
→ Independent adaptation to valve stroke
→ Direction of travel can be set on cable
→ Coding switch for selection of characteristic and running time (35, 60 or 120 s)

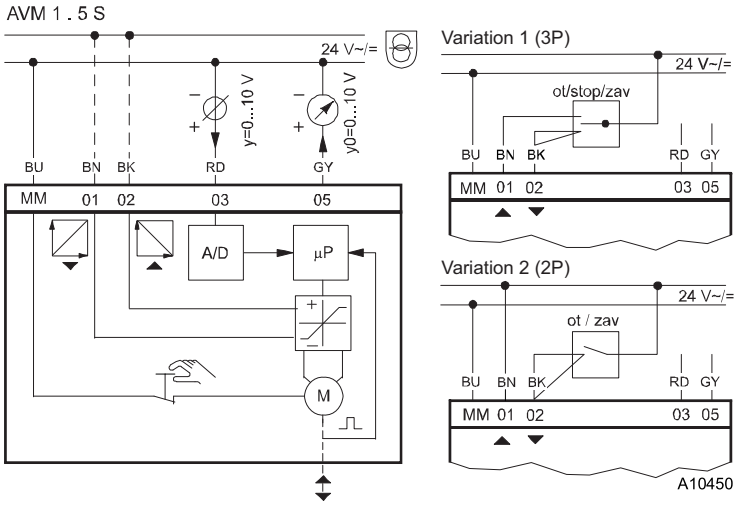
Actuator dimensions



Cooling intermediate piece

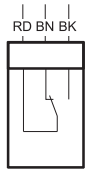


Wiring diagram



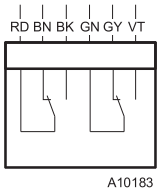
Accessories

372145 001

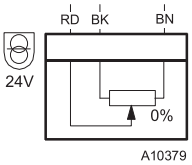


BU = blue
BN = brown
BK = black
RD = red
GY = grey
GN = green
VT = violet

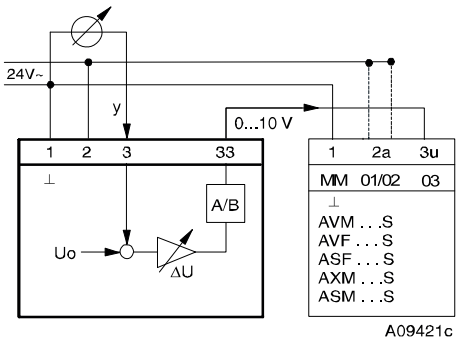
372145 002



0372286



0313529



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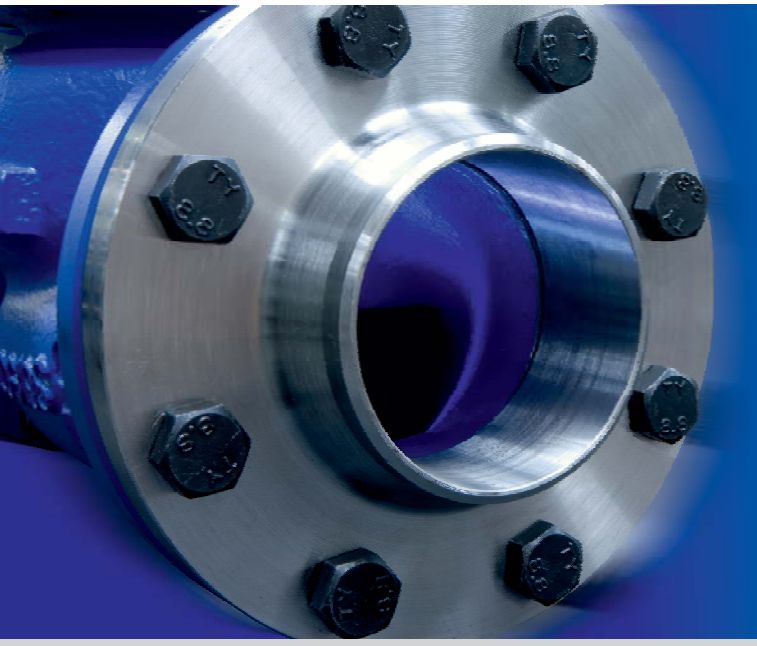

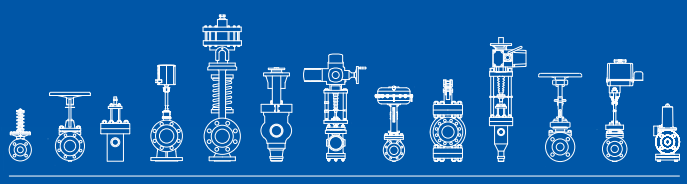

POWER THROUGH IDEAS