



ACVATIX™

Electromotoric actuators for **SAV..P..** valves

with a 40 mm stroke

-
- **SAV31P00** Operating voltage AC 230 V, 3-position control signal
 - **SAV61P00** Operating voltage AC/DC 24 V, control signal DC 0...10 V, 4...20 mA
 - **SAV81P00** Operating voltage AC/DC 24 V, 3-position control signal
 - **SAV61P00** Position feedback, override control, choice of flow characteristic
 - For direct mounting on valves; no adjustments required
 - Manual adjuster, position indicator and status indication per LED
 - Optional functions with auxiliary switches, potentiometer, function module, stem heating element

Use

Electromotoric actuators for the operation of Siemens combi valves of types VPF43.. and VPF53.. with 40 mm stroke as control and safety shut-off valves in ventilation, air conditioning, district heating and refrigerating systems.

Type summary

Product no.	Stock no.	Stroke	Pos. force	Operating voltage	Positioning signal	Spr. ret. time	Pos. time	LED	Manual adjuster	Extra functions
SAV31P00	S55150-A121	40 mm	1100 N	AC 230 V	3-position	-	120 s	-	Press and fix	1)
SAV61P00	S55150-A119			AC/DC 24 V	DC 0...10 V DC 4...20 mA 0...1000 Ω			✓		2), 3)
SAV81P00	S55150-A120			3-position	-			1)		

1) Optional accessories: auxiliary switch, potentiometer

2) Position feedback, forced control, change of characteristic

3) Optional accessories: auxiliary switch, sequence control, selection of acting direction

Electrical accessories

Product no.	Auxiliary switch ASC10.51	Potentiometer ASZ7.5/.. ¹⁾	Function module AZX61.1
Stock no.	S55845-Z103	S55845-Z104 (ASZ7.5/135) S55845-Z105 (ASZ7.5/200) S55845-Z106 (ASZ7.5/1000)	S55845-Z107
Max. 2			
SAV31P..	Max. 2	Max. 1	
SAV61P..	Max. 2	-	Max. 1 AZX61.1
SAV81P..		Max. 1	

¹⁾ Available with 135 Ω, 200 Ω or 1000 Ω

Mechanical Accessory Weather shield ASK39.1

Ordering

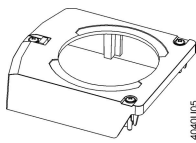

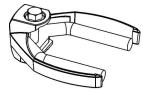
Example

Product no.	Stock no.	Description	Quantity
SAV81P00	S55150-A120	Actuator	1
ASZ7.5/1000	S55845-Z106	Potentiometer	1

Delivery

Actuators, valves and accessories are supplied in individual packs.

Spare parts

Product number / Stock number	Description	Description
8000060843	Housing cover  4040U05	Screw (valve stem coupling)  4040U02
		U-bracket  4040U04

Combinations

VPF43..	Type	Stock no.	DN	H ₁₀₀ [mm]	\dot{V}_{min} [m ³ /h]	\dot{V}_{100} [m ³ /h]	Δp_{min} [kPa]	Data sheet
Standard flow	VPF43. 100F70	S55266-V106	100	40	14	70	35	N4315
	VPF43. 125F110	S55266-V108	125		22	110		
	VPF43. 150F160	S55266-V110	150	43	32	160		
High flow	VPF43. 100F90	S55266-V107	100	40	18	90	70	
	VPF43. 125F135	S55266-V109	125		27	135		
	VPF43. 150F200	S55266-V111	150	43	40	200		

VPF53..	Type	Stock no.	DN	H ₁₀₀ [mm]	\dot{V}_{min} [m ³ /h]	\dot{V}_{100} [m ³ /h]	Δp_{min} [kPa]	Data sheet
Standard flow	VPF53. 100F70	S55266-V118	100	40	14	70	35	N4316
	VPF53. 125F110	S55266-V120	125		22	110		
	VPF53. 150F160	S55266-V122	150	43	32	160		
High flow	VPF53. 100F90	S55266-V119	100	40	18	90	70	
	VPF53. 125F135	S55266-V121	125		27	135		
	VPF53. 150F200	S55266-V123	150	43	40	200		

Product documentation

Detailed Informations about the New Generation actuators can be found in the Basic documentation for actuators (P4040).

Notes

Engineering
SAV31P00 / SAV81P00

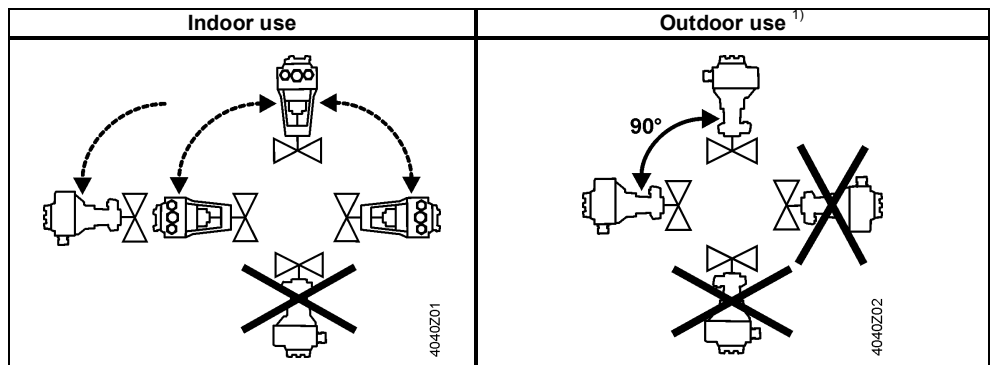
3-position actuators must have their own specific controller, refer to "Connection Diagrams" (page 8).

SAV61P00

Up to 10 actuators can drive in parallel on a controller output with a rating of 1 mA. Modulating actuators have an input impedance of 100 k Ω .

Mounting

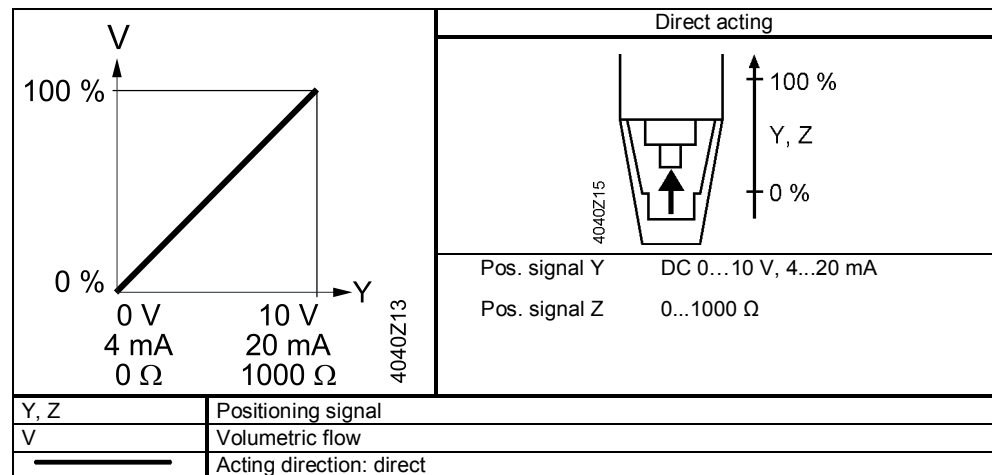
Mounting positions



¹⁾ Only in connection with weather shield ASK39.1

Acting direction

With valves whose stem is retracted in the fully closed position, "direct acting" means that the valve is fully closed (0 %) when positioning signal $Y = 0 \text{ V}$ and $Z = 0 \ \Omega$ respectively.



Maintenance

The actuators are maintenance-free.

Warranty

The engineering data specified in chapter "Combinations" (page 3) are only guaranteed in connection with the Siemens valves listed.

Note

When using the actuators in connection with valves of other manufacture, correct functioning must be ensured by the user, and Siemens will assume no responsibility.

Technical Data

		SAV..P..
Power supply	Operating voltage SAV31.. SAV61.. SAV81..	AC 230 V ±15% AC 24 V ± 20% / DC 24 V + 20% / -15% (SELV) AC 24 V ±20% / DC 24 V + 20 % / -15% (SELV)
	Frequency	45...65Hz
	External supply line protection (EU)	<ul style="list-style-type: none"> Fuse slow 6...10 A Circuit breaker max. 13 A, Characteristic B, C, D according to EN 60898 Power source with current limitation of max. 10 A
	Power consumption at 50 Hz SAV31P00 Stem retracts / extends SAV61P00 Stem retracts / extends SAV81P00 Stem retracts / extends	6.5 VA, 4 W 9.5 VA, 4.5 W 7 VA, 4.5 W
Function data	Positioning times (with the specified nominal stroke) The positioning time can vary, depending on the type of valve -> refer chapter "Type summary" (page 2) SAV31P00, SAV61P00, SAV81P00 Positioning force Nominal stroke Permissible medium temperature (valve fitted)	120 s 1100 N 40 mm (43 mm on VPF..150) 1...120 °C
Signal inputs	Positioning signal "Y" SAV31P00, SAV81P00 SAV31P.. Voltage SAV81P.. Voltage SAV61P00 (DC 0...10 V) Current draw SAV61P00 (DC 4...20 mA) Current draw Input impedance Input impedance	3-position AC 230 V ±15% AC 24 V ± 20 % / DC 24 V + 20 % / -15% ≤ 0.1 mA ≥ 100 kΩ DC 4...20 mA ± 1% ≤ 500 Ω
Parallel operation	SAV61P03	≤ 10 (depending on controller output)
Forced control	Positioning signal "Z" SAV61P00 R = 0...1000 Ω Z connected to G Z connected to G0 Voltage Current draw	R = 0...1000 Ω, G, G0 Stroke proportional to R Max. stroke 100% ¹⁾ Min. stroke 0% ¹⁾ Max. AC 24 V ± 20% Max. DC 24 V + 20% / -15% ≤ 0.1 mA
Position feedback	Position feedback U SAV61P00 Load impedance Load	DC 0...10 V ± 1% > 10 kΩ res. Max. 1 mA
Connecting cable	Wire cross-sectional areas	0.75...1.5 mm ² , AWG 20...16 ²⁾
	Cable entries SAV..P..	EU: 2 entries Ø 20.5 mm (for M20) 1 entry Ø 25.5 mm (for M25)
Degree of protection	Housing from vertical to horizontal	IP54 as per EN 60529 ³⁾
	Insulation class Actuators SAV31P00 AC 230 V Actuators SAV61P00 AC / DC 24 V Actuators SAV81P00 AC / DC 24 V	As per EN 60730 II III III
Environmental conditions	Operation Climatic conditions Mounting location Temperature General Humidity (noncondensing)	IEC 60721-3-3 Class 3K5 Indoors (weather-protected) 5...55 °C 5...95% r.h.
	Transport Climatic conditions Temperature Humidity	IEC 60721-3-2 Class 2K3 -25...70 °C <95% r.h.
	Storage Climatic conditions Temperature Humidity	IEC 60721-3-1 Class 1K3 -5...55 °C 5...95% r.h.
	Max. media temperatur when mounted on valve	120 °C

¹⁾ Observe acting direction of DIL switches

²⁾ AWG = American wire gauge

³⁾ Also with weather shield ASK39.1

Directives and Standards	Product standard Electromagnetic compatibility (Application)	EN 60730-x For residential, commercial and industrial environments CE1T4503xx ¹⁾ CE1T4503_C1 ¹⁾
	EU Conformity (CE) RCM Conformity	AC 230 V
	EAC Conformity	Eurasia Conformity for all SAV..
	UL, cUL	AC 230 V AC/DC 24 V
		UL 873 http://ul.com/database
Environmental compatibility		The product environmental declaration 71 7331 0522 A ¹⁾ contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).
Dimensions		See "Dimensions" (page 9)
Accessories ²⁾	Potentiometer ASZ7.5/135	0...135 Ω ± 5% DC 10 V Current rating <4 mA
	Potentiometer ASZ7.5/200	0...200 Ω ± 5% DC 10 V Current rating <4 mA
	Potentiometer ASZ7.5/1000	0...1000 Ω ± 5% DC 10 V Current rating <4 mA
	Auxiliary switch ASC10.51 External supply line protection US Installation, UL & cUL	Switching capacity AC 24...230 V, 6 (2) A, floating See section power supply AC 24 V class 2, 5 A general purpose

¹⁾ The documents can be downloaded from <http://siemens.com/bt/download>.

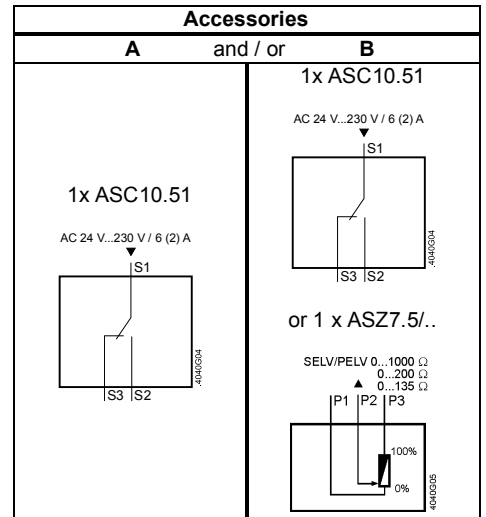
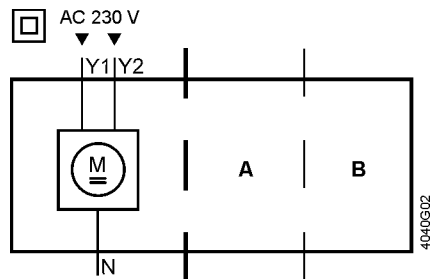
²⁾ UL recognized component



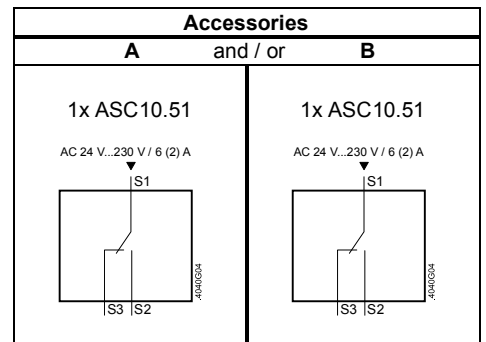
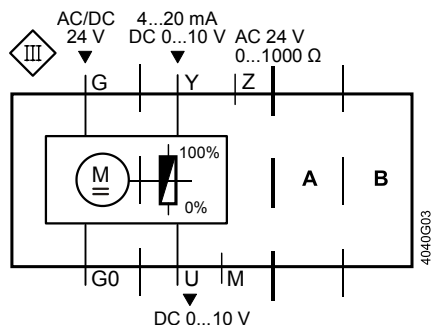
Connection Diagrams

Internal Diagrams

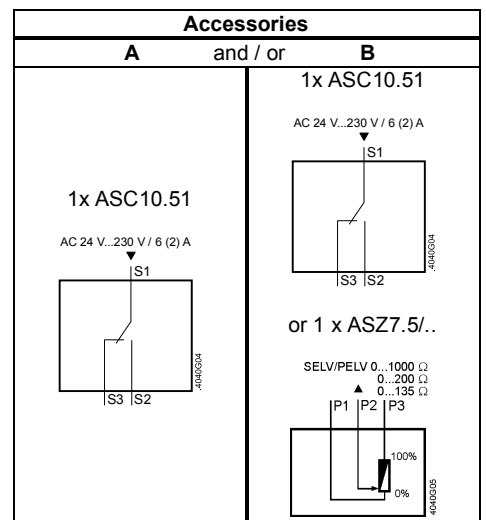
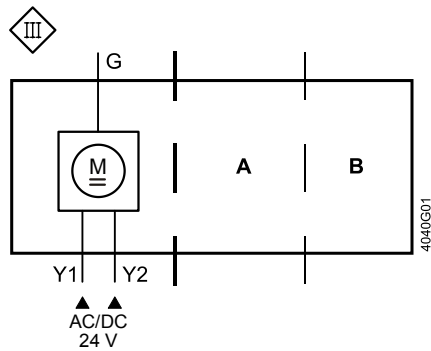
SAV31P00



SAV61P00



SAV81P00



Connection terminals

SAV31P00

AC 230 V, 3-position

N	—	System neutral (SN)
Y1	—	Positioning signal (actuator's stem retracts)
Y2	—	Positioning signal (actuator's stem extends)

SAV61P00

AC/DC 24 V, DC 0...10 V / 4...20 mA / 0...1000 Ω

G0	—	System neutral (SN)
G	—	System potential (SP)
Y	—	Positioning signal for DC 0...10 V / 4...20 mA
M	—	Measuring neutral
U	—	Position feedback DC 0...10 V
Z	—	Positioning signal forced control

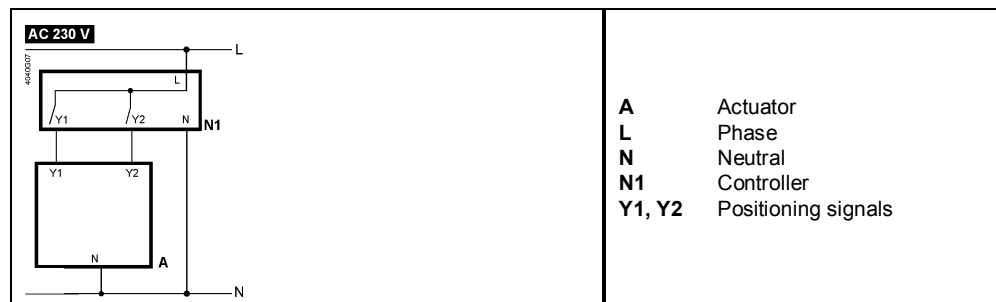
SAV81P00

AC/DC 24 V, 3-position

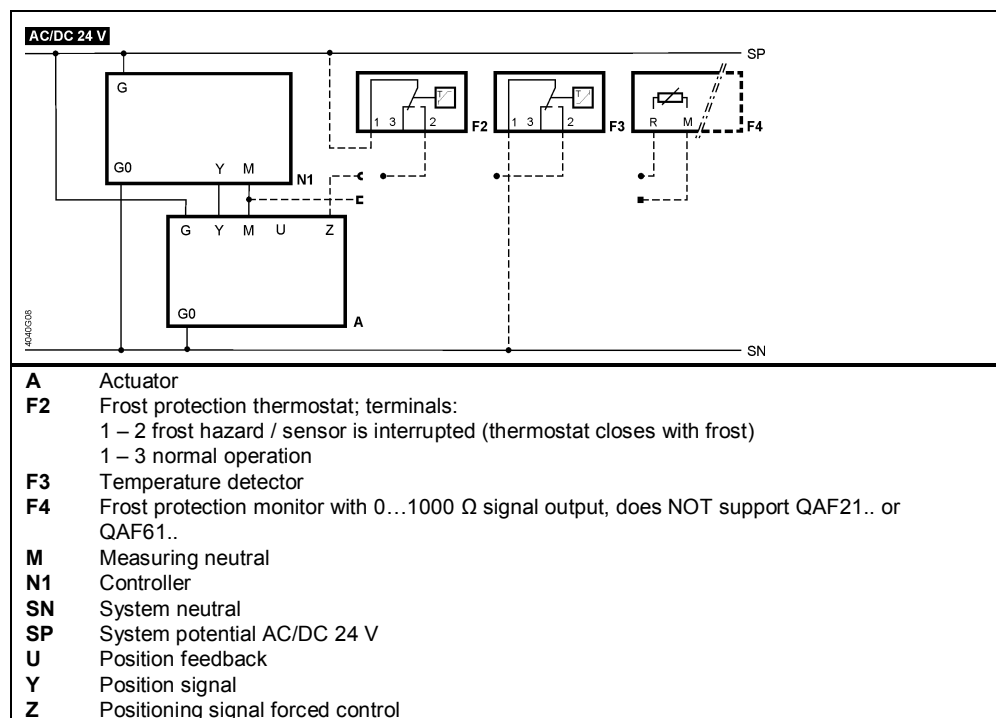
G	—	System potential (SP)
Y1	—	Positioning signal (actuator's stem retracts)
Y2	—	Positioning signal (actuator's stem extends)

Connection Diagrams

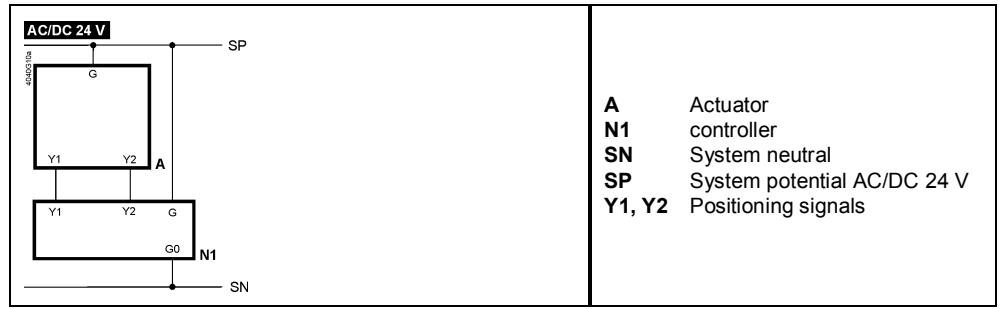
SAV31P00



SAV61P00

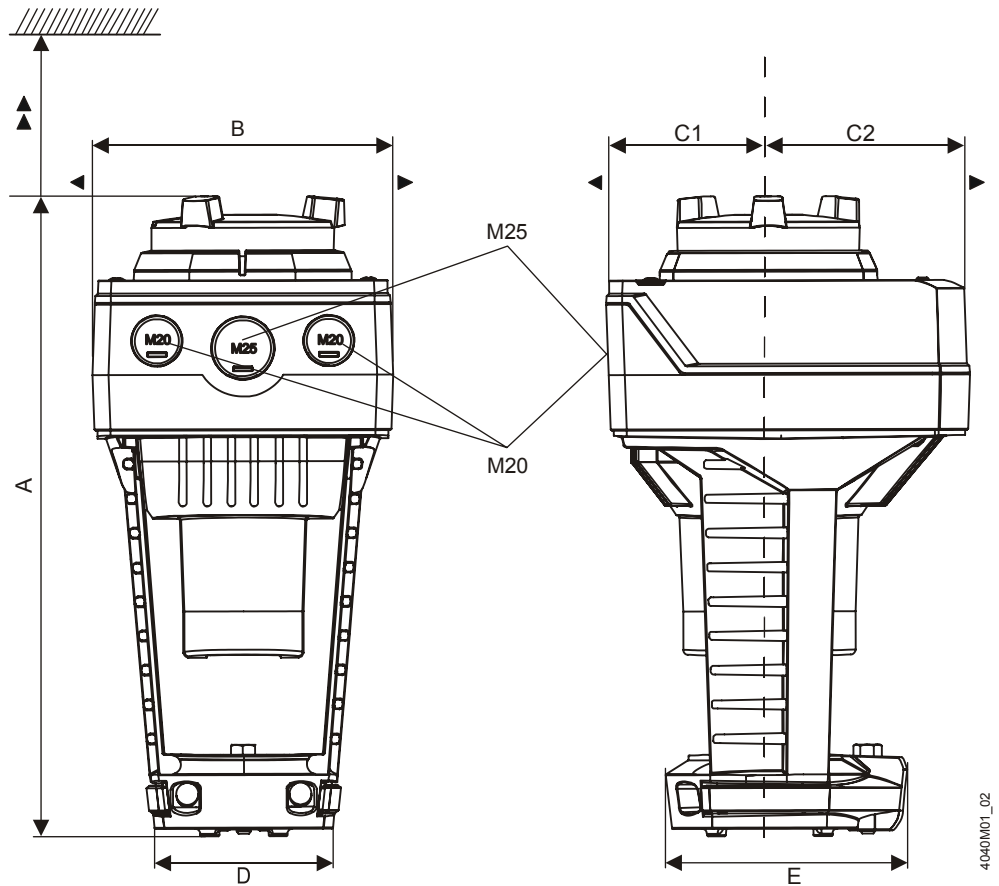


SAV81P00



A Actuator controller
N1 System neutral
SN System potential AC/DC 24 V
Y1, Y2 Positioning signals

Dimensions



4040V01_02

Type	A	B	C	C1	C2	D	E	▶	▶▶	kg
SAV..P..	265	124	150	68	82	80	100	100	200	1.920
With ASK39.1	+25	154	300	200	100	-	-	-	-	2.150

Dimensions in mm

Revision numbers

Product no.	Valid from rev. no.
SAV31P00	..B
SAV61P00	..B
SAV81P00	..B

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