



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

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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/.. <sup>1)</sup>	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	

<sup>1)</sup> Available with 135 Ω, 200 Ω or 1000 Ω

**Mechanical Accessory** Weather shield ASK39.1

## Ordering

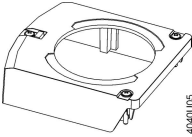

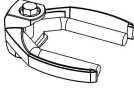
### Example

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  4040J05	Screw (valve stem coupling)  4040J02
		U-bracket  4040J04

## Combinations

VPF43..	Type	Stock no.	DN	H <sub>100</sub> [mm]	$\dot{V}_{min}$ [m <sup>3</sup> /h]	$\dot{V}_{100}$ [m <sup>3</sup> /h]	$\Delta p_{min}$ [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 <sub>100</sub> [mm]	$\dot{V}_{min}$ [m <sup>3</sup> /h]	$\dot{V}_{100}$ [m <sup>3</sup> /h]	$\Delta p_{min}$ [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

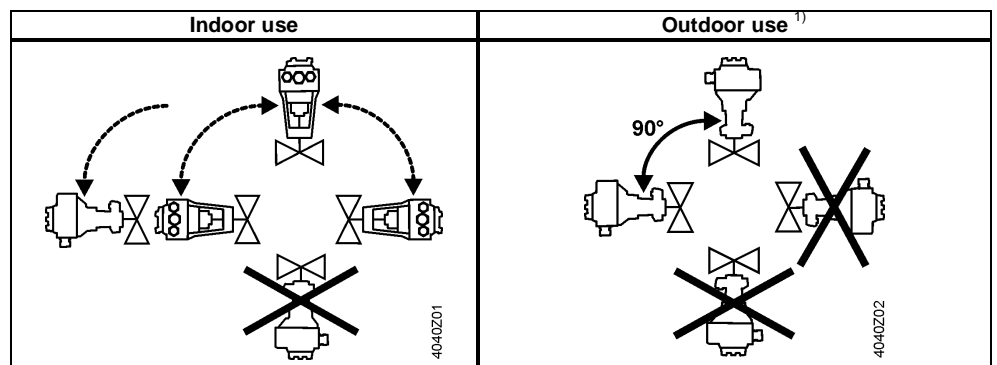
**Engineering**  
SAV31P00 / SAV81P00

3-position actuators must have their own specific controller, refer to "Connection Diagrams" (page 9).

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 $\Omega$ .

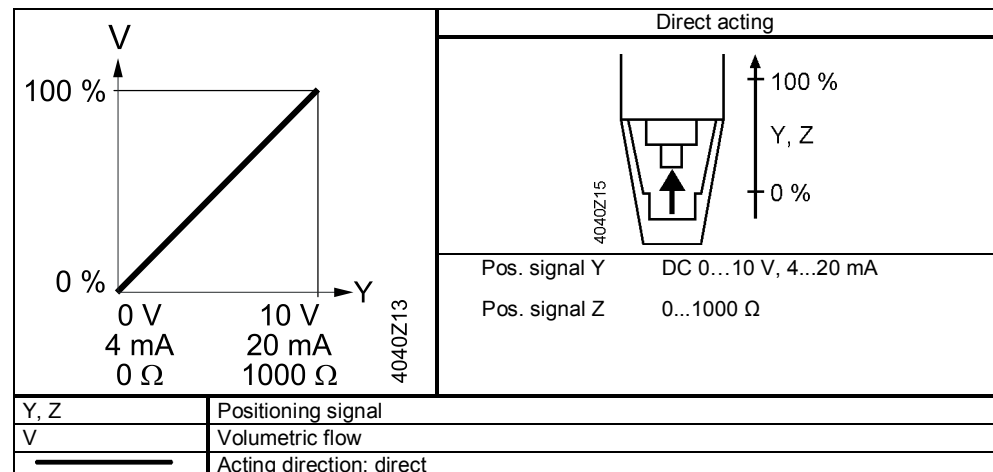
**Mounting**  
Mounting positions



<sup>1)</sup> 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.**

## Disposal



The device is considered electrical and electronic equipment for disposal in terms of the applicable European Directive and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

## Technical Data

		SAV..P..
<b>Power supply</b>	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"> <li>Fuse slow 6...10 A</li> <li>Circuit breaker max. 13 A, Characteristic B, C, D according to EN 60898</li> <li>Power source with current limitation of max. 10 A</li> </ul>
	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
<b>Function data</b>	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
<b>Signal inputs</b>	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
<b>Parallel operation</b>	SAV61P03	≤ 10 (depending on controller output)
<b>Forced control</b>	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% <sup>1)</sup> Min. stroke 0% <sup>1)</sup> Max. AC 24 V ± 20% Max. DC 24 V + 20% / -15% ≤ 0.1 mA
<b>Position feedback</b>	Position feedback U    SAV61P00 Load impedance Load	DC 0...10 V > 10 kΩ res. Max. 1 mA
<b>Connecting cable</b>	Wire cross-sectional areas	0.75...1.5 mm <sup>2</sup> , AWG 20...16 <sup>2)</sup>
	Cable entries	SAV..P.. EU: 2 entries Ø 20.5 mm (for M20) 1 entry Ø 25.5 mm (for M25)
<b>Degree of protection</b>	Housing from vertical to horizontal	IP54 as per EN 60529 <sup>3)</sup>
	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
<b>Environmental conditions</b>	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

<sup>1)</sup> Observe acting direction of DIL switches

<sup>2)</sup> AWG = American wire gauge

<sup>3)</sup> Also with weather shield ASK39.1

<b>Directives and Standards</b>	Product standard Electromagnetic compatibility (Application)	EN 60730-x For residential, commercial and industrial environments CE1T4503xx <sup>1)</sup> CE1T4503_C1 <sup>1)</sup>
	EU Conformity (CE) RCM Conformity	AC 230 V
	EAC Conformity	Eurasia Conformity for all SAV..
	UL, cUL	AC 230 V AC/DC 24 V
<b>Environmental compatibility</b>		The product environmental declaration 71 7331 0522 A <sup>1)</sup> contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).
<b>Dimensions</b>		See "Dimensions" (page 10)
<b>Accessories <sup>2)</sup></b>	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

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

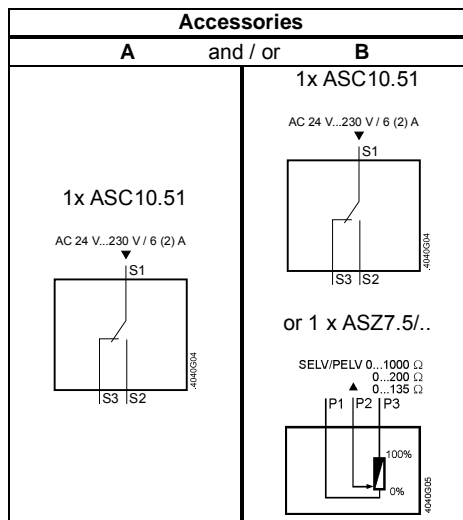
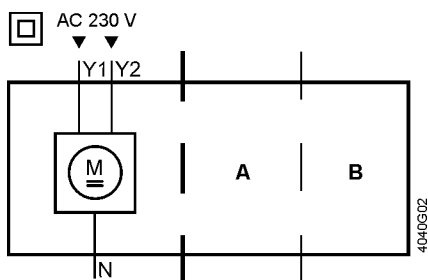
<sup>2)</sup> UL recognized component



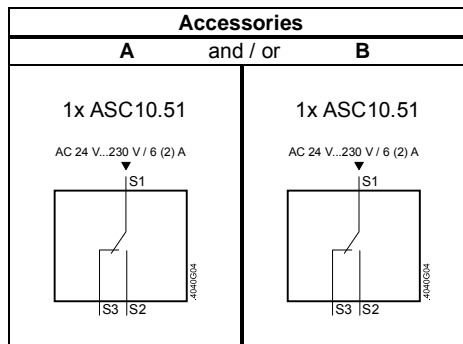
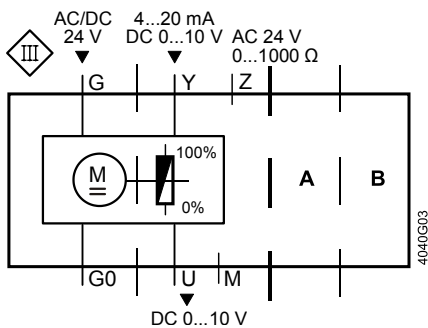
# Connection Diagrams

## Internal Diagrams

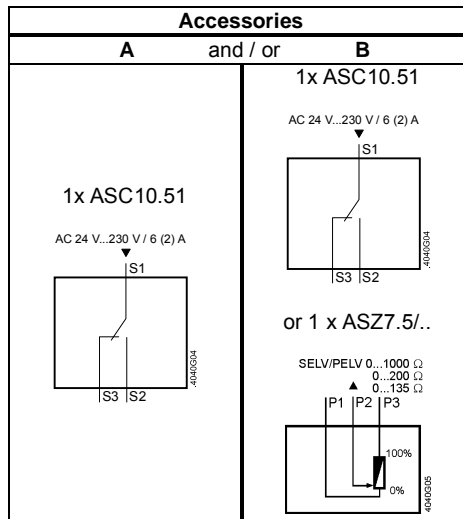
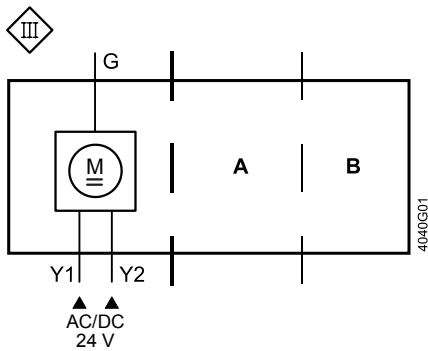
SAV31P00



SAV61P00



SAV81P00



## Connection terminals

SAV31P00

AC 230 V, 3-position

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

SAV61P00

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

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

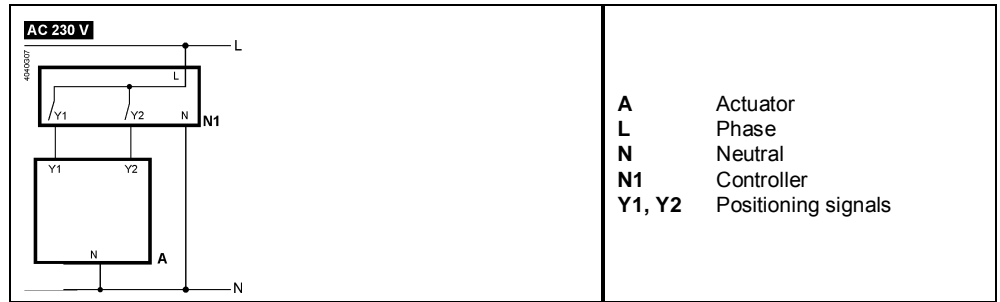
SAV81P00

AC/DC 24 V, 3-position

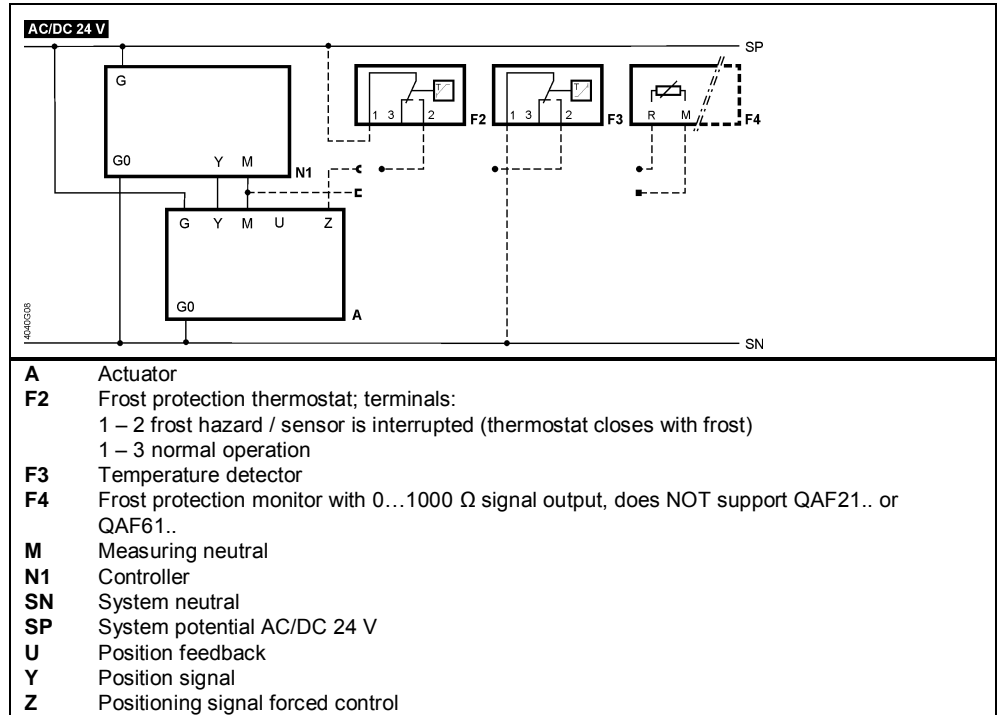
<b>G</b>	—	System potential (SP)
<b>Y1</b>	—	Positioning signal (actuator's stem retracts)
<b>Y2</b>	—	Positioning signal (actuator's stem extends)



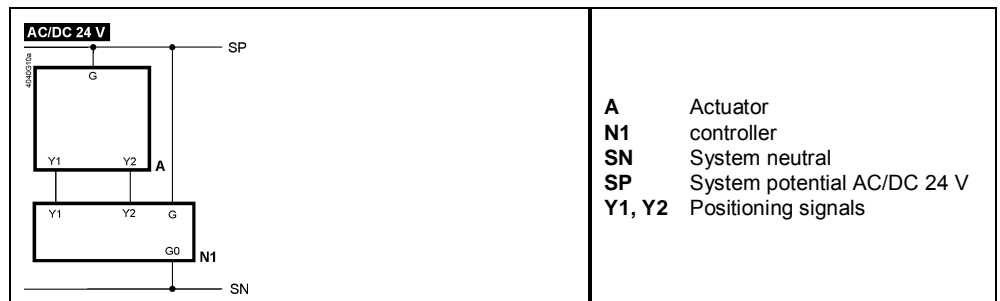
**Connection Diagrams**  
SAV31P00



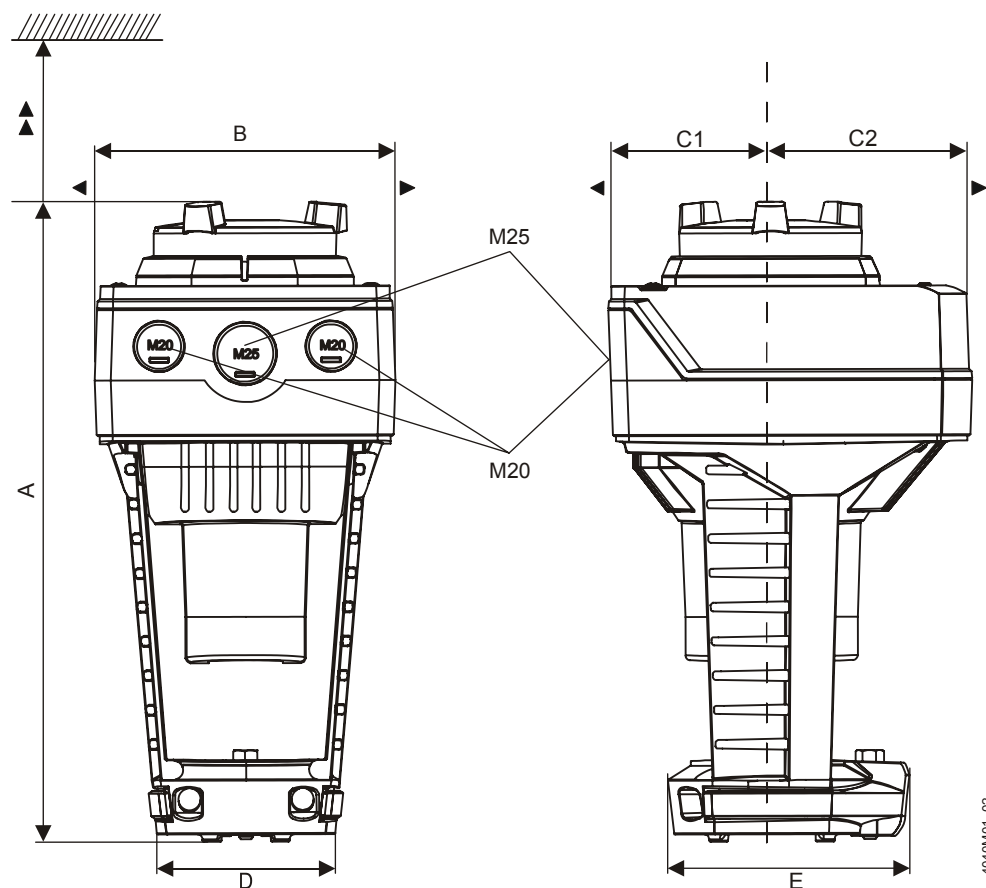
SAV61P00



SAV81P00



## Dimensions



4040M01\_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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