



ACVATIX™

Electromotoric actuators for valves

SAT..

with a 5.5 mm stroke and 300 N positioning force

-
- **SAT31..** Operating voltage AC 230 V, 3-position control signal
 - **SAT61..** Operating voltage AC/DC 24 V, control signal DC 0...10 V, DC 4...20 mA, 0...1000 Ω
 - **For direct mounting on valves; no adjustments required**
 - **Manual adjuster, position indicator and status indication per LED**

Use

For the operation of Siemens 2-port and 3-port valves, types VVP45.., VXP45.. and VVG549.. with 5.5 mm stroke, as control or shutoff valves for HVAC plants.

Type summary

Product no.	Stock no.	Operating voltage	Positioning signal	Power consumption	Positioning time	Fail safe function	Manual adjuster	Position feedback	Remark
SAT31.008	S55158-A119	AC 230 V	3-position	2 VA	8 s	no	no	-	2)
SAT31.51	S55158-A120			2.5 VA	15 s	yes	yes		
SAT61.008	S55158-A117	AC/DC 24 V	DC 0...10 V DC 4...20 mA 0...1000 Ω	2.5 VA	8 s	no	no	DC 0...10 V	3)
SAT61.51	S55158-A118			3 VA	15 s	yes	yes		

1) Cable gland: M16 and M20 (ISO50262)

2) Approbation: CE

3) Approbation: CE and UL (only 24 V)

Mechanical Accessory Weather shield ASK39.2

Ordering

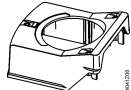

Example

Product no.	Stock no.	Description	Quantity
SAT31.008	S55158-A119	Actuator	1
+ auxiliary components (connections, auxiliary switches...)			



Delivery


Actuators, valves and accessories are supplied in individual packs.

Spare parts

Stock number	Description	
8000069476	Housing cover with screws and light conductor as an assembly, without laser marking	
8000069480	Slipper adapter (rotary clips), in pairs	

Combinations

PN 16	VVP45..	PN 16	VXP45..	SAT..				
Medium	1...110 °C	Medium	1...110 °C	DN	G	k _{vs}	Δp _s	Δp _{max}
Data sheet	N4845	Data sheet	N4845		[Inch]	[m ³ /h]	[kPa]	[kPa]
	VVP45.20-4		VXP45.20-4	20	G 1 B	4	350	350
	VVP45.25-6.3		VXP45.25-6.3	25	G 1 1/4 B	6.3	300	300
	VVP45.25-10		VXP45.25-10	25	G 1 1/2 B	25	300	300
	VVP45.32-16		VXP45.32-16	32	G 2 B	16	175	175
	VVP45.40-25		VXP45.40-25	40	G 2 1/4 B	25	75	75

PN 25	VVG549..	SAT..				
Medium	2...130 °C ¹⁾	DN	G	k _{vs}	Δp _s	Δp _{max}
Data sheet	Q4380		[Inch]	[m ³ /h]	[kPa]	[kPa]
	VVG549.15-0.25	15	G 3/4 B	0.25	1200	2500
	VVG549.15-0.4			0.4		
	VVG549.15-0.63			0.63		
	VVG549.15-1			1		
	VVG549.15-1.6			1.6		
	VVG549.15-2.5			2.5		
	VVG549.20-4K ²⁾	20	G 1 B	4	1600	
	VVG549.25-6.3K ²⁾	25	G 1 1/4 B	6.3		

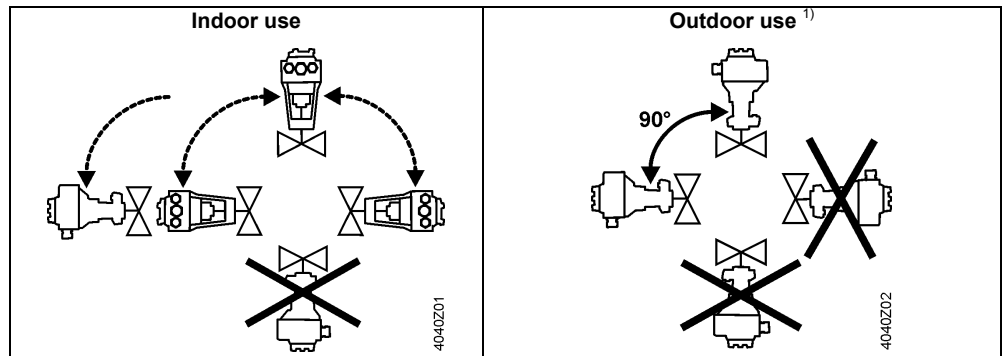
1) briefly 150 °C, with ALG..B fittings up to 100 °C

2) pressure compensated

Detailed Informations about the New Generation actuators can be found in the Basic documentation "Actuators SAS., SAK., SAT.. for valves" (CE1P4041en).

Notes

Mounting



1) Only in connection with weather shield ASK39.1

Maintenance

The actuators are maintenance-free.

Warranty

The engineering data specified in chapter "Combinations" 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

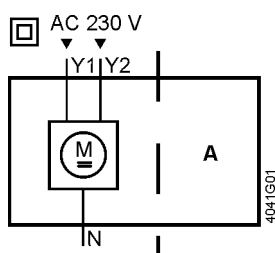
		SAT..	
Power supply	Operating voltage	SA..31..	AC 230 V ± 15 %
		SA..61..	AC 24 V ± 20 % / DC 24 V + 20 % / -15%
		SA..81..	AC/DC 24 V ± 20 %
	Frequency		45...65Hz
	Fusing of supply lines		Max. 13 A slow
	Power consumption at 50 Hz		Stem retracts / extends
	SAT31.008		2 VA
	SAT31.51		2.5 VA
	SAT61.008		2.5 VA
	SAT61.51		2 VA
Function data	Positioning times with the specified nominal stroke	SAT..008	8 s
		SAT..51	15 s
	Positioning force		300 N
	Nominal stroke		5.5 mm
	Permissible medium temperature (valve fitted)	briefly	
Signal inputs	Y positioning signal	SAT31.008	3-position
		SAT31.51	
		SAT61.008	DC 0...10 V / DC 4...20 mA / 0...1000 Ω
		SAT61.51	
	SA..61.. (DC 0...10 V) Current draw		≤ 0.1 mA
	Input impedance		≥ 100 kΩ
	SA..61.. (DC 4...20 mA) Current draw		DC 4...20 mA ± 1 %
Input impedance		≤ 500 Ω	
Parallel operation	SA..61..		≤ 10 (depending on controller output)

		SAT..		
Forced control	Positioning signal Z	SA..61..	R = 0...1000 Ω, G, G0	
		R = 0...1000 Ω	Stroke / rotation proportional to R	
		Z connected to G	Max. stroke 100 %	
		Z connected to G0	Min. stroke 0 %	
		Voltage	Max. AC 24 V ± 20 % / Max. DC 24 V + 20 % / -15%	
		Current draw	≤ 0.1 mA	
Position feedback	U	SA..61..	DC 0...10 V ± 1 %	
		Load impedance	> 10 kΩ res.	
		Load	Max. 1 mA	
Connecting cable	Wire cross-sectional areas	0.13...1.5 mm ² , AWG 24...16 ¹⁾		
	Cable entries	SA..	EU: 1 entry ∅ 16.4 mm (for M16) 1 entry ∅ 20.5 mm (for M20)	
		SA..U	US: 2 entries ∅ 21.5 mm for ½" tube connection	
Degree of protection	Housing protection		IP 54 as per EN 60529 ²⁾	
		Mounting position	from vertical to horizontal	
	Insulation class		As per EN 60730	
		Actuators SA..31.. AC 230 V	II	
Actuators SA..61.. AC / DC 24 V		III		
	Actuators SA..81.. AC / DC 24 V	III		
Environmental conditions	Operation	Climatic conditions	IEC 60721-3-3	
		Mounting location	Class 3K5	
		Temperature general	Indoors (weather-protected)	
		Humidity (noncondensing)	-5...55 °C	
	Transport	Climatic conditions	IEC 60721-3-2	
		Temperature	Class 2K3	
		Humidity	-25...70 °C	
			< 95 % r.h.	
	Storage	Temperature	IEC 60721-3-1	
		Humidity	-15...55 °C	
			5...95 % r.h.	
Norms and Standards	CE conformity	As per EMC directive	2004/108/EG	
		Immunity	EN 61000-6-2:[2005] Industrial ³⁾	
		Emissions	EN 61000-6-3:[2007] Residential	
	Electrical safety		EN 60730-1	
	Low-voltage directive	AC 230 V	2006/95/EG	
		C-tick	N 474	
	UL conformity	AC 230 V	-	
AC / DC 24 V		UL 873		
Environmental compatibility		ISO 14001 (environment)		
		ISO 9001 (quality)		
		SN 36350 (environment-compatible products)		
		RL 2002/95/EG (RoHS)		
Dimensions / Weight	Excl. packaging	See „Dimensions“		

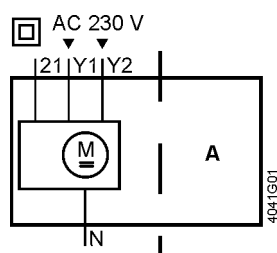
Connection Diagrams

Internal Diagrams

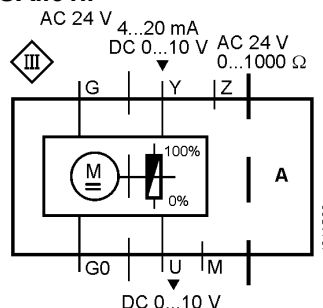
SA..31..



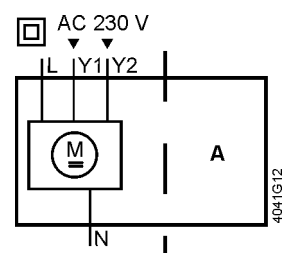
SA..31.5..



SA..61..



SAT31.008



Connection terminals

SA..31..

AC 230 V, 3-position

N	System neutral (SN)
Y1	Positioning signal (actuator's stem extends / actuator's spindle turns clockwise)
Y2	Positioning signal (actuator's stem retracts / actuator's spindle turns counter-clockwise)

SA..31.5..

AC 230 V, 3-position

N	System neutral (SN)
Y1	Positioning signal (actuator's stem extends / actuator's spindle turns clockwise)
Y2	Positioning signal (actuator's stem retracts / actuator's spindle turns counter-clockwise)
21	System potential (SP)

SA..61..

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 AC/DC ≤ 24 V, 0...1000 Ω

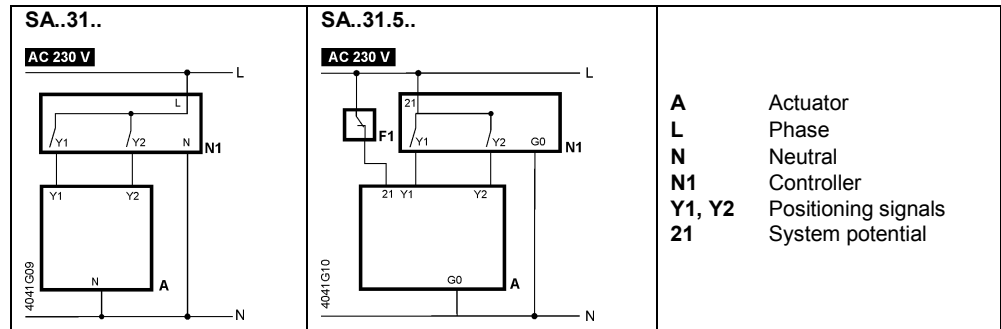
SA..81..

AC/DC 24 V, 3-position

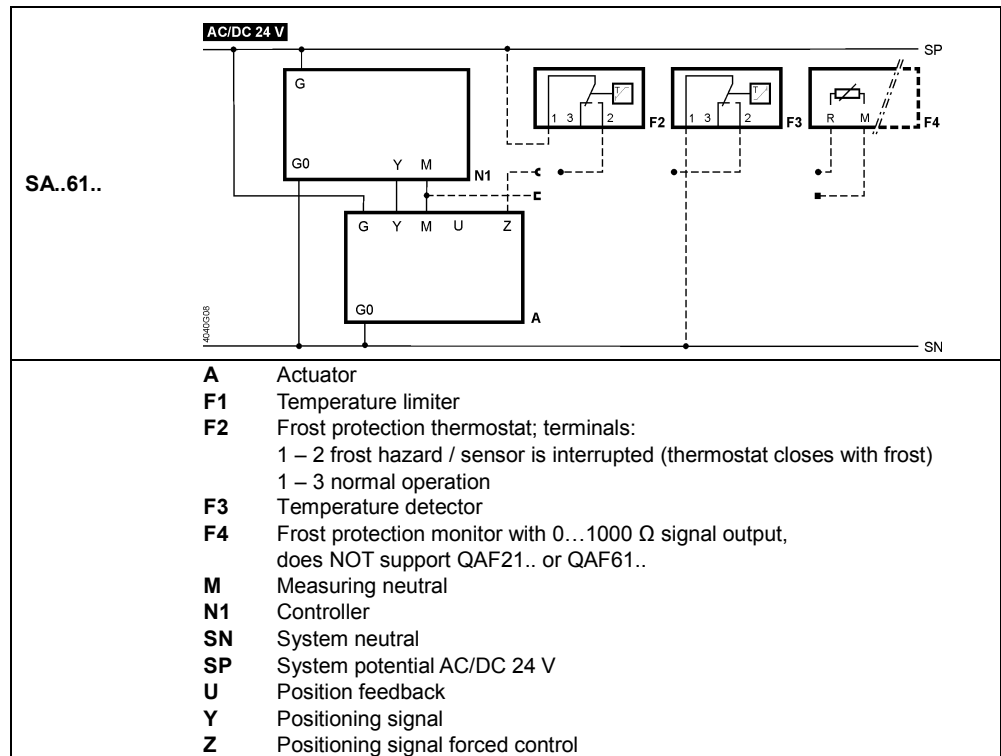
G	System potential (SP)
Y1	Positioning signal (actuator's stem extends / actuator's spindle turns clockwise)
Y2	Positioning signal (actuator's stem retracts / actuator's spindle turns counter-clockwise)

Connection Diagrams

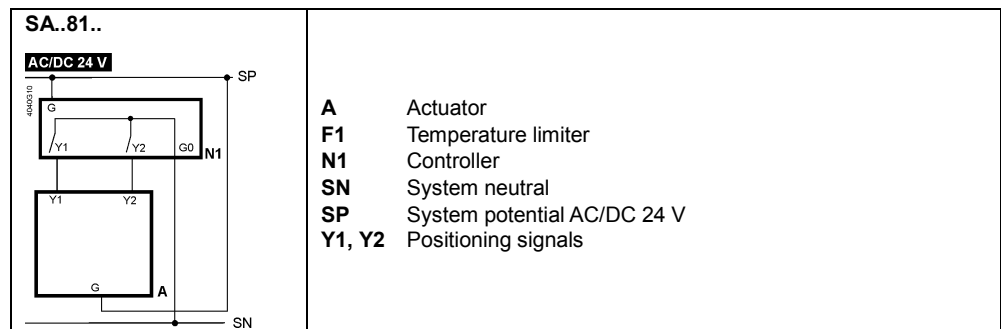
SA..31..



SA..61..



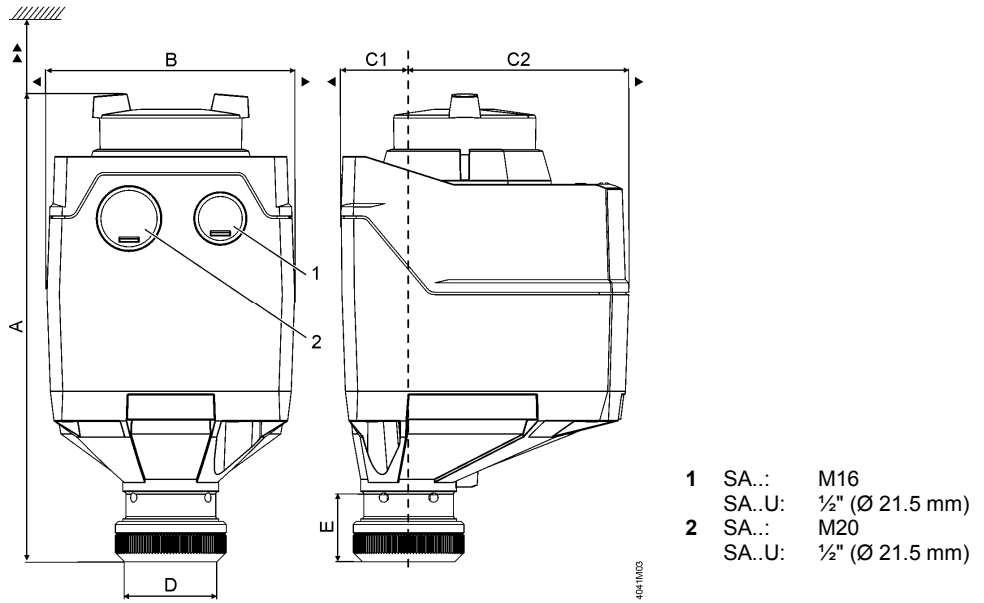
SA..81..



Dimensions

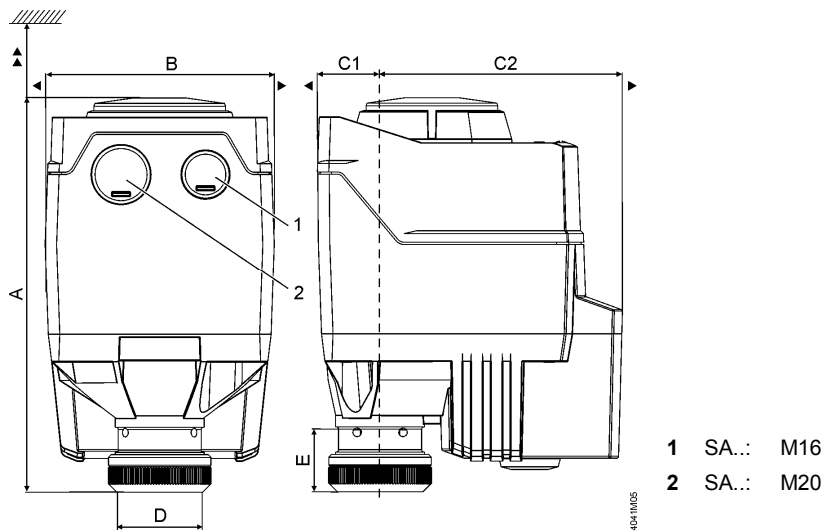
Dimensions in mm, weights in kg

With manual adjuster



Product no.	A	B	C	C1	C2	D	E	▶	▶▶	kg
SAT..	151	80	93	21.9	71.1	29.9	21.8	100	200	0.40
With ASK39.2	155	126	248	99	149	29.9	21.8	100	200	0.55

Without manual adjuster



Product no.	A	B	C	C1	C2	D	E	▶	▶▶	kg
SAT..	137.6 ¹⁾ 151 ²⁾	80	106.5	21.9	84.6	29.9	21.8	100	200	0.67
With ASK39.2	155	126	248	99	149	29.9	21.8	100	200	0.82

¹⁾ Black cover

²⁾ Blue manual adjuster

Revision numbers

Product no.	Valid from rev. no.
SAT31.008	..A
SAT31.51	..A
SAT61.008	..A
SAT61.51	..A