REACT V SKNX

Instructions for Use

REACT V SKNXa (circular), REACT V SKNXb (rectangular)

15/05/2025
Art. 1546142

Symbol key

Symbols on the machine

This product complies with applicable EU directives

Symbols in this user manual

Warning/Caution!

Risk of crushing

Application area

The product is a variable flow damper or constant flow damper designed for comfort ventilation indoors. The product is used to regulate the supply air or exhaust air flow in ventilation ducts.

The product may not be used for anything other than its intended use.

General

Read through the entire instructions for use before you install/use the product and save the instructions for future reference. It is not permissible to make changes or modify this product other than those specified in this document.

The packaging contains the following items

1 x REACT V SKNX

1 x Instructions for use

Protective equipment

Always use appropriate personal protective equipment for the work in question, in the form of gloves, respirators and protective glasses during handling, installation, cleaning and service/maintenance.

Electrical safety

Permitted voltage, see "Electrical data". It is not permissible to insert foreign objects into the product's connectors or the electronics' ventilation openings; risk for short circuiting.

24 V isolation transformer to be connected should comply with the provisions of IEC 61558-1.

Cable sizing must be carried out for cabling between the product and the power supply source.

Disconnect the power supply when working on products that are not required to run in production.

Always follow the local/national rules for who shall be permitted to carry out this type of electrical installation.

Other risks

When the product is voltage fed, the damper will either open or close. This can entail a certain risk of pinch injuries to the fingers, for example, if these are placed between the damper blade and ventilation duct when the damper blade is rotating. The product's actuator is equipped with a release button that permits manual control of the damper blade. Always ensure this is activated before working on the internal parts of the damper.

Handling

- Always use appropriate transport and lifting devices when the product is to be handled to reduce ergonomic loads.
- The product must be handled with care.
- It is not permissible to carry the product by the measuring tubes.

Installation

- Moist, cold and aggressive environments must be avoided.
- Avoid installing the product near a heat source.
- Assemble the product according to applicable industry regulations.
- Install the product so that it is not accessible by unauthorised persons, for example above a suspended ceiling.
- Install the product for easy access during service/maintenance.
- Supplement the duct system with a cleaning hatch in the vicinity of the product to facilitate cleaning.
- If the product is mounted above a fixed ceiling, an inspection hatch must be available so that the product is accessible for inspection.
- If the product is mounted so that it is possible to gain access to the inside of the product, it must be supplemented with appropriate protection, for example, a ventilation unit.
- If the product is mounted in cold areas, the whole product must be insulated on the outside against condensation.
- For installation, the accessory FSR is recommended.
- The product can be installed position independent.
- It is recommended that the product be installed so that the front is visible.
- The product must be laid down prior to installation so that it cannot fall over.
- Check to make sure that the product does not have any visible defects.
- Make sure that the product is properly secured after it has been installed.
- Use the product's eyes to secure the cables with cable ties.
- Make sure all cables are properly secured after installation.
- Check that the actuator/controller is properly mounted.

The document was originally written in Swedish

Installation, torque, dimensions and weights

Circular design

Dimensions

REACT V SKNX Size	Duct size (Nominal) Ød (in)	Inlet diameter Ød (in)	A (in)	B (in)	C (in)	E (in)	Torque (lbf. In.)	Weight (lb)	Flow range (cfm)		Tolerance Q[2] ±5% (cfm)
									Min.	Max = Vnom[1]	
100	4	3.9	18.7	19.1	7.5	2	44	3.7	11	123	4
125	5	4.9	18.7	19.1	8.5	2	44	4.2	19	201	4
160	6	5.9*	18.7	19.1	10.0	2	44	4.9	34	360	4
200	8	7.8	18.7	19.1	11.8	2	44	6.2	53	593	6
250	10	9.8	20.7	21.1	13.8	2	44	7.7	85	943	11
315	12	11.8*	22.0	22.4	16.3	2	89	10.1	133	1547	17
400	16	15.7	27.4	27.8	19.9	2.4	89	14.6	216	2521	28
500	20	19.6	32.3	33.1	23.8	2.4	89	20.3	347	3962	42
630	24	23.8*	36.0	36.8	28.9	2.4	89	31.1	636	6187	68

*Dimensions including DUCT ADAPTER.

[1]Vnom at 0.5 inWG in pressure reading.

[2]Installed according to the instructions.

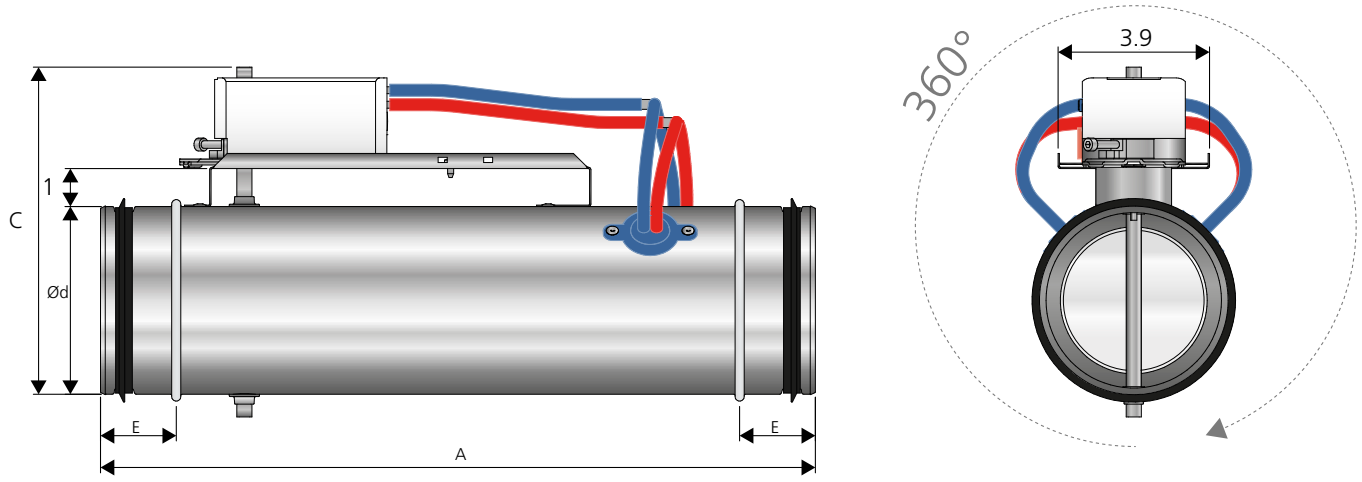


Figure 1. Dimensions (in), REACT V SKNX circular. The damper can be installed at an optional angle.

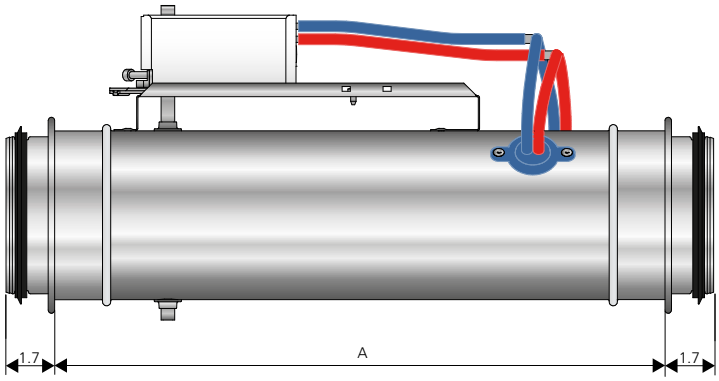


Figure 2. Dimensions with DUCT ADAPTER installed, REACT V SKNX circular.

Mounting

- The product's air flow measurement requires a straight duct section as per the installation figures.
- In unfavourable conditions before or with disruption, the product's tolerances cannot be guaranteed.
- Installation is position independent.
- The product can be installed horizontally or vertically.
- Instructions for Use are supplied on delivery, but can also be downloaded from www.swegon.com.

Demand for straight section

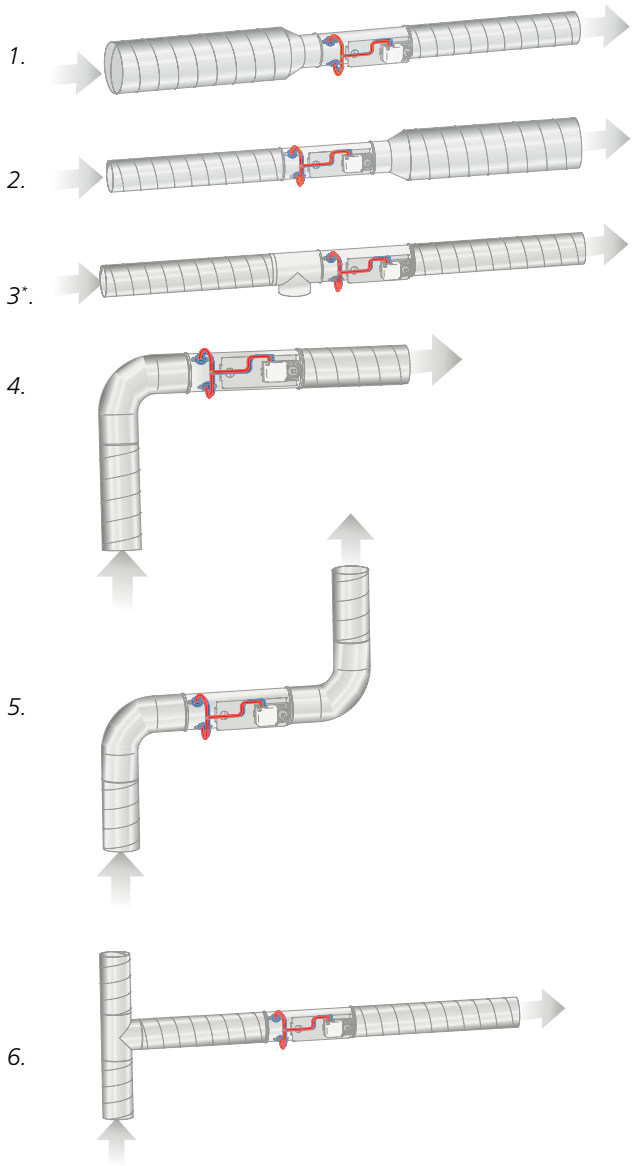


Figure 3. Demand for a straight section in circular ducts, number Ø before product:
Images 1-5 require no straight duct section (image 3 illustrates a T piece with cleaning hatch).*
Image 6 requires a straight duct section before the damper equivalent to 4 x the diameter of the duct.

Straight duct section requirements in case of sound attenuator with baffle

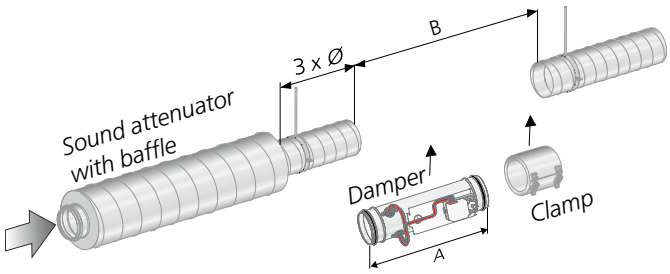


Figure 4. Straight duct section requirement of 3 x Ø for sound attenuator with baffle or centre body.

Installation in the duct system

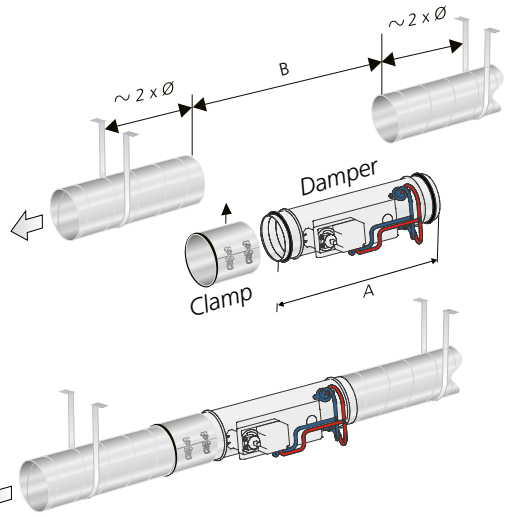


Figure 5. Installation in the duct system. The ducts must be firmly fixed to the frame of the building on each side of the product.

Rectangular design

Dimensions

REACT V SKNX Size	Duct size (Nominal) (in)	Inlet dimensions BxH (in)	Torque (lbf. in.)	Weight (lb)	Flow range (cfm)		Tolerance Q* ±5% (cfm)
					Min.	Max = Vnom*)	
200x200	8x8	7.9x7.9	44	13.4	142	773	17
300x200	12x8	11.8x7.9	44	16.1	212	1161	25
400x200	16x8	15.7x7.9	44	18.5	282	1547	36
500x200	20x8	19.7x7.9	44	21.2	354	1934	44
600x200	24x8	23.6x7.9	44	23.4	424	2320	53
700x200	28x8	27.6x7.9	44	26.0	494	2708	61
800x200	32x8	31.5x7.9	44	28.7	566	3093	70
1000x200	39x8	39.4x7.9	44	33.5	706	3867	89
300x300	12x12	11.8x11.8	44	19.6	322	1767	40
400x300	16x12	15.7x11.8	44	22.3	430	2356	53
500x300	20x12	19.7x11.8	44	25.1	538	2945	68
600x300	24x12	23.5x11.8	44	28.0	646	3534	81
700x300	28x12	27.6x11.8	44	30.4	752	4123	93
800x300	32x12	31.5x11.8	44	33.5	860	4712	108
1000x300	39x12	39.4x11.8	44	39.0	1076	5890	133
400x400	16x16	15.7x15.7	44	26.7	578	3168	72
500x400	20x16	19.7x15.7	44	29.8	723	3960	91
600x400	24x16	23.5x15.7	44	32.6	867	4752	108
700x400	28x16	27.6x15.7	44	36.2	1013	5543	127
800x400	32x16	31.5x15.7	44	39.2	1157	6335	144
1000x400	39x16	39.4x15.7	44	45.4	1445	7920	180
1200x400	47x16	47.2x15.7	89	51.6	1735	9503	216
1400x400	55x16	55.1x15.7	89	57.8	2023	11088	252
1600x400	63x16	63.0x15.7	89	64.2	2314	12670	288
500x500	20x20	19.7x19.7	44	33.7	909	4973	114
600x500	24x20	23.5x19.7	44	37.0	1089	5967	136
700x500	27x20	27.6x19.7	89	40.8	1271	6962	159
800x500	32x20	31.5x19.7	89	43.9	1453	7956	182
1000x500	39x20	39.4x19.7	89	51.0	1816	9946	227
1200x500	47x120	47.2x19.7	89	57.8	2178	11935	273
1400x500	55x20	55.1x19.7	89	64.6	2543	13925	318
1600x500	63x20	63.0x19.7	89	71.4	2905	15912	362
600x600	24x24	23.5x23.5	89	42.1	1309	7178	163
700x600	27x24	27.6x23.5	89	46.1	1530	8373	191
800x600	32x24	31.5x23.5	89	49.4	1748	9571	218
1000x600	39x24	39.4x23.5	89	57.3	2184	11963	273
1200x600	47x24	47.2x23.5	89	64.6	2621	14355	328
1400x600	55x24	55.1x19.7	89	73.2	3057	16747	381
1600x600	63x24	63.0x19.7	89	79.8	3494	19139	436
700x700	28x28	27.6x27.6	89	48.7	1788	9793	222
800x700	32x28	31.5x27.6	89	54.7	2043	11192	256
1000x700	39x28	39.4x27.6	89	62.6	2553	13988	320
1200x700	47x28	47.2x27.6	89	70.8	3064	16787	384
1400x700	55x28	55.1x27.6	89	78.9	3577	19584	447

*)Vnom at 0.5 inWG in pressure reading.

*Installed according to the instructions.

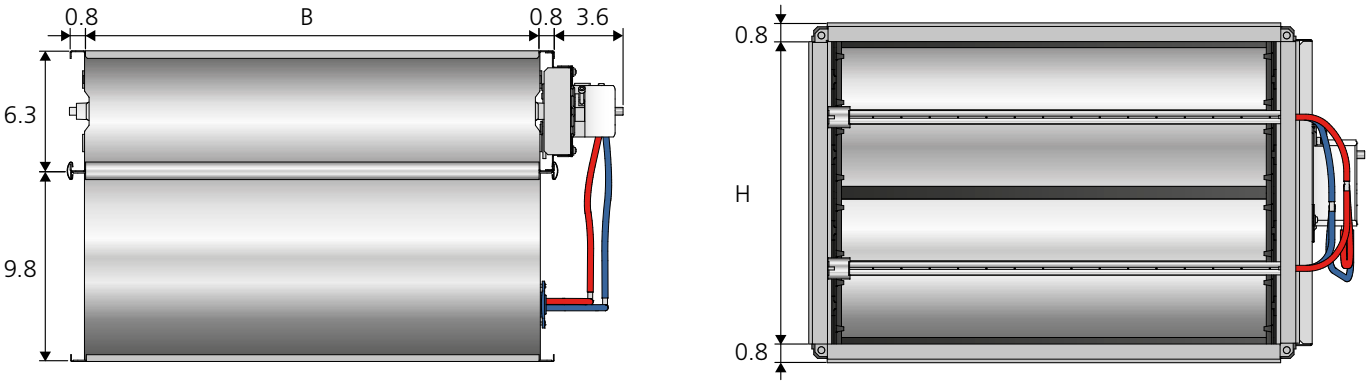


Figure 6. Dimensions (in), REACT V SKNX rectangular.

Installation

- The product's air flow measurement requires a straight duct section as per the installation figures.
- In unfavourable conditions before or with disruption, the product's tolerances cannot be guaranteed.
- Damper shafts must be installed horizontally.
- For rectangular ducts, the damper is always installed so that the controller/actuator is placed along the side of the duct.
- Instructions for Use are supplied on delivery, but can also be downloaded from www.swegon.com.

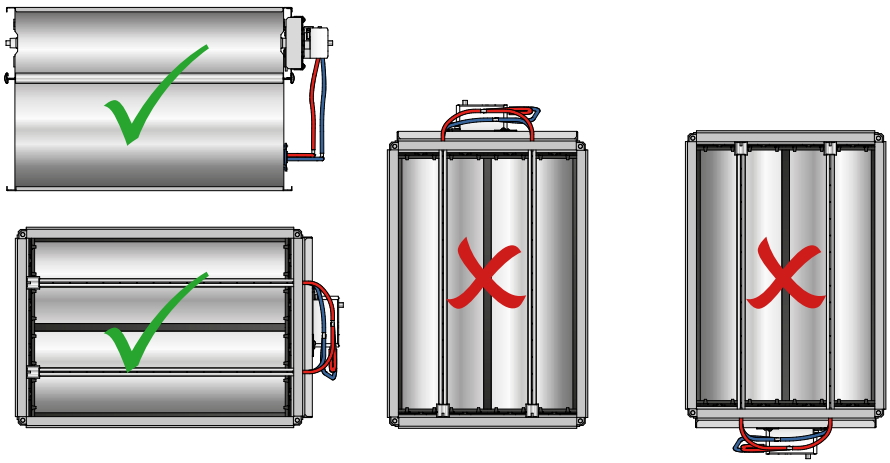


Figure 7. Installation - For rectangular ducts, the damper is always installed so that the controller/actuator is placed along the side of the duct.

Straight duct section requirements

Type of disruption	Tolerance Q ±5%	Tolerance Q ±10%
One 90° bend	E = 3 x B	E = 2 x B
T piece	E = 3 x B	E = 2 x B

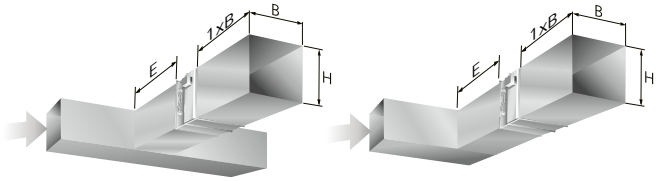


Figure 8. Straight duct section requirements in rectangular ducts.
E = Straight duct section
B = Width of duct
H = Height of duct

Straight duct section requirements in case of sound attenuator with baffle

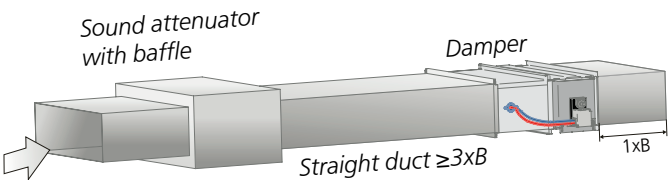


Figure 9. Straight duct section requirements 3 x B in case of sound attenuator with baffle. Applies to both supply and exhaust air.

Connection

Communication (green cable)

1 – KNX-TP CE+

2 – KNX-TP CE-

Communication is galvanically insulated.

Load on communication: max 5 mA.

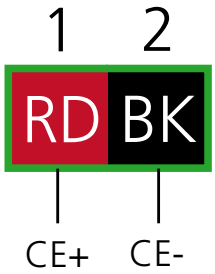


Figure 10. Communication (green cable).

Supply voltage (black cable)

1 – G	24 V AC
2 – G0	24 V AC

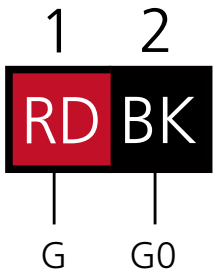


Figure 11. Supply voltage (black cable).

Use

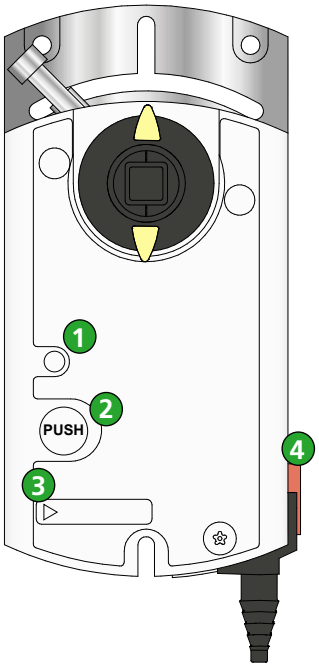


Figure 12. Siemens actuator.

1 LED lighting

Off:	No power or fault during operation
On, green:	Connection test has been carried out successfully*
Flashing, orange:	Reset in progress If a connection test has been enabled: wait*
On, red:	The actuator is in programming/addressing mode If a connection test has been enabled: the connection test failed*

2 Pushbutton

Enable/disable addressing mode	Button press <1 sec:	LED turns red or goes out
PL-Link connection test	Button press >1 sec but <20 sec*:	LED flashes orange once
Reset to base settings from subcontractor	Button press >20 sec:	LED flashes orange until the actuator restarts

Resetting to base settings from subcontractor

The actuator must not be reset with the pushbutton. This resets Vnom to the base settings from the subcontractor, which cannot be undone.

Addressing and bus test via pushbutton

The actuator can be set to addressing/programming mode with the pushbutton

This is done by pressing the button for more than 0.1 seconds but less than 1 second

If the KNX bus connection is not OK, the LED light remains off

If the KNX bus connection is OK, the LED light remains on until addressing/programming is completed

3 Service port

For connection of the hand-held terminal Siemens AST20

4 Release button

Pressed button:	The actuator is disengaged, the motor stops, manual overriding possible
Released button:	Returns to standard mode

*The function or parts of the function are only accessible during PL-Link operation.

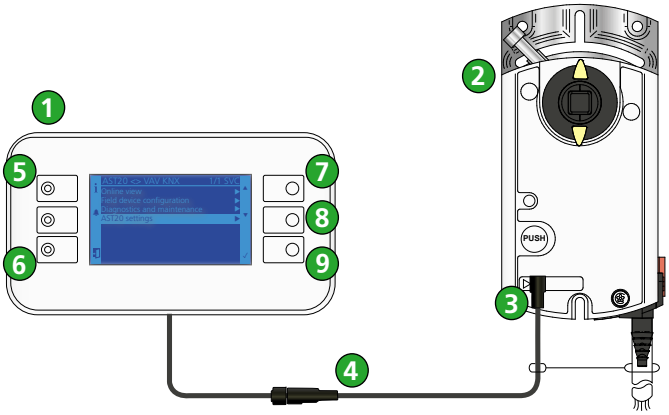


Figure 13. Siemens AST20 - Hand-held terminal for setting and reading the actuator's parameters.

1. Hand-held terminal Siemens AST20
2. Actuator
3. Service port
4. Connection cable (7-pole)*
5. Reset button for Siemens AST20
6. Cancels change/leaves sub menu
7. Browses up, and changes values/status
8. Browses down, and changes values/status
9. Confirms selected value/goes to selected sub menu

*If an incorrect connection cable is used (e.g. 6-pole cable on 7-pole connector), the actuator can be damaged.

Settings for actuator

Overview

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 settings ▶

Online view		Description
Setpoint: flow	0%	Shows the set point as a percentage
	0 m³/h	Shows the set point in the selected unit
Actual flow	0%	Shows the actual value as a percentage
	0 m³/h	Shows the actual value in the selected unit
Diff. pressure	0Pa	Differential pressure in pascal
Override ctrl	Off	Forced control
	Off	Normal function
	User value	The damper is regulated to the selected set point
	Stop	The actuator stops at the current position
	Fully close	Closes the damper fully
	Fully open	Opens the damper fully

Configuration

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 setting ▶

Field device configuration		Description
Operating mode	VAV mode	Operating mode
	VAV mode	VAV control
	Position control	Control of position
Opening dir	CCW	Direction of rotation
	CW	Clockwise
	CCW	Anti-clockwise **(standard, may not be changed)**
Adaptive pos	Off	Adaptive damper position
	Off	Off
	On	On
Vn	1.58	Coefficient for nominal differential pressure. Set at the factory.
Vmin	0%	Adjustment to the desired min. value Min. value must be lower than the max. value
Vmax	100%	Adjustment to the desired max. value Max. value must be higher than the min. value
Vnom	0 m³/h	Shows the nominal air flow
Altitude level	500m	Number of metres above sea level
Unit vol. flow	m³/h	Change of unit for air flow
	m³/h	
	l/s	
Unit Vmin&Vmax	%	Change of unit for Vmin & Vmax
	%	
	m³/h (l/s)	

Service and maintenance

Information

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 setting ▶

Diag. and maintenance
Field device info ▶
Field device statistics ▶
OEM default settings ▶

Field device info	
FID type	VAV KNX
Firmware Base-PCB	123
Running time	150s

Description
Damper designation
Software version
Running time

Statistics

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 setting ▶

Diag. and maintenance
Field device info ▶
Field device statistics ▶
OEM default settings ▶

Field device statistics	
Cum. running time	0h 0m
Cnt. Repositionings	0

Description
Operation time
Number of repositionings

Reset to OEM default settings

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 setting ▶

Diag. and maintenance
Field device info ▶
Field device statistics ▶
OEM default settings ▶

OEM default settings
Reset to OEM default settings
Show OEM default settings ▶

Description
Reset to OEM default settings
OEM default settings

OEM default settings

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 setting ▶

Diag. and maintenance
Field device info ▶
Field device statistics ▶
OEM default settings ▶

OEM default settings
Reset to OEM default settings
Show OEM default settings ▶

OEM default settings	
Operating mode	VAV mode
Opening dir	CCW
Adaptive pos	Off
Vn value	1.58
Vmin	0%
Vmax	100%
Vnom	0 m³/h
Altitude level	500m

Description
Operating mode
Direction of rotation
Adaptive damper position
Vn coefficient
Min. air flow
Max. air flow
Nominal air flow
Number of metres above sea level

Settings for hand-held terminal Siemens AST20

Authorisation level

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 settings ▶

AST20 settings	
Authorisation level	SVC
Handheld tool settings ▶	
Enter OEM password ▶	

Description
Authorisation level
Handheld tool settings
OEM Password

Handheld tool settings

AST20 <> VAV KNX
Online view ▶
Field device configuration ▶
Diagnostics and maintenance ▶
AST20 settings ▶

AST20 settings	
Authorisation level	SVC
Handheld tool settings ▶	
Enter OEM password ▶	

Handheld tool settings		Description
Language	EN	Change of language
	EN	English
	TR	Turkish
	FR	French
	DE	German
Backlight colour	Blue	Change of background color
	Blue	Blue
	White	White
Backlight turn off time	300s	Duration of background lighting
Brightness	75	Change of brightness
Contrast	60	Change of contrast
AST20 FW Version	123	Software version

Trouble shooting

The product does not communicate over KNX

- Make sure that the product is energized.
- Check the product's KNX connection.

The product shows incorrect/no air flow

- Make sure that the product is energized.
- Check that the product's set size corresponds with the physical size.
- Make sure that the product is installed according to the recommended distance to disruptions, see "Installation".
- Check that there is an air flow.
- Make sure that the product is correctly oriented in terms of air direction. The air flow must follow the instructions on the product.
- Check that the measuring tubes are mounted correctly, plus to plus (red), minus to minus (blue).
- Check that the measuring tubes are undamaged and not creased.
- Check with the help of the k-factor and pressure difference between the red and blue measuring tubes that the flow is within the product's measurement range.

The product does not regulate the air flow

- Make sure that the product is energized.
- Check that the damper motor has not become detached from the damper shaft.
- Check that the damper motor works by pressing in the motor's release button, turn the damper shaft, release the release knob and then see whether the damper motor starts to move.
- Check that the product is connected correctly.
- Check that the product is not force controlled.

The product does not regulate on the desired air flow

- Check that the settings for Vmin and Vmax correspond with the required regulation range.
- Check that the KNX communication is correct.

Cleaning

Ideally, the product should be cleaned in connection with the cleaning of the rest of the ventilation system.

Cleaning of electrical components

- If needed, use a dry cloth to clean the components.
- Never use water, detergent and cleaning solvent or a vacuum cleaner.

External cleaning

- If necessary use tepid water and a well-wrung cloth.
- Never use detergent and cleaning solvent or a vacuum cleaner.

Internal cleaning

- When cleaning the ventilation system, the product must be dismantled if there are no cleaning hatches close to the product.
- Cleaning equipment such as whisks and the like must not be fed through the product.
- If necessary remove dust and other particles that can be present in the product.
- Never use detergent and cleaning solvent or a vacuum cleaner.

Service/maintenance

- The product does not require any maintenance, except for cleaning when necessary.
- In connection with a service, mandatory ventilation inspection or cleaning of the ventilation system, check that the general condition of the product appears to be good. Pay particular attention to the suspension, cables and that they sit firmly in place.
- It is not permissible to open or repair electrical components.
- If you suspect that the product or a component is defective, please contact Swegon.
- A defective product or component must be replaced by an original spare part from Swegon.

Materials and surface treatment

All sheet-metal parts are galvanised sheet steel (Z275).

Disposal

Waste must be handled according to local regulations.

Product warranty

The product warranty or service agreement will not be valid/will not be extended if: (1) the product is repaired, modified or changed, unless such repair, modification or change has been approved in writing by Swegon AB; or (2) the serial number on the product has been made illegible or is missing.

Replacing the damper motor

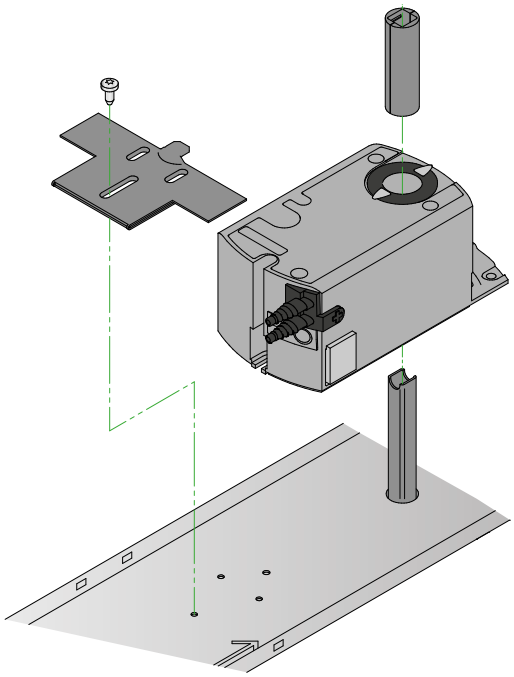


Figure 14. Dismantling the damper motor.

1. *Disconnect the cable.*
2. *Disconnect the measuring tubes.*
3. *Set damper motor to the open position.*
4. *Loosen the nuts on the shaft clamp (nut: 4 mm).*
5. *Remove 1 screw for the locking strip in the circular design and 2 screws for the locking strip in the rectangular design (screw: TX20).*
6. *Lift off the damper motor and shaft adapter*
   (The rectangular design has a round damper shaft and no shaft adapter).
7. *Reassemble in the reverse order.*
   Note! Positioning of the damper blade and locking strip, see figures 15 and 16.

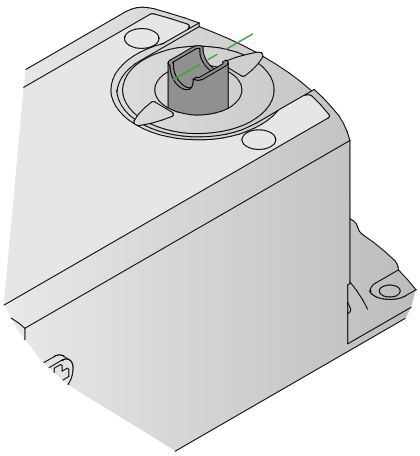


Figure 15. Recess in the damper shaft indicates the position of the damper.

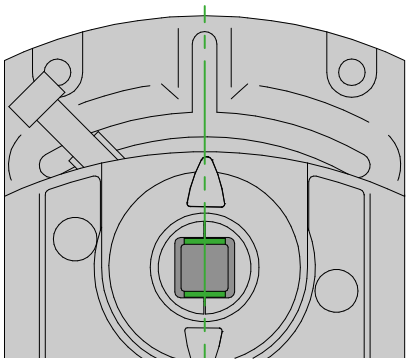


Figure 16. Damper open. Jumper to the left.

Technical data

IP class:	IP54
Corrosivity class:	C3
Pressure class:	A
Leakage classes according to SS-EN 1751	
- Leakage class, casing:	C
- Leakage class circular damper, closed:	4
- Leakage class rectangular damper, closed:	3
Running times open/closed (90°):	
44 / 89 lbf. in:	150 sec (50Hz)
44 / 89 lbf. in:	125 sec (60Hz)
Ambient temperature	
Operation:	32 – 122°F
Storage:	23 – 113°F
RH:	5 – 95% (non condensing)
CE marking:	2006/42/EC (MD)
	2014/30/EU (EMC)
	2011/65/EU (RoHS2)

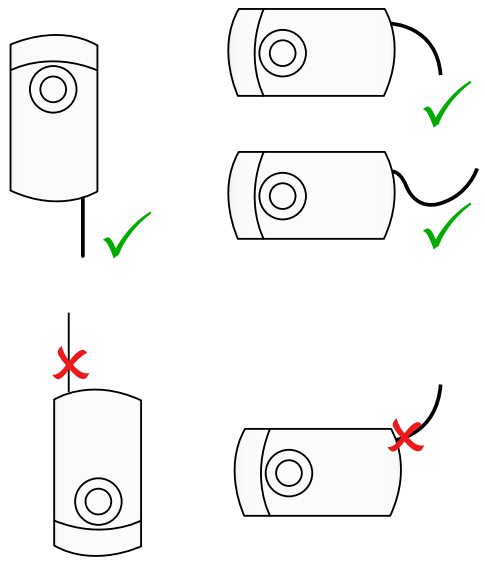
Electrical data

Power supply:	24 V AC ±20% 50 - 60 Hz
Fixed connection cable, 35 in with cable size	2 x 18AWG
Communication:	
Fixed connection cable, 35 in with cable size	2 x 18AWG

Power consumption, for transformer rating:

REACT V SKNX 44 lbf. in	2.5 W	3.0 VA
REACT V SKNX 89 lbf. in	2.5 W	3.0 VA

To retain enclosure class (IP54), the actuator must be installed as follows.



Declaration of Conformity

Swegon AB hereby affirms that:

REACT V SKNXa complies with the essential characteristic demands and relevant regulations specified in the directives, 2006/42/EC (MD), 2014/30/EU (EMC) and 2011/65/EU (RoHS2):

The following standards have been observed:

EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk mitigation
EN 60204-1:2006	Safety of machinery - Electrical equipment of machines - Part 1: Generic standards
EN 60730-1:2011	Automatic electrical controls and control units for household use - Part 1: Generic standards
EN 61000-6-2:2007	Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments
EN 61000-6-3:2007	Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments

CE

Person responsible for this declaration:

Name: Freddie Hansson, R&D Manager Tomelilla

Address: Industrigatan 5, 273 21 Tomelilla, Sweden

Date: 27/04/2023

This declaration is applicable only if the product has been installed according to the instructions in this document and if no modifications or changes have been made on this product.

References

www.swegon.com

Building Materials Declaration

REACT V SKNX Product data sheet

REACT Siemens – KNX settings