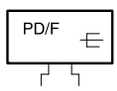
SVU 100: Air-flow transducer

SVU100F005

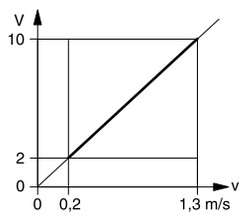


How energy efficiency is improved

Enables demand-controlled volume flow control for fume cupboards

Features

- Precise and long-term stable recording of air inflow speeds in fume cupboards with a time constant of <100 ms
- Particularly suitable for fume cupboards with horizontal and vertical front sashes
- Air volume control according to needs for fume cupboards with horizontal and vertical front sashes
- Precise and long-term stable recording of air inflow speeds in fume cupboards
- Reliable detection of reversal of flow direction
- Integrated filter unit that protects against contamination of the sensor
- Dynamic pressure sensor based on thin-film technology
- Fitted to the fume cupboard simply and quickly



Technical data

Power supply		
	Power supply	24 V~, -15%/+20%, 50...60 Hz
	Power consumption	1 VA
Parameters		
	Measuring range	0...1 Pa
	Measuring span[1)]	0...1.3 m/s
	Differential pressure	Approx. 0...1 Pa
	Time constant	< 0.1 s
	Air throughput rate	3 cm^3/min (at 1 m/s)
Ambient conditions		
	Admissible ambient temperature	5...55 °C
	Admissible ambient humidity	< 90% rh
Inputs/Outputs		
	Output signal[2)]	0...10 V
	Linearity	2% (based on the output signal)
Standards and directives		
	Type of protection	IP 40 (EN 60529) with terminal cover
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3

Overview of types

Type	Feature
SVU100F005	Linear to v [m/s]

Specified flow speed is based on ρ = 1.2 kg/m^3

Description of operation

The thin-film temperature-dependent resistors create a thermal profile in their carrier material. The air flowing past shifts this thermal profile and produces a voltage difference on the resistances that are connected together.

A reversal of the flow direction is recorded, which means the output voltage remains at 0 V.

SVU 100 F005 application

The output signal of the flow sensor is connected to the PI controller in the RXE 110 F002 monitoring unit at the actual-value input. The command signal w of the monitoring unit controls the VAV return-air controller for fume cupboards. Within seconds, the volume flow is regulated in proportion to the sash opening of the fume cupboard. This ensures that no noxious or toxic gases can escape from the fume cupboard. The output signal has a linear relationship to the air speed. The direction of operation is A: As the air speed increases, so does the output signal.

1) *Recommended measuring span 0.2...1.3 m/s (output 2...10 V)*

2) *Output signal: Output protected against short circuits and excess voltage up to 24 V~*

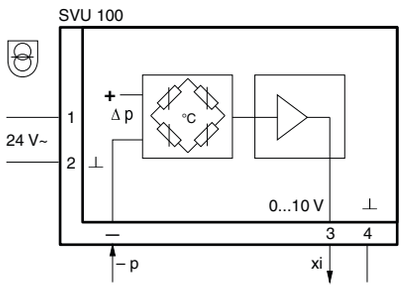
Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the “Description of operation” section.
All related product documents must also be adhered to. Changing or converting the product is not admissible.

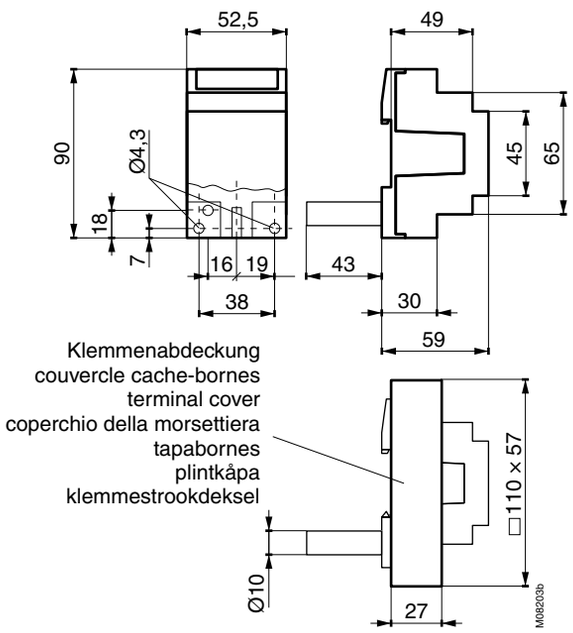
Disposal

When disposing of the product, observe the currently applicable local laws.
More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram

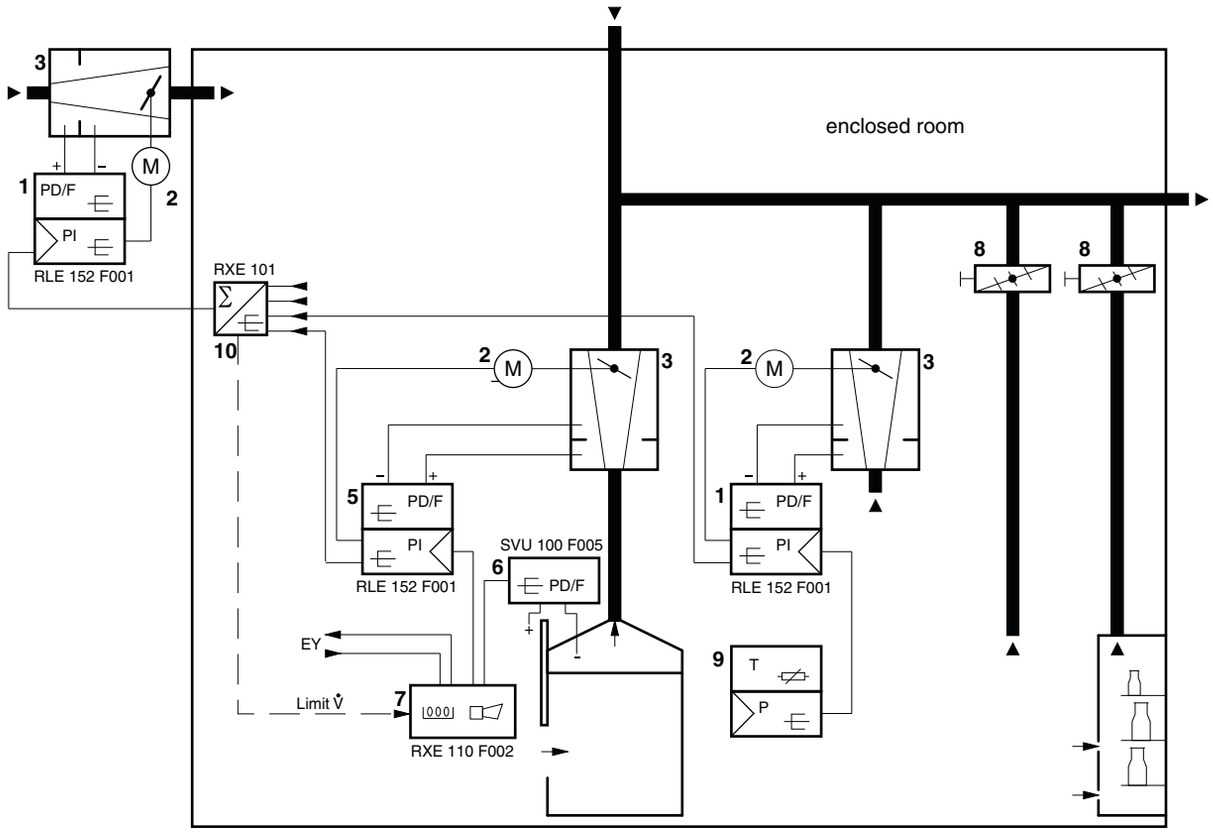


Dimension drawing



Application example

Constantly controlled air inflow speed regardless of the sash opening of the fume cupboard.



1	VAV controller	5	VAV return-air controller for fume cupboards	8	Manual damper
2	Damper actuator	6	Air flow transducer	9	Room temperature controller
3	Reducing box	7	Monitoring unit	10	Volume flow adding unit
				EY	Control centre, night mode, collective alarm

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