

TUP 224 F901: Pneumatic travel sensor

How energy efficiency is improved

Enables demand-controlled volume flow control for fume cupboards

Features

- Suitable for setting up variable air volume systems for fume cupboards in conjunction with the pneumatic volume-flow controller RLP100F123
- Continuous output signal as a command variable for the air volume controller
- Should ideally be fitted to the counterweight on the front sash of the fume cupboard
- Compressed-air connection with Rp 1/8" female thread
- Stainless-steel spring (with long-term stability)
- Possible measuring range up to 2 m for walk-in fume cupboards

Technical data

Parameters		
	Supply pressure via ext. restrictor ¹⁾	1.3 bar ± 0.1 (Ø 0.2 mm)
	Air capacity, air consumption	33 l _n /h
	Measuring span ²⁾	0.45...0.75 m
	Output pressure	0.2...1.0 bar
	Linearity error	2%
	Control action	B
Ambient conditions		
	Ambient temperature	0...55 °C
Construction		
	Housing material	Cover: Lexan 940 Baseplate: aluminium (AL 99.5)
	Weight	0.14 kg
Overview of types		
Type	Description	
TUP224F901	Pneumatic travel sensor	
Accessories		
Type	Description	
0297832001	Extension spring for walk-in fume cupboards with 2 m sash travel, measuring span 0.9...1.5 m	

Description of operation

The transmitter, which operates on the bleed-off force-balance principle, converts the distance to be measured (front sash opening of the fume cupboard) into a pneumatic output signal of 0.2...1.0 bar within its measuring range without contact. The signal from the opening of the sash is passed to the VAV return-air controller for fume cupboards as a command variable.

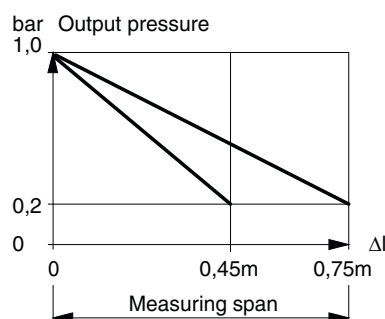
Within seconds, the volume flow is regulated in proportion to the sash opening. This increases the ability of the fume cupboard to prevent the escape of noxious/toxic gases. The output pressure is linear with respect to the path. The direction of operation is B, meaning that as the spring length Δl increases, the output pressure decreases.



¹⁾ In the RLP VAV controllers, the restrictor Ø 0.14 mm is fitted at input 6

²⁾ Factory setting 0.5 m, can be modified using spring-mounted insert (6 holes).
Measuring range 0.9...1.5 m, with accessory component 0297832001





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 regulations must also be adhered to. Changing or converting the product is not admissible.

Improper use

The device is not suitable for use in potentially explosive atmospheres in accordance with Directive 2014/34/EU (ATEX).

Engineering and fitting notes

The regulations on the quality of the supply air, especially at low ambient temperatures, must be observed; see "Further information". The compressed air must be free of oil and solid particles.

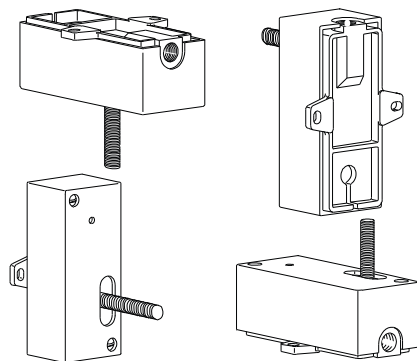
Do not use flammable gases as propellants.

Uncoated aluminium parts must not be allowed to come into contact with ferritic steel and rust from non-corrosion-proof steel.

Only use original accessories for fitting.

Fitting position

The following fitting positions are permitted.



Additional information

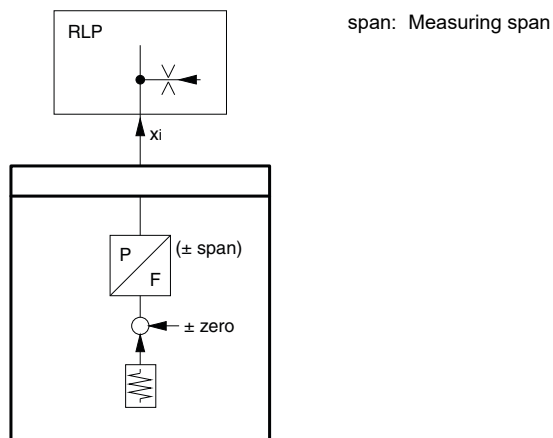
	Document no./link
Fitting instructions	MV 505210
VAV technical manual	7000621001 (on request)
Fitting instructions for pneumatic installations (with information on compressed air quality)	60.001/7160001003
Connection elements and installation material for the pneumatics	69.605/7169605001

Disposal

When disposing of the product, observe the currently applicable local laws.

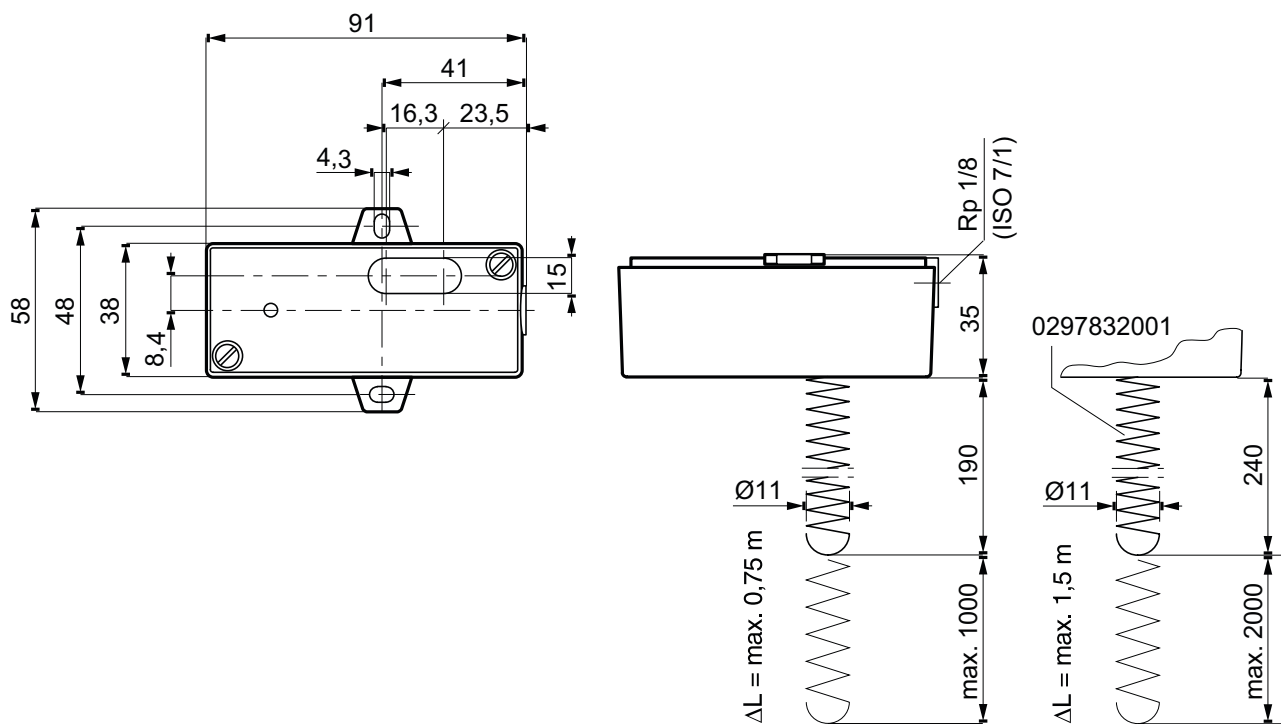
More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram



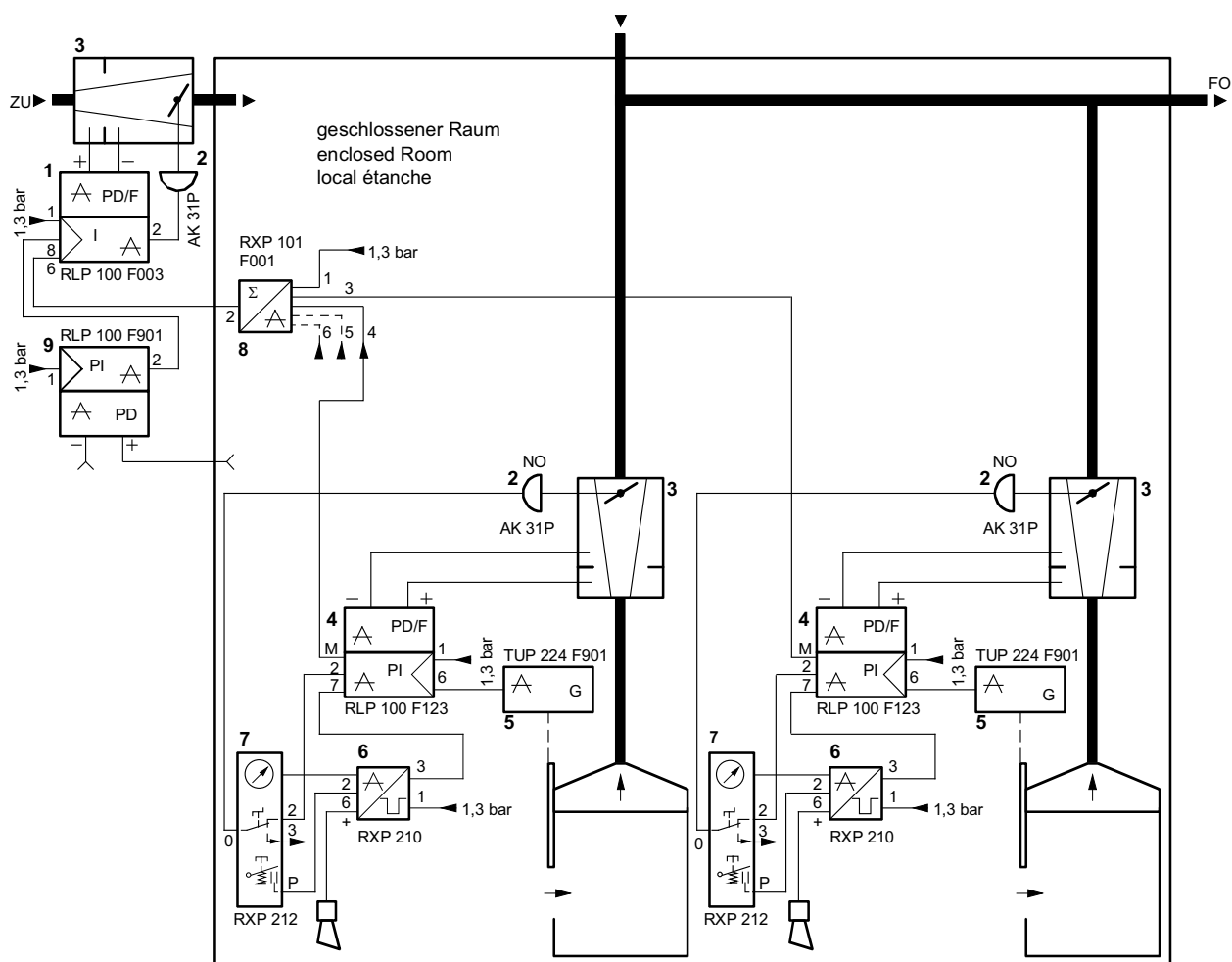
Dimension drawing

All dimensions in mm.



Example applications

Return-air volume controlled in proportion to the fume cupboard front sash opening with travel sensor (TUP), alarm and operating unit and addition relay (RXP):



Key to illustration

1	VAV controller	6	Alarm unit
2	Damper actuator NO	7	Operating unit
3	Reducing box	8	Air-volume adding relay
4	VAV return-air controller for fume cupboards	9	Pressure controller
5	Travel sensor	NO	Normally open

☛ VAV: Variable air volume