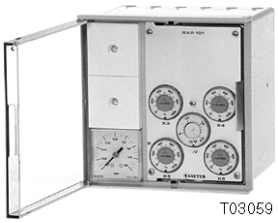
RXP 101: Air-volume adding relay


T03059

Used in conjunction with volume-flow controllers for converging up to four air volumes (fume-cupboard exhaust gases) which can be weighted differently via adjustment knobs. All the listed VAV transducers comply with EN 13463-1 and EN 1127-1 (Ex II 2 G T6) and can be employed in Zone 1 areas where there is a risk of explosion.
Housing, insert and front door are of thermoplastic; front door of transparent thermoplastic; front plate with five adjustment knobs for weighting the partial volume flows and for setpoint shift, manometer for indicating the output pressure (control variable of the supply-air controller). Suitable for fitting into control panels or onto walls. Compressed-air connections: Rp ⅛ female thread.

Type	Function	Air capacity	Air consumption [1]	Weight kg
RXP 101 F001	addition of 4 air volumes	400 l_n/h	40 l_n/h	0.7


Y03186

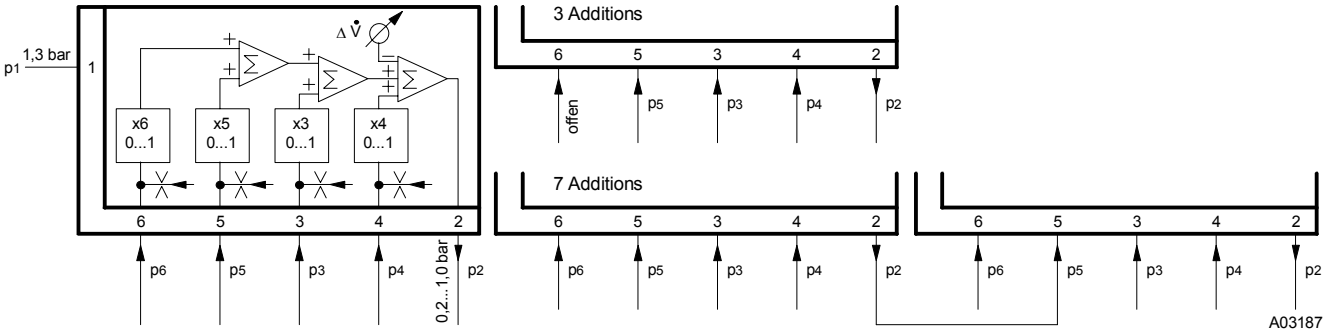
Supply pressure [2]	1.3 bar ± 0.1	Permissible amb. temp.	0...55 °C
Input pressures	0.2...1.0 bar		
Output pressure	0.2...1.0 bar	Connection diagram	A03187
Setpoint shift $\Delta \dot{V}$	3...20% $\dot{V}$	Dimension drawing	M297100
Control action	A	Fitting instructions	MV 505207

1) Without transducer; air consumption for transducer connections 3, 4, 5 and 6 is 33 l_n/h each.
2) See Section 60 on regulations concerning the quality of supply air, especially at low ambient temperatures.

Operation

Using the adjustment knobs (x3, x4, x5 and x6), the pressure at each of the connections 3, 4, 5 and 6 (e.g. output pressure of an RLP controller) is weighted and then added together with the others. Each of the partial air volumes can, therefore, be multiplied by a certain factor (percentage share of the total volume flow) and then, in the addition unit, be united in correct proportion to the total volume flow. Using the $\Delta \dot{V}$ adjuster (for setpoint shift), the room supply-air rate can be reduced with respect to the room exhaust-air rate, thereby affecting the under-pressure in the room. If more than four air volumes have to be converged, then a second unit can be connected. If less than four volume flows are cumulated, then the spare connections should not be closed off.

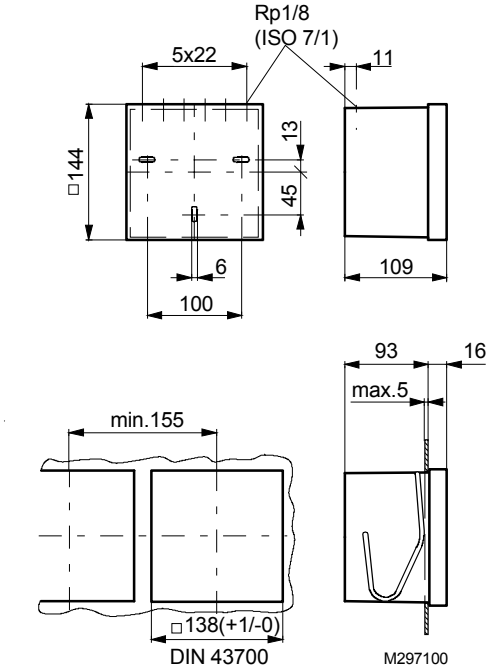
Connection diagram



Software

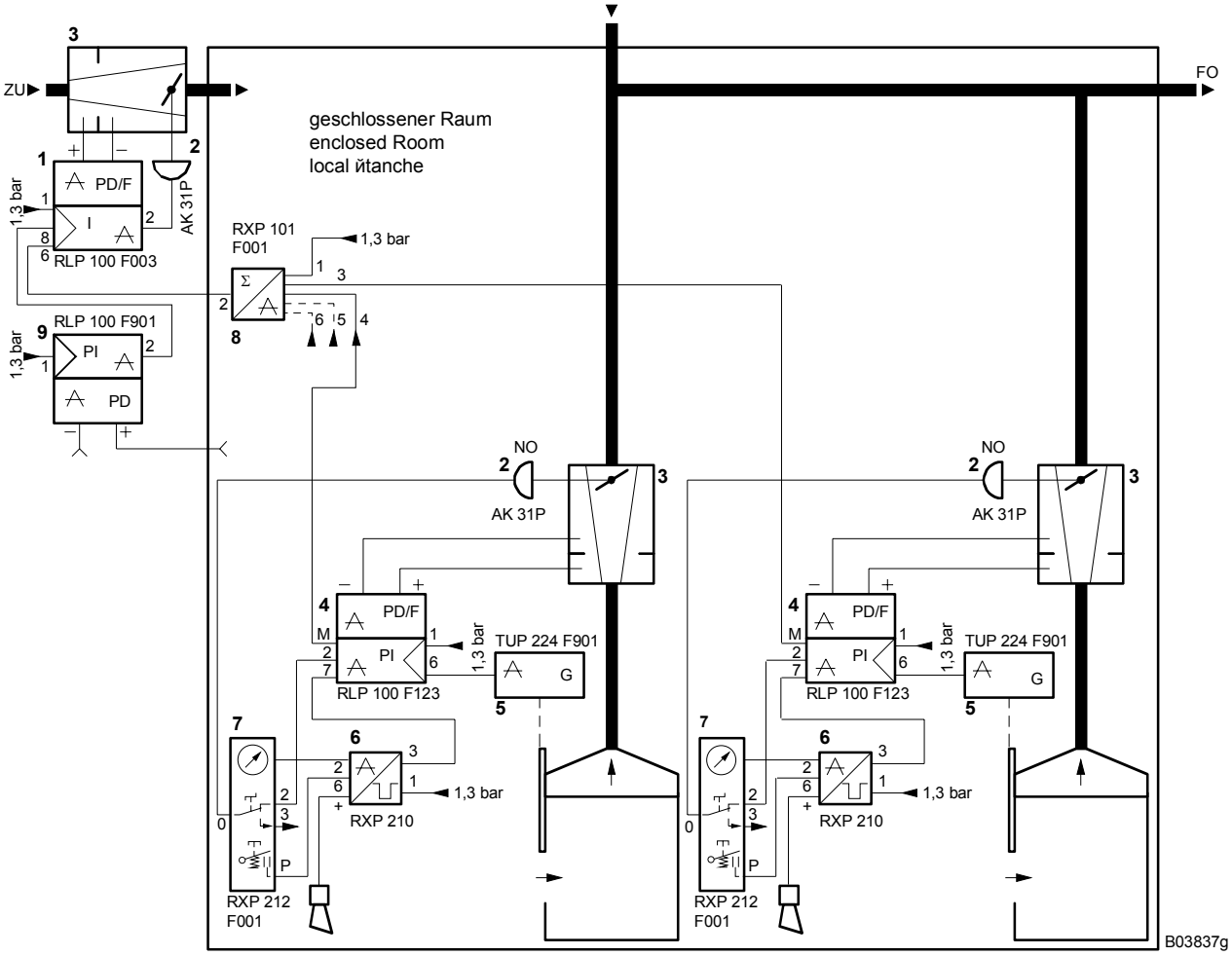
A calculation program is available for working out the values to be entered on the adding unit.

Dimension drawing



Example of use

Volume of return air controlled in proportion to the opening of the fume cupboard's sliding door; with sash sensor, alarm and operating unit and adding relay.



1	Volume-flow controller	7	Operating unit
2	Damper drive NO	8	Air-volume adding relay
3	Reducing box	9	Pressure controller
4	VAV return-air controller for fume cupboards	FO	EA (exhaust air)
5	Path-measuring transmitter	ZU	SA (supply air)
6	Alarm unit	NO = normally open	

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