

TMUP: Average-temperature transducer

For measuring the average temperature in air ducts; used in conjunction with pneumatic *centair* control systems. Conforms to the regulations on pressure equipment (97/23/EG Art. 3.3).

Housing plinth of light alloy; force-balance system with nozzle-ball. Measuring element: 10 m of capillary tubing filled with expansion fluid; diaphragm box; lever system with spring converter. Cover of thermoplastic; compressed-air connection Rp 1/8 female thread.

Type	Measuring range °C	Capillary tube m	Temp. range of sensor C	Weight kg
TMUP 210 F001	-20...40	10	-25...70	0.36
TMUP 220 F001	5...35	10	-25...70	0.36

Supply pressure 1)		Influence of temp. at instrument head	0.08 K/K
via external restrictor Ø 0.2 mm	1.3 ± 0.1 bar	Permissible ambient temp.	0...70 °C
Output pressure	0.2...1.0 bar		
Air capacity, air consumption	33 l _n /h	Connection diagram	A02781
Linearity	< 2%	Dimension drawing	M297633
Time constant in air	0.5 m/s 3.0 m/s	Fitting instructions	MV 23211

Accessories

0303167 000* Five brackets for fitting the capillary tubing.

*) Dimension drawing or wiring diagram are available under the same number

1) In the RCP and RPP 20 controllers, the restrictors (Ø 0.2 mm) are fitted at inputs 3 and 4.
See Section 60 on regulations concerning the quality of supply air, especially at low ambient temperatures.

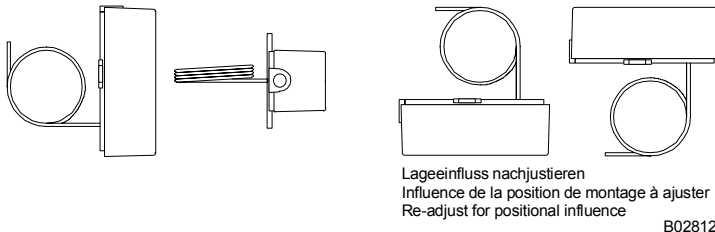
Operation

The expansion fluid in the capillary tube expands when exposed to heat and exerts a proportional pressure on the diaphragm box. This is converted by spring converter into a force acting on the force-comparison lever. The bleed-off nozzle-ball system converts this force into a pressure change. The output pressure increases as the temperature rises.

Engineering and fitting instructions

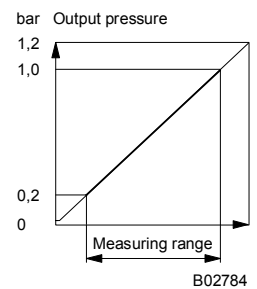
The positional effect can be negated by making the necessary adjustment of the screw in the centre of the diaphragm box. The tension of the spring converter should not be altered, since the measuring span is unaffected by either fitting or use.

Permissible fitting positions

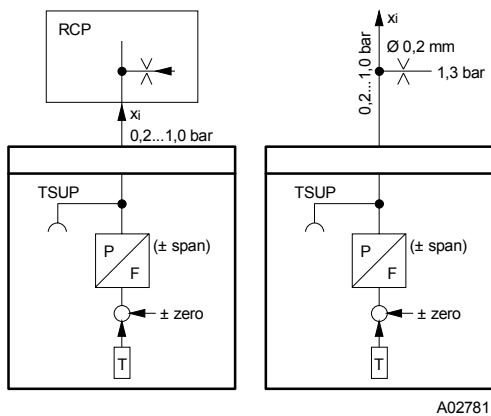


Technische Information

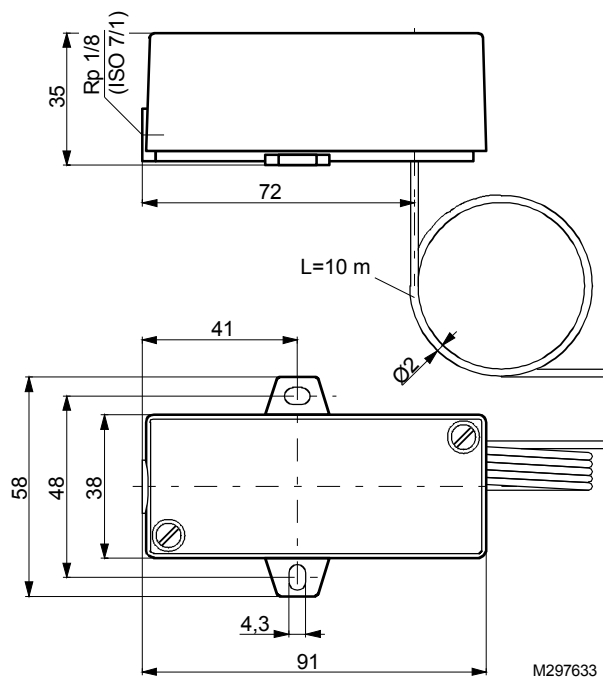
Technical manual: *centair* system 304991 003



Connection diagram



Dimension drawing



Accessories

