

HTP 151: Duct transducer for relative humidity

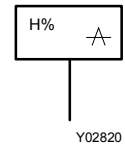
Used for measuring the relative humidity in ventilation ducts or rooms in conjunction with Centair pneumatic control systems. Conforms to the regulations on pressure equipment (97/23/EG Art. 3.3). Lower part of housing with sensor tube (Ø 30 mm) of glass-fibre-reinforced thermoplastic. Housing cover of thermoplastic. Uses the force-balance nozzle-ball system. Measuring element: temperature compensated humidity sensor with stabilised synthetic textile strip. Fixing flange with seal for fitting in ducts and on walls. Compress-air connection: Rp 1/8.

Type	Range %rh	Output pressure bar	Weight kg
HTP 151 F001	20...90	0.2...1.0	0.3
Supply pressure ¹⁾ via ext. restrictor Ø 0.2 mm	1.3 bar ± 0.1	Permissible ambient temp. Effect of temperature	0...70 °C compensated
Air capacity, air consumption	33 l _n /h	Wiring diagram	A07692
Linearity	see characteristic	Dimension drawing	M07694
Hysteresis	4 %rh	Fitting instructions	MV 505514
Time constant at 0.2 m/s	approx. 3 min		
Max. air speed	10 m/s		

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



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Operation

The synthetic textile strip expands as the humidity rises, creating a proportionate stroke on the lever system. The stroke is converted by a conversion spring into a force. The bleed-off nozzle-ball system converts this force into a corresponding change of pressure.

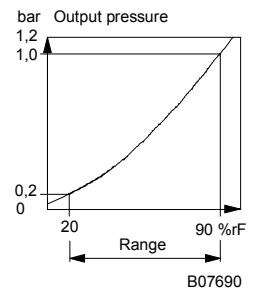
As the humidity rises, so does the output pressure.

Technical information

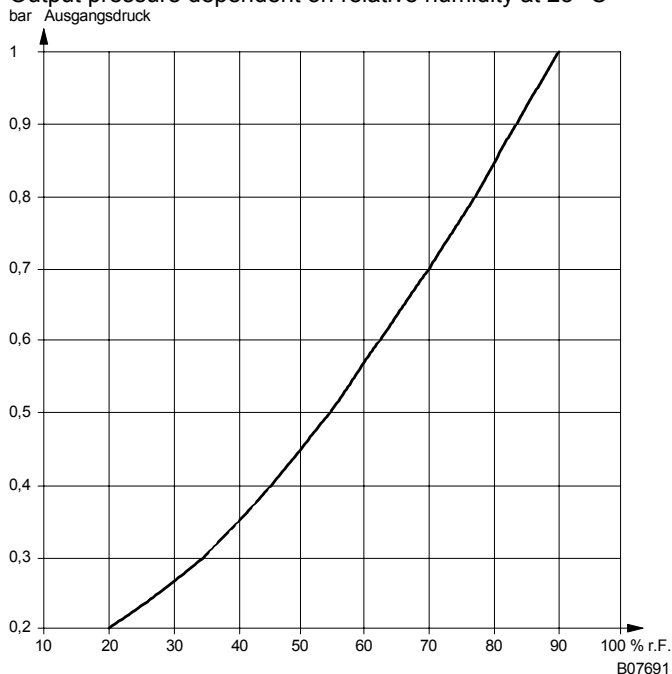
Technical manual for centair system 304991 001

Engineering and fitting notes


To compensate for the positional effects, the Allen screw on the nozzle-ball system can be adjusted.



Output pressure dependent on relative humidity at 23 °C



Permissible fitting positions



Compensate for effects of position

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[illegible]