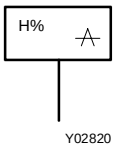
HTP: Duct transducer for relative humidity

How energy efficiency is improved
Accurate recording of air humidity in pneumatic installations for optimal control of HVAC systems.

Areas of application
Continuous measurement and/or control of relative humidity in combination with pneumatic control equipment, e.g. in ducting.

Features
- Part of the Centair family of systems
- Conversion of relative air humidity into a standard 0.2 to 1.0 bar pneumatic signal
- Sensor tube made of glass-fibre-reinforced thermoplastic
- Measuring element consists of temperature-compensated humidity sensor with stabilised artificial textile tape
- Fixing flange supplied with seal for duct and wall mounting
- Compressed-air connection Rp $^1/_8$"
- Complies with directive 97/23/EC Art. 3.3 on pressure equipment

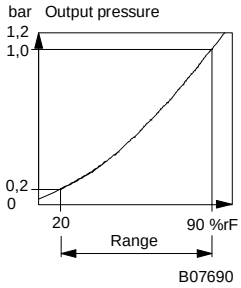


Technical description
- Supply pressure 1.3 bar ± 0.1
- Nozzle/ball system
- Hysteresis of output signal < 4% rH

Type	Range %rh	Output pressure bar	Weight kg
HTP 151 F001	20...90	0,2...1,0	0,3

Supply pressure[1)]		Permissible ambient temp.	0...70 °C
via ext. restrictor ø0,2 mm	1,3 bar ± 0,1	Effect of temperature	compensated
Air capacity, air consumption	33 l_n/h		
Linearity	see characteristic	Wiring diagram	A07692
Hysteresis	4% rh	Dimension drawing	M07694
Time constant at 0,2 m/s	approx. 3 min	Fitting instructions	MV 505514
Max. air speed	10 m/s		

1) In the RCP/RPP 20 standard controllers, the restrictors (ø0,2 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.

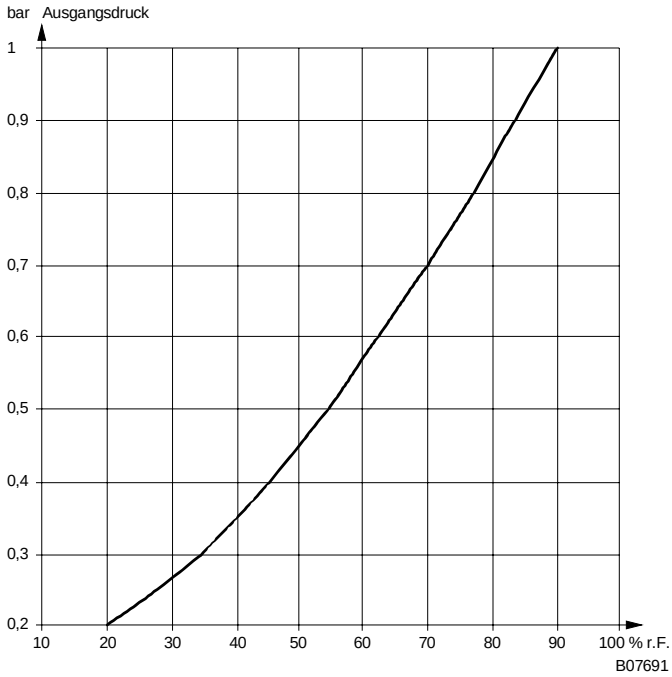


Operation
The synthetic textile strip expands as the humidity rises, creating a proportionate stroke on the lever system. The stroke is converted by a conversion spring into a force. The bleed-off nozzle-ball system converts this force into a corresponding change of pressure.
As the humidity rises, so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

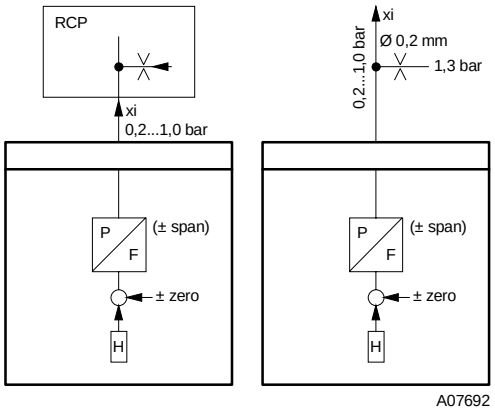
Technical information
Technical manual for *centair* system 304991 001

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

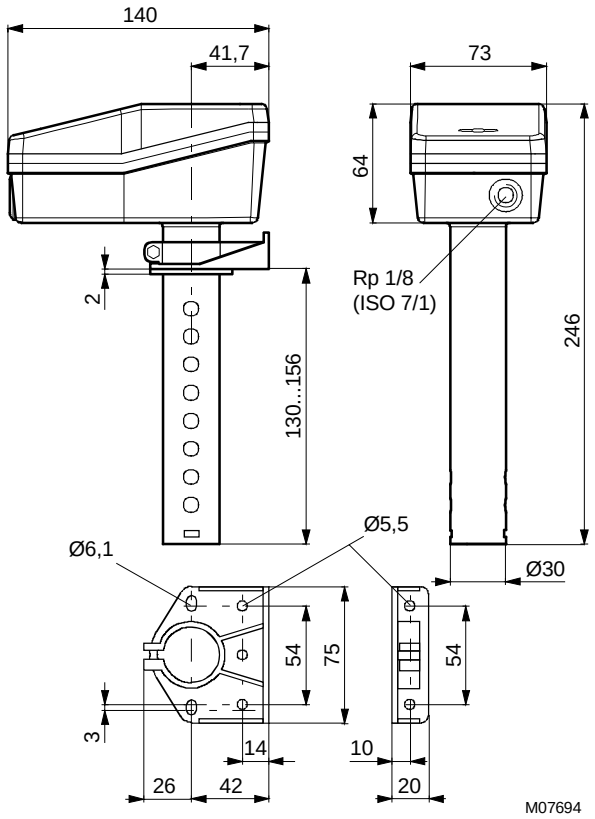
Output pressure dependent on relative humidity at 23 °C



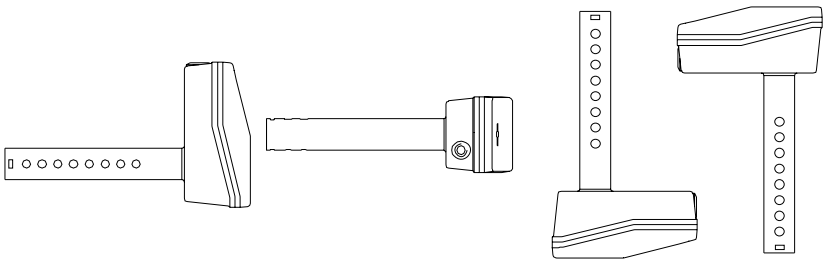
Wiring diagram



Dimension drawing



Permissible fitting positions



Compensate for effects of position

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