

AIR FLOW TRANSMITTER

DPT-FLOW



Measurement ranges (pressure)

DPT Flow	Pressure range	Accuracy from applied pressure (including: general accuracy, temperature drift, linearity, hysteresis, long term stability and repetition error).
DPT Flow -1000 (-D, -AZ)	0...1000 Pa	$\pm 1,5\%$ (or ± 2 Pa <125 Pa)
DPT Flow -2000 (-D, -AZ)	0...2000 Pa	$\pm 1,5\%$ (or ± 2 Pa <125 Pa)
DPT Flow -5000 (-D, -AZ)	0...5000 Pa	$\pm 1,5\%$ (or ± 2 Pa <125 Pa)
DPT Flow -7000 (-D, -AZ)	0...7000 Pa	$\pm 1,5\%$ (or ± 2 Pa <125 Pa)

Model summary

Model: **DPT Flow-1000 (-AZ -D)**
 DPT Flow-2000 (-AZ -D)
 DPT Flow-5000 (-AZ -D)
 DPT Flow-7000 (-AZ -D)

- D for display
- AZ for Autozero element

The Air Flow Transmitter is delivered individually packed with standard accessories (see accessories).

Technical data

Response Time: 1...20 s

Suitable media: Air and non-aggressive gases

Measuring element: Piezoresistive
Accuracy (from applied pressure): $\pm 1,5\%$ or (± 2 Pa <125 Pa) (including: general accuracy, temperature drift, linearity, hysteresis, long term stability and repetition error).

Electrical interface:

- Supply voltage: 24 VAC or VDC $\pm 10\%$
- Power consumption: < 1.0 W (< 1.5 W with Iout 20mA)

Output signals for pressure and air volume (selectable by jumper):

0...10 VDC, Load R minimum 1k Ω or 4...20 mA, maximum load 500 Ω

Materials:

- Housing: ABS
- Cover: PC
- Pressure connections: ABS
- Duct connectors: ABS
- Tubing: PV

Connections:

- Electrical connections: 4 screw terminals, max 1.5 mm²
- Cable entry: M16
- Pressure connections: Male $\varnothing$ 5,0 mm

and 6,3 mm

Weight: 150 g, with accessories 290 g

Dimensions: 90,0 x 71,5 x 36,0 mm

General ambient condition:

- Temperature range:
 - Operation -10...+50°C (-5...+50°F for -AZ model)
 - Storage: -20...+70°C
 - Ambient humidity: 0 to 95% RH

Safety:

- Protection standard: IP54
- Conformance: Meets the requirements for CE marking:
 - EMC directive 2004/108/EY
 - Rohs Directive 2002/95/EY

Accessories

Standard accessories:

- 2 fixing screws
- 2 plastic duct connectors
- 2 m tube $\varnothing$ 4 / 7 mm

Optional accessories:

- * Metallic duct connector

Zero-point adjustment

Note! Supply voltage must be connected one hour before the 0-point adjustment is carried out.

- 1) Loose both tubes from the pressure inlets + and -
- 2) Push zero button until the red led turns ON.
- 3) Wait until LED turns off and then install tubes again to the pressure inlets

It is recommended to adjust the zero point every 12 months during normal operation

* If the transmitter is equipped with automatic zero element the manual push button adjustment is not required.

Optional auto zero element *

Optional auto zero element makes the DPT transmitter maintenance free for periodical push button zeroing. Element automatically adjusts the transmitters zero point from time to time, this eliminates the zero point long term drift of the piezoresistive sensing element.

Zero point adjustment is carried out every 10 minutes. During zero point adjustment the output and display values will freeze to the latest measured value. The automatic zero point adjustment takes 4 seconds.

HK INSTRUMENTS

User-friendly measuring devices

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1

MANUFACTURER
Common Probe

Common Probe

Fläkt Woods

2

FORMULA UNIT
m³/h

3

K-VALUE
2000.000

4

PRESS. UNIT
Pa

5

P OUTPUT MAX
2000 Pa

6

FLOW UNIT
m³/s

7

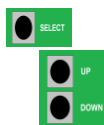
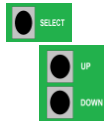
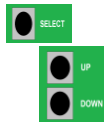
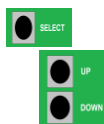
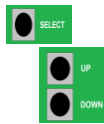
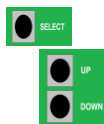
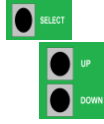
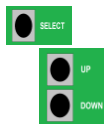
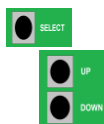
V OUTPUT MAX
50.000 m³/s

8

RESPONSE TIME
20 s

9

SELECT
EXIT MENU



1. Select the functioning mode of the Flow meter
(Manufacturer or Common probe)

2. **Common probe:** Select Formula unit(f/m)

3. **Select K-value:**

Fan Flow Meter: See table below. Formula and range depends on manufacturer

Common probe: Range: 0.001...2000.000

Formula: $q = k \cdot \sqrt{\Delta P}$

4. **Select pressure unit for display and output:**
Pa, kPa, mbar, inchWC or mmWC

5. **Pressure output scale, selectable:**

DPT Flow-1000	DPT Flow-2000	DPT Flow-5000	DPT Flow-7000
100...1000 Pa	200...2000 Pa	500...5000 Pa	700...7000 Pa
0,1...1 kPa	0,2...2 kPa	0,5...5 kPa	0,7...7 kPa
1...10 mbar	2...20 mbar	5...50 mbar	7...70 mbar
10...100 mmWC	20...200 mmWC	50...500 mmWC	70...700 mmWC
0,4...4 inchWC	0,8...8 inchWC	2...20 inchWC	2,5...30 inchWC

6. **Select flow unit for display and output:**

Flow volume: m³/s, m³/h, cfm, l/s

Velocity: m/s, feet/min

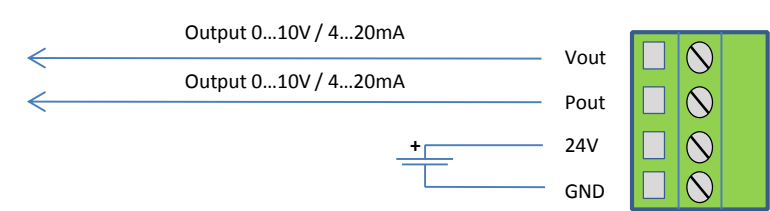
7. **Flow output scale, selectable:**

m³/s	0,025 ... 50 m³/s
m³/h	100 ... 200 000 m³/h
cfm	50 ... 100000 cfm
l/s	25 ... 50000 l/s
m/s	1 ... 100 m/s
f/min	2000 ... 20000 f/min

8. **Response time selection: 1...20s**

9. **Push select button to exit menu**

Electrical connection



Equations of Manufacturers

Each manufacturer has its own equation, k factor range and unit of equation (see table below). By selecting manufacturer from the menu, correct settings for each manufactures will be automatically in use.

Manufacturer of the fan	Equation	K factor range	Unit of the equation
Fläkt Woods	$q = \frac{1}{k} \cdot \sqrt{\Delta P}$	0,3...99	m3/s
Rosenberg	$q = k \cdot \sqrt{\frac{2 \cdot \Delta P}{\rho}}$	37...800	m3/h
Nicotra	$q = CPFN \cdot \sqrt{\frac{2 \cdot \Delta P}{\rho}}$	10...1500	m3/h
Comefri	$q = k \cdot \sqrt{\frac{2 \cdot \Delta P}{\rho}}$	10...2000	m3/h
Ziehl-Abegg	$q = k \cdot \sqrt{\Delta P}$	10...1500	m3/h
EBM - Papst	$q = k \cdot \sqrt{\Delta P}$	10...1500	m3/h
Gebhardt	$q = k \cdot \sqrt{\frac{2 \cdot \Delta P}{\rho}}$	50...4700	m3/h

Dimensions

