

604

Differential
pressure, vacuum and
overpressure switch
0.2 – 50 mbar



EDITION 02/2001

HUBA-REGISTERED TRADE MARK

Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

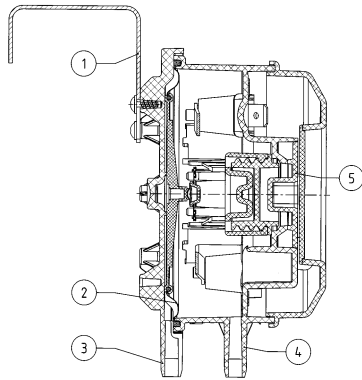


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Technical overview

The type 604 pressure switch is used as a ΔP flow switch in ventilation ducts for the control of filters and fans, and in primary and secondary control systems for the control of air dampers.

The 604 pressure monitoring switches are also ideally suited to protect heating coils from overheating and for monitoring industrial air cooling circuits. Medium: air and non-corrosive gases.



Legend to cross-section drawing

- 1 Mounting bracket
- 2 Diaphragm
- 3 P1 connection of higher pressure or lower vacuum
- 4 P2 connection of lower pressure or higher vacuum
- 5 Scale (switching point setting)

Pressure ranges

See order code selection table.

Temperature ranges / Overpressure

Overpressure 50 mbar at medium and ambient temperature
-30 to +85 °C

Overpressure 75 mbar at medium and ambient temperature
-30 to +75 °C

Storage temperature -40 to +85 °C

Setting ranges / Switching differential

See diagrams, right

The switching differential is factory-set.

Lowest turn-on pressure

0.2 mbar

Repeatability

In the ranges 0.2 to 3 mbar
< +/- 0.025 mbar

In the ranges 0.5 to 20 mbar
< +/- 0.05 mbar

In the ranges 10 to 50 mbar
< +/- 0.15 mbar

Case construction

Main case:
fiberglass-reinforced plastic

Cover:
plastic

The distinct advantages

- Extremely easy to install
- Only one fixing screw for cover
- Cable inlead case geometry
- Cable strain relief integrated in Pg 11
- Combi-bracket for vertical or horizontal installation
- High adjustment accuracy through individual scale engraving per switch
- Long-term stability of switching points through trapezoidal bead diaphragm
- Multi-layer contact gold-plated

Weight

120 grams without bracket
144 grams with bracket type C

Installation arrangement

Standard diaphragm vertical (factory calibration)
When the switch is rotated to horizontal the switching points will change by 11 pascal (see back cover).

Pressure connections

Pipe \varnothing 6.2 mm
Adapter 1/8"

Diaphragm

Silicone LSR
Tempered 200 °C,
free of gas emissions

Electrical connections

Screw terminals or AMP-connectors 6.3 or 4.8 mm according to DIN 46244

Cable gland Pg 11 with cable strain relief

Contact system

Standard : Changeover switch
Option : N/O contact

Contact material

Multi-layer contact (suitable for DDC)
5 (0.8*) A 250 VAC
2 A 30 VDC

* For inductive loads with 6-fold starting current $\cos \varphi$ 0.6

Tests

EN 61058, VDE 0630
DVGW according to
DIN 3398, part 2

EU conformity

Low voltage directive
73/23/EWG
Gas appliance directive 90/396/EWG
CE 0085 A P0918

Protection class

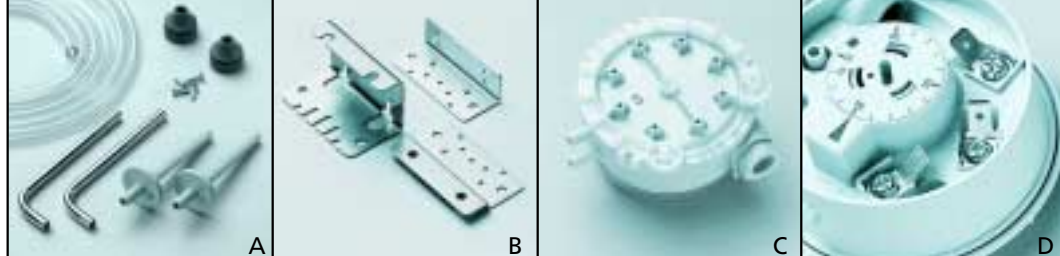
IP 00 without cover
IP 54 with cover

Service life

Mechanical, > 10⁶ switching cycles

Accessories

See order code selection table



- A – Connection set Fig. 1 / Fig. 2
- B – Mounting bracket A, B, C
- C – Switch with fastening clip
- D – Equipped with AMP connectors

Versions

Compact A/C set (standard)

Consisting of switch with hose connection Ø 6.2 mm, scale in mbar, screw terminals, multi-layer contact up to 5 A (suitable for DDC), combi-bracket and hose connection set, single packaging.

Pressure range

0.2 – 3 mbar
0.5 – 5 mbar
1 – 10 mbar
5 – 20 mbar
10 – 50 mbar
0.2 – 3 mbar
0.5 – 5 mbar
1 – 10 mbar
5 – 20 mbar
10 – 50 mbar

Connection set

Fig. 1 (Metal)
Fig. 1 (Metal)
Fig. 1 (Metal)
Fig. 1 (Metal)
Fig. 1 (Metal)
Fig. 2 (Plastic)
Fig. 2 (Plastic)
Fig. 2 (Plastic)
Fig. 2 (Plastic)
Fig. 2 (Plastic)

Order no.

604.9000001
604.9100001
604.9200001
604.9400001
604.9500001
604.9000002
604.9100002
604.9200002
604.9400002
604.9500002

Order code selection table

EDITION 02/2001

604

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ETL execution, fire classification V0

Setting range	0.2 – 3 mbar	(20 – 300 Pa)
	0.5 – 5 mbar	(50 – 500 Pa)
	1 – 10 mbar	(100 – 1 000 Pa)
	5 – 20 mbar	(500 – 2 000 Pa)
	10 – 50 mbar	(1 000 – 5 000 Pa)

Scale	Scale in mbar	0
	Scale in Pa	1
	Scale in inH ₂ O	2
	without scale (rating plate in mbar)	3
	without scale (rating plate in Pa)	4
	without scale (rating plate in inH ₂ O)	5

Pressure connection	Pipe ø 6.2 mm	without orifice	0
	Pipe ø 6.2 mm	with orifice on P2	1
	Inside thread G 1/8	without orifice	2
	Inside thread G 1/8	with orifice on P2	3

Electrical connection	Screw terminals	0
	AMP connector 6.3 mm	1
	AMP connector 4.8 mm	2

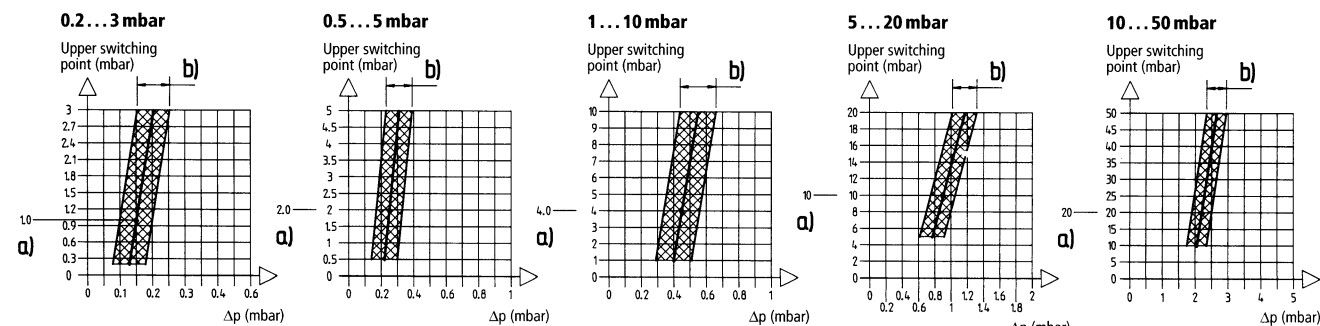
Cover / Bracket	with cover	combi-bracket type C	0
	with cover	bracket type A	1
	with cover	bracket type B	2
	with cover	without bracket	3
	without cover	combi-bracket type C	5
	without cover	bracket type A	6
	without cover	bracket type B	7
	without cover	without bracket	8

Connection set with hose 2 m	without connection set		0
	with connection set	as Fig. 1 in single packaging	1
	with connection set	as Fig. 2 in single packaging	2

Accessories, supplied separately

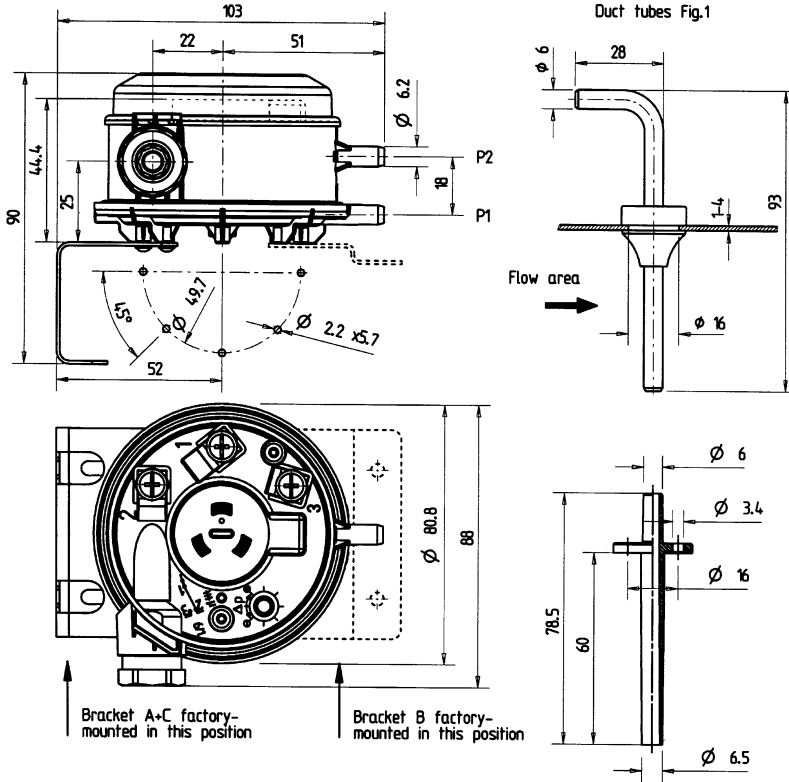
Order no.

Hose connection set Fig. 1	1 0 4 3 1 2	
Hose connection set Fig. 2	1 0 0 0 6 4	
Bracket type A ¹	1 0 0 2 9 5 ¹	
Bracket type B ¹	1 0 0 0 9 8 ¹	
Combi-bracket type C ¹	1 0 0 1 0 6 ¹	
¹ Special screws for fastening switches to bracket (2 screws per switch required)	1 0 2 9 7 6	
Fastening clip for bracket A, B, C or direct mounting	for wall thickness 0.8 – 1.1 mm	1 0 0 2 9 4
	for wall thickness 1.8 – 2.1 mm	1 0 0 2 9 3

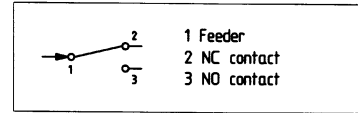


a) Factory-setting b) Δp tolerance

¹ See fixing screws «Wall thickness on customer site» on back page.



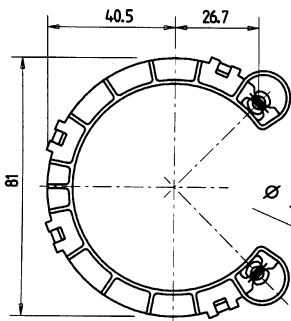
Electrical connections



Fixing screws for direct wall-mounting without bracket

Wall thickness on customer site	Screw length	Order number
1 - 2 mm	6 mm	102976
4.1 - 6 mm	10 mm	102978

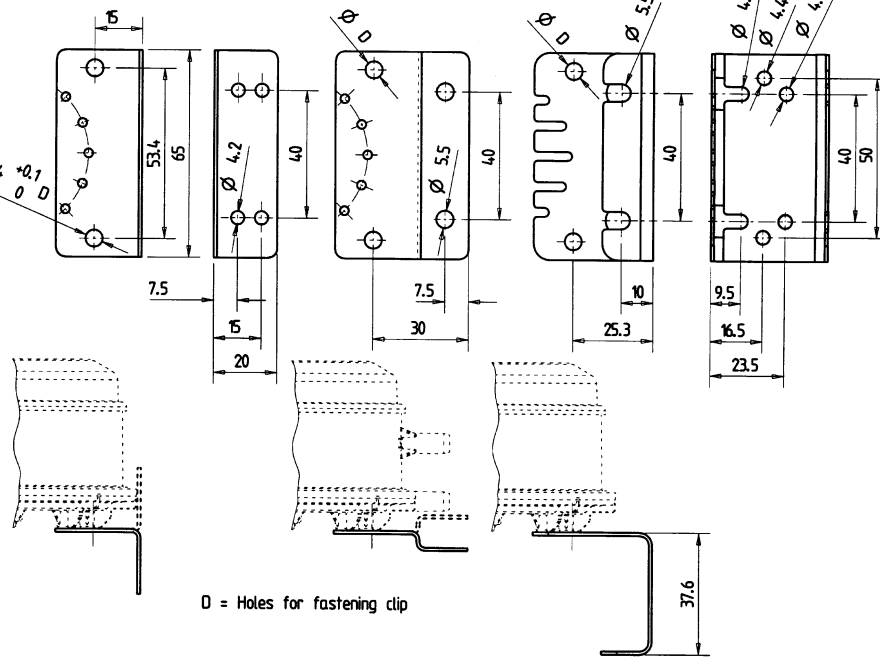
Mounting the switch with fastening clip



Bracket type A

Bracket type B

Bracket type C



D = Holes for fastening clip

Installation arrangement

Recommended orientation: vertical (factory calibration)



Horizontal mounting with cover upwards. Switching points 1 Pa higher than indicated on scale.



Horizontal mounting with cover downwards. Switching points 1 Pa lower than indicated on scale.



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