

# 0166

Diaphragm pressure switches up to 42 V with spade terminal

- Made of zinc-plated steel (CrVI-free)
- Spade terminal
- Overpressure safety up to 300 bar<sup>1)</sup>

Adjustment range tolerance at room temperature	Male thread	Order number NO →  :	Order number NC → :
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## 0166 Diaphragm pressure switches with spade terminal

0.1 – 1 (±0.2) bar	G 1/4	0166 – 403 03 – X – 011	0166 – 404 03 – X – 015
	G 1/8	0166 – 403 28 – X – 603	0166 – 404 28 – X – 604
	M 10x1 cyl.	0166 – 403 13 – X – 003	0166 – 404 13 – X – 004
	M 10x1 con.	0166 – 403 01 – X – 009	0166 – 404 01 – X – 013
	M 12x1.5 cyl.	0166 – 403 02 – X – 010	0166 – 404 02 – X – 014
	NPT 1/8	0166 – 403 04 – X – 012	0166 – 404 04 – X – 016
0.5 – 3 (±0.3) bar	G 1/4	0166 – 423 03 – X – 070	0166 – 424 03 – X – 070
	G 1/8	0166 – 423 28 – X – 070	0166 – 424 28 – X – 070
	M 10x1 cyl.	0166 – 423 13 – X – 070	0166 – 424 13 – X – 070
	M 10x1 con.	0166 – 423 01 – X – 070	0166 – 424 01 – X – 070
	M 12x1.5 cyl.	0166 – 423 02 – X – 070	0166 – 424 02 – X – 070
	NPT 1/8	0166 – 423 04 – X – 070	0166 – 424 04 – X – 070
1 – 10 (±0.5) bar	G 1/4	0166 – 407 03 – X – 027	0166 – 408 03 – X – 031
	G 1/8	0166 – 407 28 – X – 607	0166 – 408 28 – X – 608
	M 10x1 cyl.	0166 – 407 13 – X – 007	0166 – 408 13 – X – 008
	M 10x1 con.	0166 – 407 01 – X – 025	0166 – 408 01 – X – 029
	M 12x1.5 cyl.	0166 – 407 02 – X – 026	0166 – 408 02 – X – 030
	NPT 1/8	0166 – 407 04 – X – 028	0166 – 408 04 – X – 032
10 – 20 (±1) bar	G 1/4	0166 – 411 03 – X – 043	0166 – 412 03 – X – 047
	G 1/8	0166 – 411 28 – X – 611	0166 – 412 28 – X – 612
	M 10x1 cyl.	0166 – 411 13 – X – 011	0166 – 412 13 – X – 012
	M 10x1 con.	0166 – 411 01 – X – 041	0166 – 412 01 – X – 045
	M 12x1.5 cyl.	0166 – 411 02 – X – 042	0166 – 412 02 – X – 046
	NPT 1/8	0166 – 411 04 – X – 044	0166 – 412 04 – X – 048
20 – 50 (±2) bar	G 1/4	0166 – 415 03 – X – 059	0166 – 416 03 – X – 063
	G 1/8	0166 – 415 28 – X – 615	0166 – 416 28 – X – 616
	M 10x1 cyl.	0166 – 415 13 – X – 015	0166 – 416 13 – X – 016
	M 10x1 con.	0166 – 415 01 – X – 057	0166 – 416 01 – X – 061
	M 12x1.5 cyl.	0166 – 415 02 – X – 058	0166 – 416 02 – X – 062
	NPT 1/8	0166 – 415 04 – X – 060	0166 – 416 04 – X – 064

## Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 41 for the temperature range and application thresholds of sealing materials.

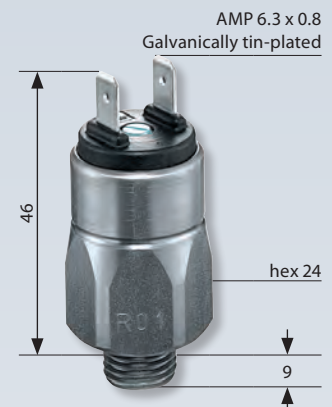
**Your order number:** 0166 – XXX XX – X – XXX

# M.3

hex 24

## hidra[matic]

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<sup>1)</sup> Static value. Dynamic value is 30-50% lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.





- Most cost-effective solution for mechanical pressure monitoring
- Stable switching point even after long use and high load
- Switching point can be adjusted when fitted on site <sup>1)</sup>
- High pressure resistance, compact, small switches, available as normally closed (NC) or normally open (NO)
- For solutions with integrated connectors please refer to chapter M.1, starting at page 22

<sup>1)</sup> Pressure switches can also be supplied preset at factory. Our preset switches are sealed with lacquer paint, set points are embossed on the housing.

# Pressure switches hex 24

## Technical data

M.3

hex 24



hidra[**matic**]

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Rated working voltage:	10 ... 42 VAC/DC	
Rated current range (resistive load, 12 DC and 12 AC):	10 mA ... 4 A	
Switching power DC12 / AC12:	100 W / 100 VA	
Temperature resistance of sealing materials:	NBR	-40 °C ... +100 °C
	EPDM	-30 °C ... +120 °C
	EPDM-W270, diaphragm	-20 °C ... +100 °C
	FKM (in diaphragm pressure switch)	-5 °C ... +120 °C
	FKM (in piston pressure switch)	-10 °C ... +120 °C
	Silicone, diaphragm	-40 °C ... +120 °C
	HNBR	-30 °C ... +120 °C
Switching frequency:	200 / min.	
Mechanical life expectancy:	1,000,000 cycles (for diaphragm pressure switches, life expectancy value only applies for switching pressures to max. 50 bar)	
Pressure rise rate:	≤ 1 bar/ms	
Hysteresis:	Average value 5 – 30 % depending on type, not adjustable	
Vibration resistance:	10 g; 5 – 200 Hz sine wave; DIN EN 60068-2-6	
Shock resistance:	294 m/s <sup>2</sup> ; 14 ms half sine wave; DIN EN 60068-2-27	
Protection class:	IP65 Terminals IP00	
Weight:	approx. 90 g	

Type:		0163	0164	0166	0167	0168	0169
Material:	Zinc-plated steel (CrVI-free)	●		●		●	●
	Stainless steel		●				
	Brass				●		
Overpressure safety up to:	35 bar				●		
	300 bar			●		●	
	600 bar	●	●				●



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