

# 0167

Diaphragm pressure switches up to 42 V with brass housing

- Brass housing
- Spade terminal
- Overpressure safety up to 500 psi (35 bar)<sup>1)</sup>

Adjustment range tolerance at room temperature	Male thread	Order number NO → :	Order number NC → :
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## 0167 Diaphragm pressure switches with spade terminal

1.45 - 14.5 ± 2.9 psi (0.1 - 1 ± 0.2 bar)	M 10x1 taper	0167 - 403 01 - X - 007	0167 - 404 01 - X - 010
	1/8" BSPT	0167 - 403 12 - X - 008	0167 - 404 12 - X - 011
	1/2" BSPT	0167 - 403 07 - X - 009	0167 - 404 07 - X - 012
	1/4" BSPP	0167 - 403 03 - X - 039	0167 - 404 03 - X - 040
	1/8" BSPP	0167 - 403 28 - X - 003	0167 - 404 28 - X - 004
	1/8" NPT	0167 - 403 04 - X - 012	0167 - 404 04 - X - 016
7.25 - 43.5 ± 4.35 psi (0.5 - 3 ± 0.3 bar)	M 10x1 taper	0167 - 423 01 - X - 070	0167 - 424 01 - X - 070
	1/8" BSPT	0167 - 423 12 - X - 070	0167 - 424 12 - X - 070
	1/2" BSPT	0167 - 423 07 - X - 070	0167 - 424 07 - X - 070
	1/4" BSPP	0167 - 423 03 - X - 070	0167 - 424 03 - X - 070
	1/8" BSPP	0167 - 423 28 - X - 070	0167 - 424 28 - X - 070
	1/8" NPT	0167 - 423 04 - X - 070	0167 - 424 04 - X - 070
14.5 - 145 ± 7.25 psi (1 - 10 ± 0.5 bar)	M 10x1 taper	0167 - 407 01 - X - 019	0167 - 408 01 - X - 022
	1/8" BSPT	0167 - 407 12 - X - 020	0167 - 408 12 - X - 023
	1/2" BSPT	0167 - 407 07 - X - 021	0167 - 408 07 - X - 024
	1/4" BSPP	0167 - 407 03 - X - 043	0167 - 408 03 - X - 044
	1/8" BSPP	0167 - 407 28 - X - 007	0167 - 408 28 - X - 008
	1/8" NPT	0167 - 407 04 - X - 028	0167 - 408 04 - X - 032
145 - 290 ± 14.5 psi (10 - 20 ± 1 bar)	M 10x1 taper	0167 - 411 01 - X - 031	0167 - 412 01 - X - 034
	1/8" BSPT	0167 - 411 12 - X - 032	0167 - 412 12 - X - 035
	1/2" BSPT	0167 - 411 07 - X - 033	0167 - 412 07 - X - 036
	1/4" BSPP	0167 - 411 03 - X - 047	0167 - 412 03 - X - 048
	1/8" BSPP	0167 - 411 28 - X - 011	0167 - 412 28 - X - 012
	1/8" NPT	0167 - 411 04 - X - 044	0167 - 412 04 - X - 048

## Seal material – Application areas

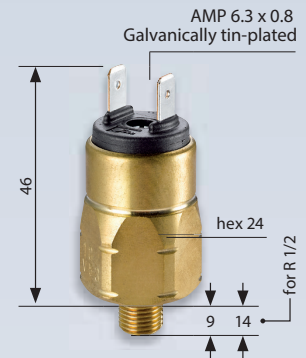
NBR (BunaN)	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Water, Brake fluid, hydrogen, oxygen, acetylene, etc.	2
EPDM-W270	Drinking water. ≥ 500 psi (p <sub>max</sub> ≥ 35 bar)	5
FKM (Viton®)	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, esters, alcohols	6
Silicone	Water, food products, air, etc. ≥ 500 psi (p <sub>max</sub> ≥ 35 bar)	8

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

Your order number: 0167 - XXX XX - X - XXX

# M.3

hex 24



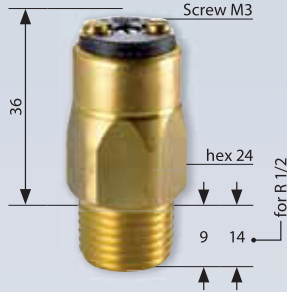
M



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

# M.3

hex 24



# 0167

Diaphragm pressure switches up to 42 V with brass housing

- Brass housing
- M3 screw terminal
- Overpressure safety up to 500 psi (35 bar)<sup>1)</sup>

Adjustment range tolerance at room temperature	Male thread	Order number NO →  :	Order number NC →  :
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### 0167 Diaphragm pressure switches with M3 screw terminal

1.45 - 14.5 ± 2.9 psi (0.1 - 1 ± 0.2 bar)	M 10x1 taper	0167 - 401 01 - X - 001	0167 - 402 01 - X - 004
	1/8" BSPT	0167 - 401 12 - X - 002	0167 - 402 12 - X - 005
	1/2" BSPT	0167 - 401 07 - X - 003	0167 - 402 07 - X - 006
	1/4" BSPP	0167 - 401 03 - X - 037	0167 - 402 03 - X - 038
	1/8" BSPP	0167 - 401 28 - X - 001	0167 - 402 28 - X - 002
	1/8" NPT	0167 - 401 04 - X - 004	0167 - 402 04 - X - 008
7.25 - 43.5 ± 4.35 psi (0.5 - 3 ± 0.3 bar)	M 10x1 taper	0167 - 421 01 - X - 070	0167 - 422 01 - X - 070
	1/8" BSPT	0167 - 421 12 - X - 070	0167 - 422 12 - X - 070
	1/2" BSPT	0167 - 421 07 - X - 070	0167 - 422 07 - X - 070
	1/4" BSPP	0167 - 421 03 - X - 070	0167 - 422 03 - X - 070
	1/8" BSPP	0167 - 421 28 - X - 070	0167 - 422 28 - X - 070
	1/8" NPT	0167 - 421 04 - X - 070	0167 - 422 04 - X - 070
14.5 - 145 ± 7.25 psi (1 - 10 ± 0.5 bar)	M 10x1 taper	0167 - 405 01 - X - 013	0167 - 406 01 - X - 016
	1/8" BSPT	0167 - 405 12 - X - 014	0167 - 406 12 - X - 017
	1/2" BSPT	0167 - 405 07 - X - 015	0167 - 406 07 - X - 018
	1/4" BSPP	0167 - 405 03 - X - 041	0167 - 406 03 - X - 042
	1/8" BSPP	0167 - 405 28 - X - 005	0167 - 406 28 - X - 006
	1/8" NPT	0167 - 405 04 - X - 020	0167 - 406 04 - X - 024
145 - 290 ± 14.5 psi (10 - 20 ± 1 bar)	M 10x1 taper	0167 - 409 01 - X - 025	0167 - 410 01 - X - 028
	1/8" BSPT	0167 - 409 12 - X - 026	0167 - 410 12 - X - 029
	1/2" BSPT	0167 - 409 07 - X - 027	0167 - 410 07 - X - 030
	1/4" BSPP	0167 - 409 03 - X - 045	0167 - 410 03 - X - 046
	1/8" BSPP	0167 - 409 28 - X - 009	0167 - 410 28 - X - 010
	1/8" NPT	0167 - 409 04 - X - 036	0167 - 410 04 - X - 040

### Seal material – Application areas

NBR (BunaN)	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Water, Brake fluid, hydrogen, oxygen, acetylene, etc.	2
EPDM-W270	Drinking water. ≥ 500 psi (p <sub>max</sub> ≥ 35 bar)	5
FKM (Viton®)	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, esters, alcohols	6
Silicone	Water, food products, air, etc. ≥ 500 psi (p <sub>max</sub> ≥ 35 bar)	8



Your order number: **0167 - XXX XX - X - XXX**

# Pressure switches hex 24

## Technical data

# M.3

## hex 24



Rated working voltage:	10 ... 42 VAC/DC	
Rated current range (resistive load, DC12 / AC12):	10 mA ... 4 A	
Switching power DC12 / AC12:	100 W / 100 VA	
Temperature resistance of sealing materials:	NBR (BunaN)	-40 °F ... +212 °F (-40 °C ... +100 °C)
	NBR (in piston pressure switch)	-22 °F ... +212 °F (-30 °C ... +100 °C)
	EPDM	-22 °F ... +248 °F (-30 °C ... +120 °C)
	EPDM-W270, diaphragm	-4 °F ... +212 °F (-20 °C ... +100 °C)
	FKM (Viton®) (in diaphragm pressure switch)	+23 °F ... +248 °F (-5 °C ... +120 °C)
	FKM (Viton®) (in piston pressure switch)	+5 °F ... +248 °F (-15 °C ... +120 °C)
	FFKM	-4 °F ... +248 °F (-20 °C ... +120 °C)
	Silicone, diaphragm	-40 °F ... +248 °F (-40 °C ... +120 °C)
	HNBR	-22 °F ... +248 °F (-30 °C ... +120 °C)
Burst pressure (diaphragm pressure switch):	5,800 psi (400 bar)	
Burst pressure (piston pressure switch):	10,150 psi (700 bar) (for threads M10, G 1/8, R 1/8 and NPT 1/8 up to max. 600 bar)	
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. 725 psi / 50 bar)	
Pressure rise rate:	≤ 14.5 psi/ms (1 bar/ms)	
Differential:	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 with socket device, terminals IP00	
Weight:	approx. 3.17 oz (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	●	●				●



# M.3

hex 24

# Pressure switches hex 24

NC or NO, maximum voltage 42 V



- 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
- For customized and ready-wired pressure switches, please refer to chapter M.5

<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.