

Pressure switches hex 27

Changeover with silver or gold contacts



- Switching point¹⁾ can be adjusted when fitted on site¹⁾
- Factory adjustable hysteresis (except types 0140 and 0141)
- High overpressure safety and long service life under harsh conditions
- Operating voltage up to 250 V
- Series 0140 / 0141 with protective insulation
- For ready-wired customized versions refer to chapter M.5, starting at page 62
- For pressure switches with integrated connectors refer to chapter M.2, starting at page 32

¹⁾ 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 27

Technical details

M.4
hex 27



Temperature resistance of sealing materials	NBR (diaphragm pressure switches, $p_{max} = 300 / 400$ bar)	-40 °C ... +100 °C
	NBR (diaphragm pressure switch, $p_{max} = 100$ bar) (piston pressure switch)	-30 °C ... +100 °C
	EPDM	-30 °C ... +120 °C
	EPDM-TW (diaphragm pressure switch)	-20 °C ... +100 °C
	FKM (diaphragm pressure switch)	-5 °C ... +120 °C
	FKM (piston pressure switch)	-15 °C ... +120 °C
	FFKM	-20 °C ... +120 °C
	Silicone (diaphragm pressure switch)	-40 °C ... +120 °C
HNBR	-30 °C ... +120 °C	
Burst pressure (diaphragm pressure switch, overpressure resistance 100 bar)	200 bar	
Burst Pressure (diaphragm pressure switch, overpressure resistance 400 bar)	700 bar (for threads M10, G 1/8, R 1/8, NPT 1/8 and type 0140 up to max. 600 bar)	
Burst pressure (Piston pressure switch)	1,000 bar (for threads M10, G 1/8, R 1/8, NPT 1/8 and type 0140 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. 50 bar)	
Pressure rise rate	≤ 1,000 bar/s	
Hysteresis (only adjustable at factory) ¹⁾	Adjustable average value 10 ... 30 % depending on type Types 0140 and 0141 cannot be adjusted	
Vibration resistance	10 g; 5 ... 200 Hz sine wave; DIN EN 60068-2-6	
Shock resistance	294 m/s ² ; 14 ms half sine wave; DIN EN 60068-2-6, DIN EN 60068-2-29	
Protection class	IP65 with socket device, terminals IP00	
Weight	approx. 100 g	

Switching performance and materials overview

Type	0140	0141	0170	0171	0180	0181	0183	0186	0187	0190	0191	0196	0197
5 ... 24 V DC										●	●	●	●
10 ... 42 V AC/DC			●	●									
10 ... 250 V AC/DC	●	●			●	●	●	●	●				
3 ... 50 mA										●	●	●	●
10 mA ... 2 A	●	●											
10 mA ... 4 A			●	●	●	●	●	●	●				
Gold contacts										●	●	●	●
Silver contacts	●	●	●	●	●	●	●	●	●				
Adjustable hysteresis			●	●	●	●	●	●	●	●	●	●	●
Zinc-plated steel (CrVI-free)	●	●	●	●	●	●	●			●	●		
Stainless steel 1.4305								●	●			●	●

¹⁾ see notes on hysteresis in the technical explanations (page 15-16)



Pressure switches hex 27

Electrical values

0140 / 0141		
Rated working voltage U_e :	Rated working current I_e	Usage category ¹⁾
250 VAC 50 / 60 Hz	2 A	AC12
24 VDC	2 / 1 A	DC12 / DC13
50 VDC	1 / 0.5 A	DC12 / DC13
75 VDC	0.5 / 0.25 A	DC12 / DC13
125 VDC	0.2 / 0.1 A	DC12 / DC13
250 VDC	0.15 / 0.1 A	DC12 / DC13
Rated insulation voltage U_i :	300 V	
Rated impulse withstand voltage U_{imp} :	4 kV	
Conventional thermal current I_{the} :	5 A	
Switching overvoltage:	< 2.5 kV	
Rated frequency:	DC and 50 / 60 Hz	
Nominal current of short-circuit mechanism:	to 3.5 A	
Rated short-circuit current:	< 350 A	
IP class of protection according to DIN EN 60529:1991+A1:1999:	IP65 with socket device, terminals IP00	
Tightening torque of terminal screws:	< 0.35 Nm	
Connector cross-section:	0.5 - 1.5 mm ²	

0170 / 0171 / 0180 / 0181 / 0183 / 0186 / 0187 / 0190 / 0191 / 0196 / 0197		
Rated working voltage U_e :	Rated working current I_e	Usage category ¹⁾
250 VAC 50 / 60 Hz	4 A	AC12
250 VAC 50 / 60 Hz	1 A	AC14
24 VDC	4 / 2 A	DC12 / DC13
50 VDC	2 / 1 A	DC12 / DC13
75 VDC	1 / 0.5 A	DC12 / DC13
125 VDC	0.3 / 0.2 A	DC12 / DC13
250 VDC	0.25 / 0.2 A	DC12 / DC13
Rated insulation voltage U_i :	300 V	
Rated impulse withstand voltage U_{imp} :	2.5 kV	
Conventional thermal current I_{the} :	5 A	
Switching overvoltage:	< 2.5 kV	
Rated frequency:	DC and 50 / 60 Hz	
Nominal current of short-circuit mechanism:	to 5 A	
Rated short-circuit current:	< 350 A	
IP class of protection according to DIN EN 60529:1991+A1:1999:	IP65 with socket device, terminals IP00	

0140 / 0141

Diaphragm / piston pressure switches 250 V

- Protection class 2, protective insulation
- Zinc-plated steel (CrVI-free)
- Changeover with silver contacts
- Overpressure safety up to 300 / 600 bar¹⁾
- Includes polyamide cap, protection class IP65

p _{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0140 Diaphragm pressure switches with screw terminals

p _{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
300 ¹⁾	0.3 - 1.5	± 0.2	G 1/4	0140 - 457 03 - X - 003
			NPT 1/8	0140 - 457 04 - X - 300
			NPT 1/4	0140 - 457 09 - X - 305
			7/16-20 UNF	0140 - 457 20 - X - 310
			9/16-18 UNF	0140 - 457 21 - X - 315
	1 - 10	± 0.5	G 1/4	0140 - 458 03 - X - 006
			NPT 1/8	0140 - 458 04 - X - 301
			NPT 1/4	0140 - 458 09 - X - 306
			7/16-20 UNF	0140 - 458 20 - X - 311
			9/16-18 UNF	0140 - 458 21 - X - 316
	10 - 20	± 1.0	G 1/4	0140 - 459 03 - X - 009
			NPT 1/8	0140 - 459 04 - X - 302
			NPT 1/4	0140 - 459 09 - X - 307
			7/16-20 UNF	0140 - 459 20 - X - 312
			9/16-18 UNF	0140 - 459 21 - X - 317
	20 - 50	± 2.0	G 1/4	0140 - 461 03 - X - 012
NPT 1/8			0140 - 461 04 - X - 303	
NPT 1/4			0140 - 461 09 - X - 308	
7/16-20 UNF			0140 - 461 20 - X - 313	
9/16-18 UNF			0140 - 461 21 - X - 318	

0141 Piston pressure switches with screw terminals

p _{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
600 ¹⁾	50 - 150	± 5.0	G 1/4	0141 - 460 03 - X - 003
			NPT 1/8	0141 - 460 04 - X - 304
			NPT 1/4	0141 - 460 09 - X - 309
			7/16-20 UNF	0141 - 460 20 - X - 314
			9/16-18 UNF	0141 - 460 21 - X - 319

Seal material – Application areas

Seal material	Application areas	Code
NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, esters, alcohols	6
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 53 for the temperature range and application thresholds of sealing materials.



Article number: **014X - XXX XX - X - XXX**

M.4
hex 27



M

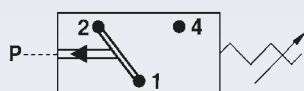


¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.

0170 / 0171

Diaphragm / piston pressure switches up to 42 V

- Zinc-plated steel (CrVI-free)
- Changeover with silver contacts
- Overpressure safety up to 100 / 400 / 700 bar¹⁾
- Hysteresis adjustable at factory



p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0170 Diaphragm pressure switches with spade terminal

100 ¹⁾	0.3 - 1.5	± 0.2	G 1/4	0170 - 457 03 - X - 003
			M 10x1 con.	0170 - 457 01 - X - 001
			M 12x1.5 cyl.	0170 - 457 02 - X - 002
			NPT 1/8	0170 - 457 04 - X - 318
			NPT 1/4	0170 - 457 09 - X - 314
			7/16-20 UNF	0170 - 457 20 - X - 301
9/16-18 UNF	0170 - 457 21 - X - 302			

400 ¹⁾	1 - 10	± 0.5	G 1/4	0170 - 458 03 - X - 042
			M 10x1 con.	0170 - 458 01 - X - 040
			M 12x1.5 cyl.	0170 - 458 02 - X - 041
			NPT 1/8	0170 - 458 04 - X - 343
			NPT 1/4	0170 - 458 09 - X - 340
			7/16-20 UNF	0170 - 458 20 - X - 341
9/16-18 UNF	0170 - 458 21 - X - 342			

400 ¹⁾	10 - 50	± 3.0	G 1/4	0170 - 459 03 - X - 009
			M 10x1 con.	0170 - 459 01 - X - 007
			M 12x1.5 cyl.	0170 - 459 02 - X - 008
			NPT 1/8	0170 - 459 04 - X - 320
			NPT 1/4	0170 - 459 09 - X - 316
			7/16-20 UNF	0170 - 459 20 - X - 305
9/16-18 UNF	0170 - 459 21 - X - 306			

400 ¹⁾	10 - 100	± 3.0 - 5.0	G 1/4	0170 - 461 03 - X - 012
			M 10x1 con.	0170 - 461 01 - X - 010
			M 12x1.5 cyl.	0170 - 461 02 - X - 011
			NPT 1/8	0170 - 461 04 - X - 321
			NPT 1/4	0170 - 461 09 - X - 317
			7/16-20 UNF	0170 - 461 20 - X - 307
9/16-18 UNF	0170 - 461 21 - X - 308			

0171 Piston pressure switches with spade terminal

700 ^{1) 2)}	50 - 200	± 5.0	G 1/4	0171 - 460 03 - X - 003
			M 10x1 con.	0171 - 460 01 - X - 001
			M 12x1.5 cyl.	0171 - 460 02 - X - 002
			NPT 1/4	0171 - 460 09 - X - 303
			7/16-20 UNF	0171 - 460 20 - X - 301
			9/16-18 UNF	0171 - 460 21 - X - 302

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, esters, alcohols	6
HNBR³⁾	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 53 for the temperature range and application thresholds of sealing materials.



Article number: **017X - XXX XX - X - XXX**

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

²⁾ Excluding the thread sizes G 1/8, R 1/8, NPT 1/8 and M 10x1 cylindrical/conical.

³⁾ HNBR diaphragm not available for pressure ranges between 0.3 - 1.5 bar.

0180 / 0181

Diaphragm / piston pressure switches up to 250 V

- Zinc-plated steel (CrVI-free)
- Changeover with silver contacts
- Overpressure safety up to 100 / 400 / 700 bar¹⁾
- Hysteresis adjustable at factory

p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0180 Diaphragm pressure switches with spade terminal

100 ¹⁾	0.3 - 1.5	± 0.2	G 1/4	0180 - 457 03 - X - 003
			M 10x1 con.	0180 - 457 01 - X - 001
			M 12x1.5 cyl.	0180 - 457 02 - X - 002
			NPT 1/8	0180 - 457 04 - X - 318
			NPT 1/4	0180 - 457 09 - X - 314
			7/16-20 UNF	0180 - 457 20 - X - 301
			9/16-18 UNF	0180 - 457 21 - X - 302
400 ¹⁾	1 - 10	± 0.5	G 1/4	0180 - 458 03 - X - 042
			M 10x1 con.	0180 - 458 01 - X - 040
			M 12x1.5 cyl.	0180 - 458 02 - X - 041
			NPT 1/8	0180 - 458 04 - X - 343
			NPT 1/4	0180 - 458 09 - X - 340
			7/16-20 UNF	0180 - 458 20 - X - 341
			9/16-18 UNF	0180 - 458 21 - X - 342
	10 - 50	± 3.0	G 1/4	0180 - 459 03 - X - 009
			M 10x1 con.	0180 - 459 01 - X - 007
			M 12x1.5 cyl.	0180 - 459 02 - X - 008
			NPT 1/8	0180 - 459 04 - X - 320
			NPT 1/4	0180 - 459 09 - X - 311
			7/16-20 UNF	0180 - 459 20 - X - 305
			9/16-18 UNF	0180 - 459 21 - X - 306
10 - 100	± 3.0 - 5.0	G 1/4	0180 - 461 03 - X - 012	
		M 10x1 con.	0180 - 461 01 - X - 010	
		M 12x1.5 cyl.	0180 - 461 02 - X - 011	
		NPT 1/8	0180 - 461 04 - X - 321	
		NPT 1/4	0180 - 461 09 - X - 312	
		7/16-20 UNF	0180 - 461 20 - X - 307	
		9/16-18 UNF	0180 - 461 21 - X - 308	

0181 Piston pressure switches with spade terminal

700 ¹⁾²⁾	50 - 200	± 5.0	G 1/4	0181 - 460 03 - X - 003
			M 10x1 con.	0181 - 460 01 - X - 001
			M 12x1.5 cyl.	0181 - 460 02 - X - 002
			NPT 1/4	0181 - 460 09 - X - 303
			7/16-20 UNF	0181 - 460 20 - X - 301
			9/16-18 UNF	0181 - 460 21 - X - 302

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, esters, alcohols	6
HNBR ³⁾	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 53 for the temperature range and application thresholds of sealing materials.

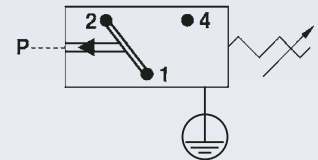
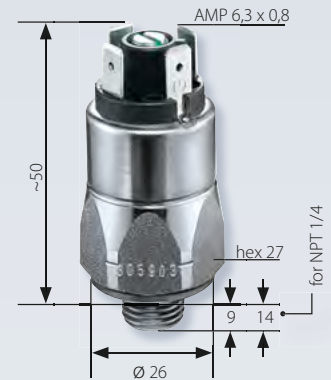
Article number: **018X - XXX XX - X - XXX**

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

²⁾ Excluding the thread sizes G 1/8, R 1/8, NPT 1/8 and M 10x1 cylindrical/conical.

³⁾ HNBR diaphragm not available for pressure ranges between 0.3 - 1.5 bar.

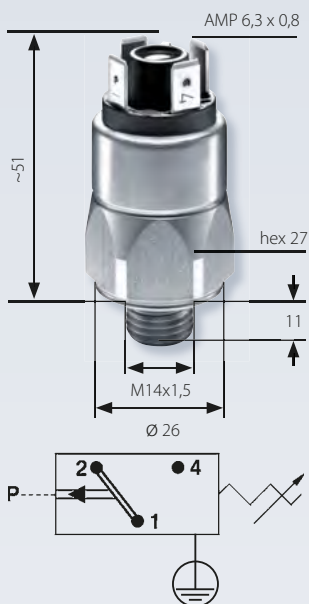
M.4
hex 27



M.4

hex 27

Thread similar to ISO 6149-3
(including O-ring for sealing)



0183

Piston pressure switches up to 250 V

- Zinc-plated steel (CrVI-free)
- Changeover with silver contacts
- Overpressure safety up to 600 bar¹⁾, Hysteresis adjustable at factory
- Adjustment range: 100 – 400 bar
- Height only 51 mm

p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0183 Piston pressure switches with spade terminal

600 ¹⁾	100 - 300	± 10.0	M 14x1.5	0183 - 462 45 - X - 051
	200 - 400		DIN 6149-3	0183 - 463 45 - X - 061

Seal material – Application areas

NBR	Hydraulic/machine 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 53 for the temperature range and application thresholds of sealing materials.

Article number: **0183 - 46X 45 - X - XXX**

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

Accessory ►

Not included in the delivery.
Please order separately.

Article number ►

Thread adapters

from M14 x 1.5		
to G 1/4	to M12 x 1.5	to NPT 1/8
1-1-83-420-006	1-1-83-420-007	1-1-83-420-008

0186 / 0187

Diaphragm / piston pressure switches up to 250 V
with stainless steel housing

- Stainless steel housing (1.4305 / AISI 303)
- Changeover with silver contacts
- Overpressure safety up to 100 / 400 / 600 / 700 bar¹⁾
EPDM-TW and silicone diaphragm up to max. 35 bar²⁾
- Hysteresis adjustable at factory

p _{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0186 Diaphragm pressure switches with spade terminal

100 ¹⁾	0.3 - 1.5	± 0.2	G 1/4 DIN 3852-2-A	0186 - 446 60 - X - 001
	1 - 10	± 0.5		0186 - 458 60 - X - 050
400 ¹⁾	0.5 - 5	± 0.3	G 1/4	0186 - 457 03 - X - 003
	1 - 10	± 0.5		0186 - 458 03 - X - 006
	10 - 50	± 3.0		0186 - 459 03 - X - 009
	10 - 100	± 3.0 - 5.0		0186 - 461 03 - X - 012

0187 Piston pressure switches with spade terminal

700 ¹⁾	50 - 200	± 5.0	G 1/4	0187 - 460 03 - X - 003
600 ^{1) 3)}			NPT 1/8	0187 - 460 04 - X - 304

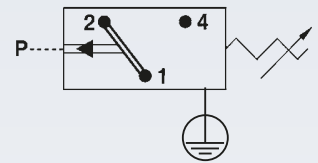
Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, water, hydrogen, oxygen, acetylene, etc.	2
EPDM-TW ²⁾	Drinking water (p _{max} ≤ 35 bar)	5
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, esters, alcohols	6
Silicone ²⁾	Water, food products, air, etc. (p _{max} ≤ 35 bar)	8
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 53 for the temperature range and application thresholds of sealing materials.

Article number: **018X - XXX 03 - X - XXX**

M.4
hex 27



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

²⁾ Functional safety and reliability only up to max. 35 bar with EPDM-TW and silicone diaphragm.

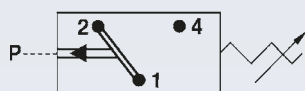
³⁾ Including the thread sizes G 1/8, R 1/8 and M 10x1 cylindrical/conical.



0190 / 0191

Diaphragm / piston pressure switches up to 24 V with gold contacts

- Zinc-plated steel (CrVI-free), with spade terminal
- Changeover with gold contacts
- Overpressure safety up to 100 / 400 / 700 bar¹⁾
- Hysteresis adjustable at factory



p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0190 Diaphragm pressure switches with spade terminal

100 ¹⁾	0.3 - 1.5	± 0.2	G 1/4	0190 - 457 03 - X - 003
			M 10x1 con.	0190 - 457 01 - X - 001
			M 12x1.5 cyl.	0190 - 457 02 - X - 002
			NPT 1/8	0190 - 457 04 - X - 318
			NPT 1/4	0190 - 457 09 - X - 314
			7/16-20 UNF	0190 - 457 20 - X - 301
			9/16-18 UNF	0190 - 457 21 - X - 302
			G 1/4	0190 - 458 03 - X - 042
			M 10x1 con.	0190 - 458 01 - X - 040
			M 12x1.5 cyl.	0190 - 458 02 - X - 041
			NPT 1/8	0190 - 458 04 - X - 343
			NPT 1/4	0190 - 458 09 - X - 340
400 ¹⁾	10 - 50	± 3.0	7/16-20 UNF	0190 - 458 20 - X - 341
			9/16-18 UNF	0190 - 458 21 - X - 342
			G 1/4	0190 - 459 03 - X - 009
			M 10x1 con.	0190 - 459 01 - X - 007
			M 12x1.5 cyl.	0190 - 459 02 - X - 008
			NPT 1/8	0190 - 459 04 - X - 320
	10 - 100	± 3.0 - 5.0	NPT 1/4	0190 - 459 09 - X - 316
			7/16-20 UNF	0190 - 459 20 - X - 305
			9/16-18 UNF	0190 - 459 21 - X - 306
			G 1/4	0190 - 461 03 - X - 012
			M 10x1 con.	0190 - 461 01 - X - 010
			M 12x1.5 cyl.	0190 - 461 02 - X - 011
			NPT 1/8	0190 - 461 04 - X - 321
			NPT 1/4	0190 - 461 09 - X - 317
			7/16-20 UNF	0190 - 461 20 - X - 307
			9/16-18 UNF	0190 - 461 21 - X - 308

0191 Piston pressure switches with spade terminal

700 ²⁾	50 - 200	± 5.0	G 1/4	0191 - 460 03 - X - 003
			M 10x1 con.	0191 - 460 01 - X - 001
			M 12x1.5 cyl.	0191 - 460 02 - X - 002
			NPT 1/8	0191 - 460 09 - X - 303
			7/16-20 UNF	0191 - 460 20 - X - 301
			9/16-18 UNF	0191 - 460 21 - X - 302

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, water, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, ester's, alcohols	6
HNBR ³⁾	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 53 for the temperature range and application thresholds of sealing materials.



Article number: **019X – XXX XX – X – XXX**

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

²⁾ Excluding the thread sizes G 1/8, R 1/8, NPT 1/8 and M 10x1 cylindrical/conical.

³⁾ HNBR diaphragm not available for pressure ranges between 0.3 - 1.5 bar.

0196 / 0197

Diaphragm / piston pressure switches up to 24 V with stainless steel housing

- Stainless steel housing (1.4305 / AISI 303)
- Fitted with changeover contact and gold contacts
- Overpressure safety up to 100 / 400 / 600 / 700 bar¹⁾
EPDM-TW and silicone diaphragm up to max. 35 bar²⁾
- Hysteresis adjustable at factory

p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Male thread	Article number
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0196 Diaphragm pressure switches with spade terminal

100 ¹⁾	0.3 - 1.5	± 0.2	G 1/4 DIN 3852-2-A	0196 - 446 60 - X - 001
	1 - 10	± 0.5		0196 - 458 60 - X - 050

400 ¹⁾	0.5 - 5	± 0.3	G 1/4	0196 - 457 03 - X - 003
	1 - 10	± 0.5		0196 - 458 03 - X - 006
	10 - 50	± 3.0		0196 - 459 03 - X - 009
	10 - 100	± 3.0 - 5.0		0196 - 461 03 - X - 012

0197 Piston pressure switches with spade terminal

700 ¹⁾	50 - 200	± 5.0	G 1/4	0197 - 460 03 - X - 003
600 ^{1) 3)}			NPT 1/8	0197 - 460 04 - X - 304

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Water, Brake fluid, hydrogen, oxygen, acetylene, etc.	2
EPDM-TW ²⁾	Drinking water ($p_{max} \leq 35$ bar)	5
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
FFKM	Hot water, chemical acids, diluted alkalis, ketones, ester's, alcohols	6
Silicone ²⁾	Water, food products, air, etc. ($p_{max} \leq 35$ bar)	8
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 53 for the temperature range and application thresholds of sealing materials.

Article number: **019X - XXX 03 - X - XXX**

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

²⁾ Functional safety and reliability only up to max. 35 bar with EPDM-TW and silicone diaphragm.

³⁾ Including the thread sizes G 1/8, R 1/8 and M 10x1 cylindrical/conical.

