

Electromechanical pressure switches

OsiSense XM

For power circuits, OsiSense XMP

Presentation

Pressure switches OsiSense XMP are switches for power circuits (direct switching), with an adjustable differential.

They are used to control the pressure of water and air, up to 25 bar.

Equipment fitted to the various models

Case

Pressure switches OsiSense XMP, depending on the model, include:

- 3 types of case:
 - bare case,
 - case with On/Off knob (black): used as a switch for starting and stopping the installation,
 - case with reset knob (yellow): necessary when the safety requirements of the system include tripping in the event of overpressure. Resetting is not automatic on return to normal pressure, and it can only be achieved by manually turning the "Reset" knob.

- 2 degrees of protection:
 - IP 54,
 - IP 65.

Decompression valve

Depending on the model, 2 types of decompression valve can be fitted to pressure switches OsiSense XMP:

- Straight, instant connection, decompression valve (connection by Ø 6 mm plastic tube).
- Straight, olive connection, decompression valve (connection by Ø 6 mm plastic or metal tube).

Setting

When setting XMP pressure switches, adjust the switching point on rising pressure (PH) first and then the switching point on falling pressure (PB).

Switching point on rising pressure

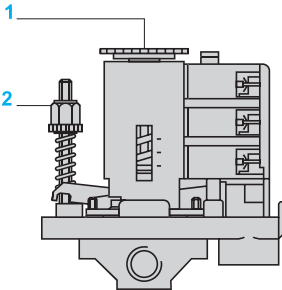
The switching point on rising pressure (PH) is set by adjusting the screw-nut or knurled knob **1**.

Tighten either the nut or knurled knob **1** to increase the high point switching value.

Switching point on falling pressure

The switching point on falling pressure is set by adjusting screw-nut **2**.

Tighten nut **2** to reduce the low point switching value (increase in differential).



Environment characteristics			
Conformity to standards		CE, IEC/EN 60947-4-1	
Product certifications		EAC	
Ambient air temperature	°C	For operation: - 25...+ 70 For storage: - 40...+ 70	
Fluids controlled		Air, fresh water, sea water (0... + 70°C)	
Materials		Case: polyamide impregnated with fibreglass Component materials in contact with fluid: chromated zinc alloy (fluid entry), canvas covered nitrile (diaphragm)	
Operating position		All positions	
Vibration resistance		3 gn (10...500 Hz) conforming to IEC 60068-2-6	
Shock resistance		50 gn, conforming to IEC 60068-2-27	
Electric shock protection		Class I conforming to IEC 60536	
Degree of protection		IP 54 conforming to IEC/EN 60529 or IP 65 for universal model	
Operating rate	Op. cycles/h	≤ 600	
Repeat accuracy		< 3.5%	
Fluid connection		G 1/4, 4 x G 1/4 or G 3/8 (BSP female) conforming to NF E 03-005, ISO 228	
Electrical connection		2 tapped entries for n° 13 (DIN Pg 13.5) cable gland	
Contact block characteristics			
Rated insulation voltage	V	Ui = 500 conforming to IEC/EN 60947-1	
Rated impulse withstand voltage	V	U imp = 6 kV conforming to IEC/EN 60947-1	
Type of contacts		One 2-pole 2 NC or 3-pole 3 NC contact, snap action	
Resistance across terminals	mΩ	≤ 25 conforming to NF C 93-050 method A or IEC 255-7 category 3	
Terminal referencing		Conforming to CENELEC EN 50013	
Short-circuit protection		Cartridge fuse type Am	
Connection		Screw clamp terminals. Minimum clamping capacity: 2 x 4 mm ²	
Electrical durability Operating rate: 600 operating cycles/hour Load factor: 0.4	Power	Number of operating cycles	
	kW	~ 400 V, 3-phase	~ 230 V, 3-phase
	1.5	1 000 000	600 000
	2.2	700 000	–
	3	500 000	–

References,
characteristics

Electromechanical pressure switches

OsiSense XMP, IP 54
Size 6 bar (87 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection	G 1/4 (female)
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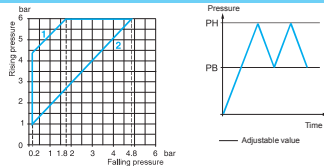
Adjustable range of switching point (PH) (Rising pressure)	1...6 bar (14,5...87 psi)	
Type of contact	2-pole 2 NC	3-pole 3 NC

References (1)		
Switches without decompression valve		
Bare case 1	XMPA06B2131	XMPA06C2131
Case with reset knob 2	XMP06B2131	-
Case with On/Off knob 2	XMPC06B2131	XMPC06C2131
Weight (kg)	0.430	
Switches with straight decompression valve, instant connection		
Bare case 1	XMPD06B2131	XMPD06C2131
Case with On/Off knob 2	XMPE06B2131	XMPE06C2131
Weight (kg)	0.450	

Complementary characteristics not shown under general characteristics (page 95)		
Possible differential (subtract from PH to give PB)	Min., at low setting	0,8 bar (11,6 psi)
	Min., at high setting	1,2 bar (17,4 psi)
	Max., at high setting	4,2 bar (60,9 psi)
Destruction pressure	30 bar (435 psi)	
Mechanical life	1 million operating cycles	
Cable entry	2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)	
Pressure switch type	Diaphragm	

(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter C to the reference selected from above. Example: reference for lot of 10 pressure switches XMPA06B2131 in one package becomes XMPA06B2131C.

Operating curves

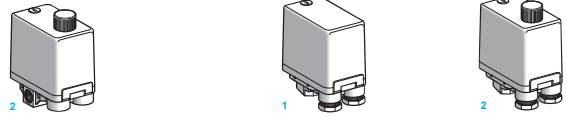


1 Maximum differential
2 Minimum differential

Accessories:
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Dimensions:
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4 x G 1/4 (female)	G 3/8 (female)	
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1...6 bar (14,5...87 psi)		
3-pole 3 NC	2-pole 2 NC	3-pole 3 NC

References		
Switches without decompression valve		
-	XMPA06B2242	XMPA06C2242
-	XMP06B2242	-
-	XMPC06B2242	XMPC06C2242
-	0.430	
Switches with straight decompression valve, instant connection		
-	XMPD06B2242	XMPD06C2242
XMPE06C2431	-	XMPE06C2242
0.450		

Complementary characteristics not shown under general characteristics (page 95)		
Possible differential (subtract from PH to give PB)	Min., at low setting	0,8 bar (11,6 psi)
	Min., at high setting	1,2 bar (17,4 psi)
	Max., at high setting	4,2 bar (60,9 psi)
Destruction pressure	30 bar (435 psi)	
Mechanical life	1 million operating cycles	
Cable entry	2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)	2 entries incorporating n° 13 plastic cable gland (DIN Pg 13,5) Clamping capacity 9 to 13 mm
Pressure switch type	Diaphragm	

Other versions Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

Terminal connections



Accessories:
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Dimensions:
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References,
characteristics (continued)

Electromechanical pressure switches

OsiSense XMP, IP 54
Size 12 bar (174 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection	G 1/4 (female)	
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Adjustable range of switching point (PH) (Rising pressure)	1,3...12 bar (18,85...174 psi)	
Type of contact	2-pole 2 NC	3-pole 3 NC

References (1)

Switches without decompression valve		
Bare case 1	XMPA12B2131	XMPA12C2131
Case with reset knob 2	XMPB12B2131	-
Case with On/Off knob 2	XMPC12B2131	XMPC12C2131

Weight (kg) 0.430

Switches with straight decompression valve, instant connection

Bare case 1	XMPD12B2131	XMPD12C2131
Case with On/Off knob 2	XMPE12B2131	XMPE12C2131

Weight (kg) 0.450

Switches with straight decompression valve, olive connection

Case with On/Off knob 2	XMPR12B2131	XMPR12C2131
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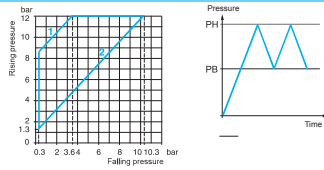
Weight (kg) 0.450

Complementary characteristics not shown under general characteristics (page 95)

Possible differential (subtract from PH to give PB)	Min., at low setting	1 bar (14,5 psi)
	Min., at high setting	1,7 bar (24,6 psi)
	Max., at high setting	8,4 bar (121,8 psi)
Destruction pressure	30 bar (435 psi)	
Mechanical life	1 million operating cycles	
Cable entry	2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)	
Pressure switch type	Diaphragm	

(1) References for individually packaged switches. Also available packaged in lots of 10. To order, add the letter C to the reference selected from above. Example: reference for lot of 10 pressure switches XMPA12B2131 in one package becomes XMPA12B2131C.

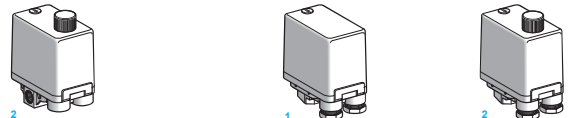
Operating curves



- 1 Maximum differential
- 2 Minimum differential

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Dimensions: page 105

4 x G 1/4 (female)	G 3/8 (female)		
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1,3...12 bar (18,85...174 psi)			
2-pole 2 NC	3-pole 3 NC	2-pole 2 NC	3-pole 3 NC

References

Switches without decompression valve			
-	XMPA12B2242	XMPA12C2242	-
-	XMPB12B2242	-	-
XMPC12B2431	-	XMPC12B2242	XMPC12C2242

Weight (kg) 0.430

Switches with straight decompression valve, instant connection

-	XMPD12C2431	XMPD12B2242	XMPD12C2242
XMPE12B2431	XMPE12C2431	XMPE12B2242	XMPE12C2242

Weight (kg) 0.450

Switches with straight decompression valve, olive connection

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Complementary characteristics not shown under general characteristics (page 95)

Possible differential (subtract from PH to give PB)	Min., at low setting	1 bar (14,5 psi)
	Min., at high setting	1,7 bar (24,6 psi)
	Max., at high setting	8,4 bar (121,8 psi)
Destruction pressure	30 bar (435 psi)	
Mechanical life	1 million operating cycles	
Cable entry	2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)	2 entries incorporating n° 13 plastic cable gland (DIN Pg 13,5) Clamping capacity 9 to 13 mm
Pressure switch type	Diaphragm	

Other versions Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

Terminal connections



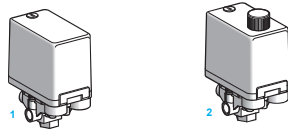
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Dimensions: page 105

References,
characteristics (continued)

Electromechanical pressure switches

OsiSense XMP, IP 54
Size 25 bar (362.5 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection G 1/4 (female)



Adjustable range of switching point (PH) (Rising pressure) 3.5...25 bar (50,75...362,5 psi)
Type of contact 2-pole 2 NC

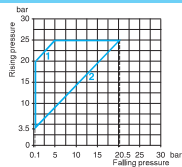
References

Switches without decompression valve	
Bare case 1	XMPA25B2131
Case with reset knob 2	XMPB25B2131
Case with On/Off knob 2	XMPC25B2131
Weight (kg)	0.650
Switches with straight decompression valve, olive connection	
Case with On/Off knob 2	XMPR25B2131
Weight (kg)	0.670

Complementary characteristics not shown under general characteristics (page 95)

Possible differential (subtract from PH to give PB)	Min., at low setting	3,4 bar (49,3 psi)
	Min., at high setting	4,5 bar (65,2 psi)
	Max., at high setting	20 bar (290 psi)
Destruction pressure		100 bar (1450 psi)
Mechanical life		1 million operating cycles
Cable entry		2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)
Pressure switch type		Diaphragm

Operating curves



- 1 Maximum differential
- 2 Minimum differential

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G 1/4 (female)



3.5...25 bar (50,75...362,5 psi)
3-pole 3 NC

References

Switches without decompression valve	
XMPA25C2131	-
XMPC25C2131	0.650
Switches with straight decompression valve, olive connection	
XMPR25C2131	0.670

Complementary characteristics not shown under general characteristics (page 95)

Possible differential (subtract from PH to give PB)	Min., at low setting	3,4 bar (49,3 psi)
	Min., at high setting	4,5 bar (65,2 psi)
	Max., at high setting	20 bar (290 psi)
Destruction pressure		100 bar (1450 psi)
Mechanical life		1 million operating cycles
Cable entry		2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)
Pressure switch type		Diaphragm

Other versions Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

Terminal connections



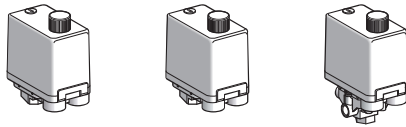
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References,
characteristics (continued)

Electromechanical pressure switches

OsiSense XMP, IP 65
 Sizes 6 to 25 bar (87 to 362.5 psi)
 Adjustable differential, for regulation between 2 thresholds
 Switches with 2-pole 2 NC or 3-pole 3 NC contact

Fluid connection | G 1/4 (female)

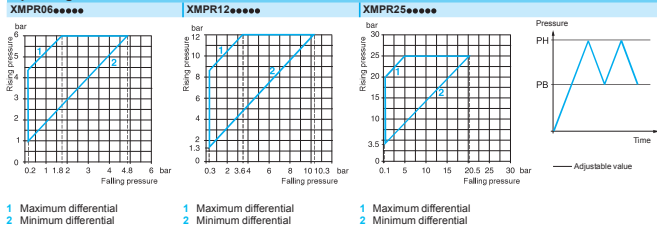


Adjustable range of switching point (PH) (Rising pressure)	1...6 bar (14.5...87 psi)	1.3...12 bar (18.85...174 psi)	3.5...25 bar (50.75...362.5 psi)
Type of contact	2-pole 2 NC	3-pole 3 NC	2-pole 2 NC

Case with On/Off knob	XMPR06B2133	XMPR06C2133	XMPR12B2133	XMPR12C2133	XMPR25B2133	XMPR25C2133
Weight (kg)	0.450				0.670	

Complementary characteristics not shown under general characteristics (page 95)				
Possible differential (subtract from PH to give PB)	Min., at low setting	0,8 bar (11,6 psi)	1 bar (14,5 psi)	3,4 bar (49,3 psi)
	Min., at high setting	1,2 bar (17,4 psi)	1,7 bar (24,6 psi)	4,5 bar (65,2 psi)
	Max., at high setting	4,2 bar (60,9 psi)	6,4 bar (92,8 psi)	20 bar (290 psi)
Destruction pressure		30 bar (435 psi)		100 bar (1450 psi)
Mechanical life		1 million operating cycles		
Cable entry		2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)		
Adjustment of high setting point (PH)		By screw-nut		
Pressure switch type		Diaphragm		

Operating curves

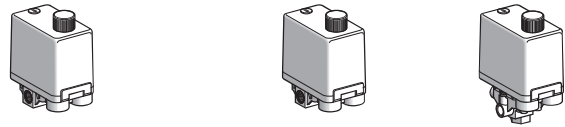


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4 x G 1/4 (female)



1...6 bar (14.5...87 psi)	1.3...12 bar (18.85...174 psi)	3.5...25 bar (50.75...362.5 psi)
2-pole 2 NC	3-pole 3 NC	2-pole 2 NC

Case with straight decompression valve, olive connection	XMPR06B2433	XMPR06C2433	XMPR12B2433	XMPR12C2433	XMPR25B2433	XMPR25C2433
Weight (kg)	0.450				0.670	

Complementary characteristics not shown under general characteristics (page 95)				
Possible differential (subtract from PH to give PB)	Min., at low setting	0,8 bar (11,6 psi)	1 bar (14,5 psi)	3,4 bar (49,3 psi)
	Min., at high setting	1,2 bar (17,4 psi)	1,7 bar (24,6 psi)	4,5 bar (65,2 psi)
	Max., at high setting	4,2 bar (60,9 psi)	6,4 bar (92,8 psi)	20 bar (290 psi)
Destruction pressure		30 bar (435 psi)		100 bar (1450 psi)
Mechanical life		1 million operating cycles		
Cable entry		2 entries tapped for n° 13 cable gland, conforming to NF C 68-300 (DIN Pg 13,5)		
Adjustment of high setting point (PH)		By screw-nut		
Pressure switch type		Diaphragm		

Other versions | Pressure switches not listed above, comprising the equipment proposed for the choice of reference. Please consult our Customer Care Centre.

Terminal connections



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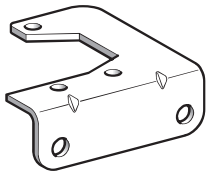


Electromechanical pressure switches

OsiSense XM

For power circuits, OsiSense XMP

Accessories and replacement parts



XMAZL001



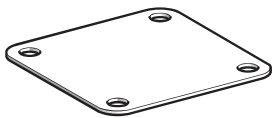
XMPMDR01



DE9PM1201



DE9PM1202



XMPZ3●

References

Description	Reference	Weight kg
Fixing bracket	XMAZL001	0.035

Knurled adjustment knob, Ø 36 mm fits over adjustment screws to facilitate setting	XMPMDR01	0.010
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13P cable gland	With anti pull-out ring (for cable Ø 6...9 mm)	DE9PM1201	0.005
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Without anti pull-out ring (for cable Ø 6...9 mm)	DE9PM1202	0.005
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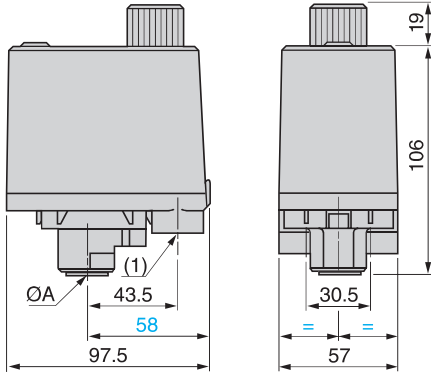
With anti pull-out ring (for cable Ø 9...12.5 mm)	DE9PM1203	0.005
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Description	For pressure switch	Sold in lots of	Unit reference	Weight kg
Diaphragms	Size 6 bar	50	XMPZ31	0.005
	Size 25 bar	50	XMPZ33	0.005

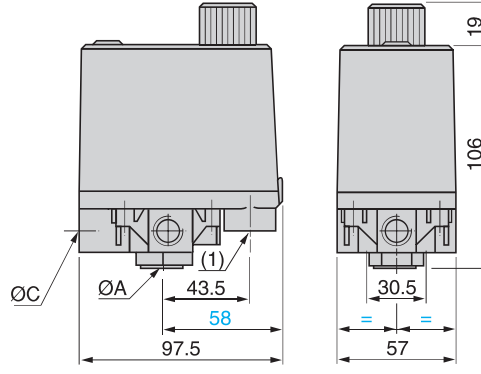
Dimensions

XMP●06●●●●● and XMP●12●●●●●

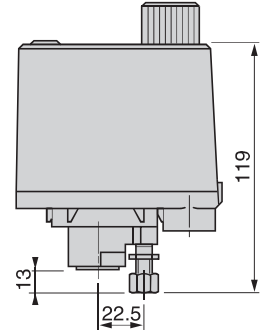
Fluid connection G 1/4 or G 3/8 (female)
Without decompression valve



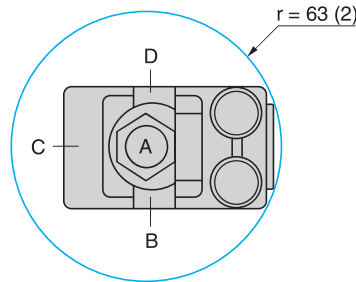
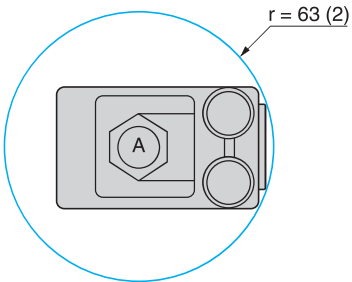
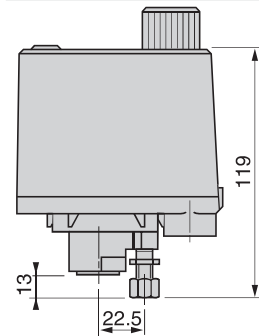
Fluid connection 4 x G 1/4 (female)
Without decompression valve



With straight, instant connection, decompression valve



With straight, olive connection, decompression valve



$\varnothing A = G\ 1/4\ \text{or}\ G\ 3/8\ \text{(female)}$

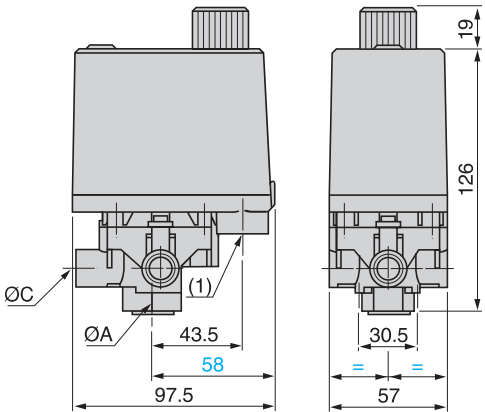
(1) 2 tapped entries for n° 13 cable gland

(2) Minimum clearance zone for screwing-on pressure switch at point A

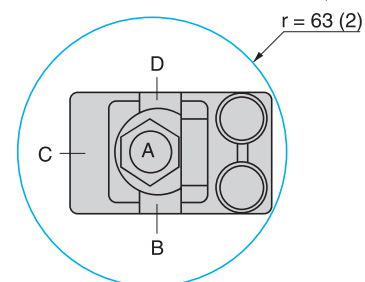
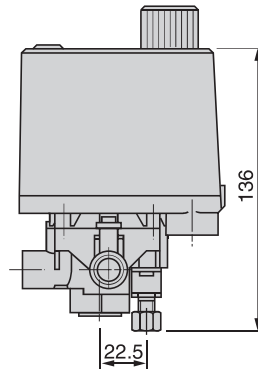
$\varnothing A = \varnothing B = \varnothing C = \varnothing D = G\ 1/4\ \text{(female)}$

XMP●25●●●●●

Fluid connection G 1/4 or 4 x G 1/4 (female)
Without decompression valve



With straight, olive connection, decompression valve



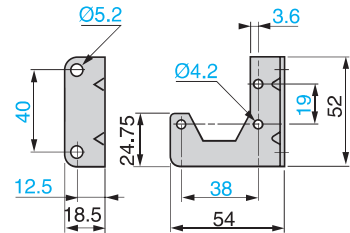
XMP●25●21●●: $\varnothing A$ only = G 1/4 (female)

XMP●25●24●●: $\varnothing A = \varnothing B = \varnothing C = \varnothing D = G\ 1/4\ \text{(female)}$

(1) 2 tapped entries for n° 13 cable gland

(2) Minimum clearance zone for screwing-on pressure switch at point A

Fixing bracket XMAZL001



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