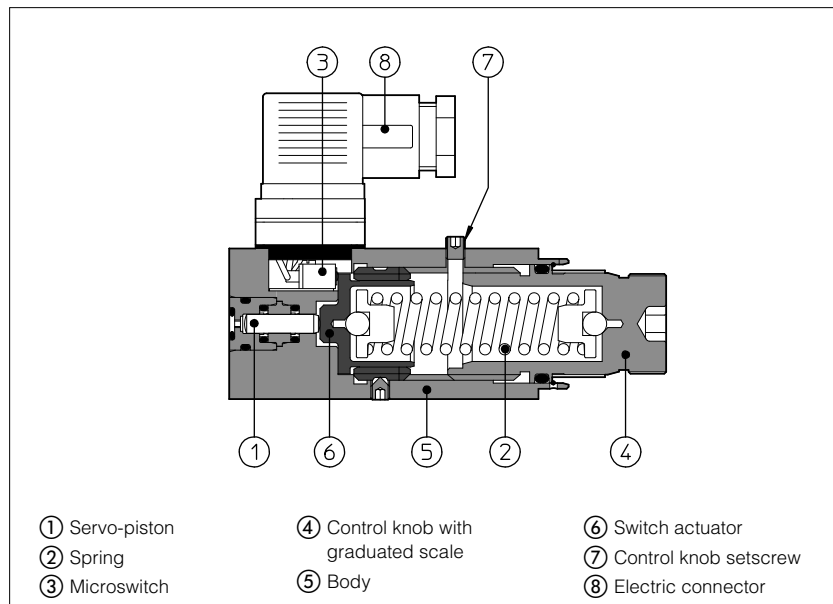


# Pressure switches type **SMAP**

with fixed switching pressure differential and microswitch with gold plated contacts



**SMAP** are hydro-electric pressure switches with fixed switching pressure differential. The mechanical microswitch with gold plated contacts grants high reliability and long life service.

The microswitch changes its status when the pressure in the hydraulic circuit reaches the switching value set on the adjusting knob. The microswitch returns to the original rest position when the pressure in the hydraulic circuit drops below the nominal fixed switching pressure differential (hysteresis). The electric connector provides both NC or NO contacts.

The pressure in the circuit operates the piston (1) acting against the adjustable spring (2); once the pressure setting is reached, the piston (6) actuates the microswitch (3).

The pressure switching value is selectable by a graduated adjusting knob (4).

Clockwise rotation increases the setting pressure.

Max pressure: **650 bar**

## 1 MODEL CODE

<b>SMAP</b>	-	<b>160</b>	/	<b>E</b>	/	<b>**</b>	/	<b>*</b>
Fixed differential pressure switch					Series number			Seals material, see section 2: - = NBR <b>PE</b> = FKM
Pressure range:	<b>160</b> = 10 ÷ 160 bar	<b>320</b> = 30 ÷ 320 bar		Options:				
	<b>40</b> = 5 ÷ 40 bar	<b>630</b> = 50 ÷ 630 bar		<b>E</b> = Common electric contact connected to pin 1 (see section 3)				
	<b>80</b> = 7 ÷ 80 bar							

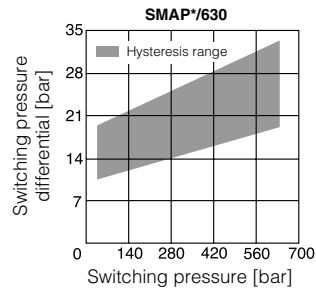
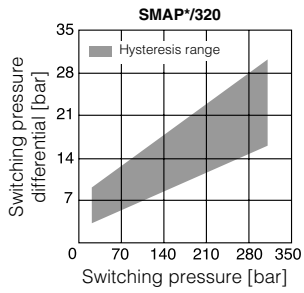
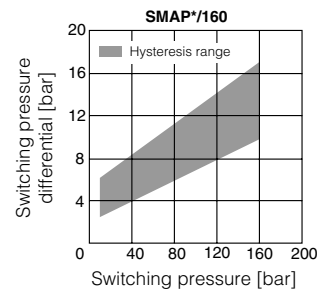
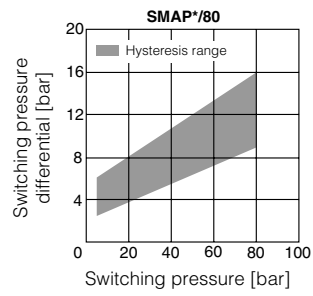
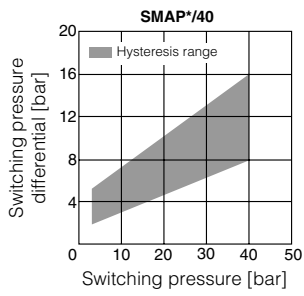
## 2 MAIN CHARACTERISTICS, SEALS AND HYDRAULIC FLUID - for other fluids not included in below table, consult our technical office

Assembly position / location	Any position		
Subplate surface finishing	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)		
Ambient temperature	Standard execution = -30°C ÷ +70°C /PE option = -20°C ÷ +70°C		
Seals, recommended fluid temperature	NBR seals (standard) = -20°C ÷ +80°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option) = -20°C ÷ +80°C		
Recommended viscosity	15 ÷ 100 mm <sup>2</sup> /s - max allowed range 2.8 ÷ 500 mm <sup>2</sup> /s		
Max fluid contamination level	ISO4406 class 20/18/15 NAS1638 class 9, see also filter section at www.atos.com or KTF catalog		
<b>Hydraulic fluid</b>	<b>Suitable seals type</b>	<b>Classification</b>	<b>Ref. Standard</b>
Mineral oils	NBR, FKM	HL, HLP, HLPD, HVLP, HVLPD	DIN 51524
Flame resistant without water	FKM	HFDU, HFDR	ISO 12922
Flame resistant with water	NBR	HFC	

## 3 CHARACTERISTICS AND WIRING OF INTERNAL MICROSWITCH

	Supply voltage [V]					Rest position	Pressure operated position
	125 AC	250 AC	30 DC	250 DC			
Max current resistive load [A]	7	5	5	0,2	STD		
Max current inductive load (Cos φ = 0,4) [A]	4	2	3	0,02			
Insulating resistance	≥100MΩ				/E		
Contact resistance	15 mΩ						
Electrical life-expectancy	≥1.000.000 switchings						
Mechanical life-expectancy	≥10.000.000 switchings						

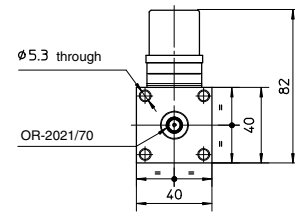
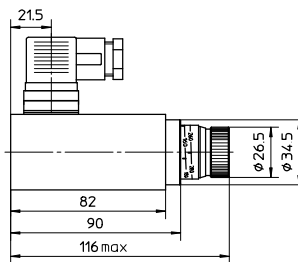
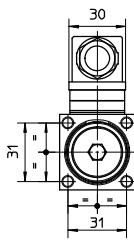
**4 DIAGRAMS**



The diagrams show, the switching pressure difference (hysteresis) between the switching positions of the pressure switch electric contacts.

⚠ The switching pressure differential may increase depending to the deterioration of the fluid contamination class.

**5 DIMENSIONS OF SMAP WITHOUT ADAPTORS [mm]**



Fastening bolts:  
4 socket head screws M5X90 supplied with the pressure switch