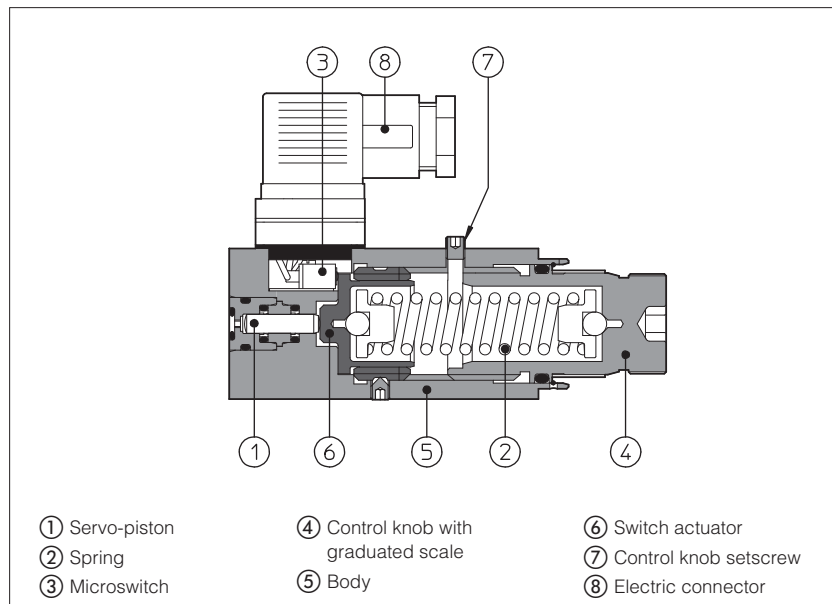


Pressure switches type **SMAP**

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: **630 bar**

1 MODEL CODE

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

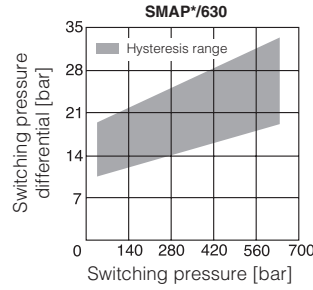
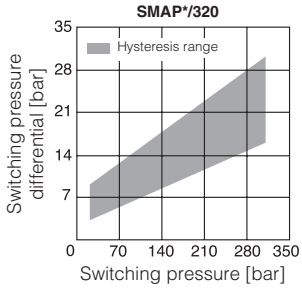
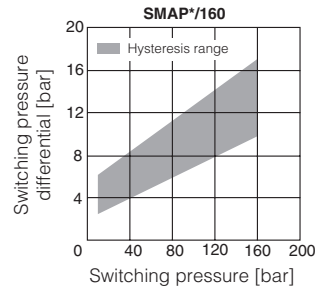
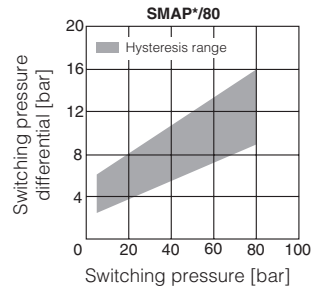
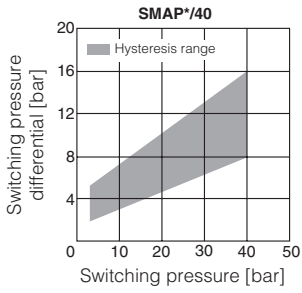
2 MAIN CHARACTERISTICS, SEALS AND HYDRAULIC FLUID - for other fluids not included in below table, consult our technical office

| | | | |
|--------------------------------------|---|----------------------------|----------------------|
| 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 ² /s - max allowed range 2.8 ÷ 500 mm ² /s | | |
| Max fluid contamination level | ISO4406 class 20/18/15 NAS1638 class 9, see also filter section at www.atos.com or KTF catalog | | |
| Hydraulic fluid | Suitable seals type | Classification | Ref. Standard |
| 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 | | | | | | |

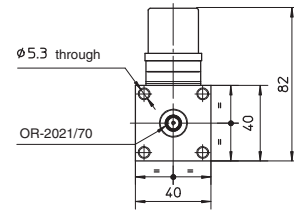
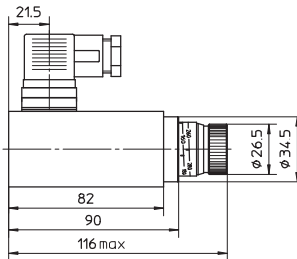
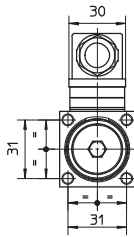
4 DIAGRAMS



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