

**P.A. – S.p.A. – EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO**

VIA MILANO, 13 – CASELLA POSTALE 115 – 42048 RUBIERA (REGGIO EMILIA) – ITALY
 Tel. +39 0522 623611 – Fax. +39 0522 629600 – R.E.A. RE 156319 – R.I. RE11535 – Mecc. RE 013446
 C.F. e P. IVA 01035950359 – Cap. Soc. i.v. € 750.000,00 – Codice Identificativo C.E.E. IT 01035950359
 ART. 2497 – BIS C.C. DIREZIONE E COORDINAMENTO BENETTI srl R.I. TRIB. DI RE 01480690351
 Web: <http://www.pa-etl.it> – E-mail: info@pa-etl.it

**PR16 – PRESSURE SWITCH with electric signal****Technical manual: E 811**

Electro-mechanical device, which, upon reaching a pre-set pressure, opens or closes an electrical control contact .



- **29.0035.10** rated 40 bar – 4.5 MPa att. Sst
- **29.0035.15** rated 25 bar – 2.5 MPa att. Sst
- **29.0035.25** rated 25 bar – 2.5 MPa att. Sst
- **29.0035.30** rated 40 bar – 4 MPa att. Sst
- **29.0035.50** rated 40 bar – 4 MPa att. Sst
- **29.0035.51** rated 15 bar – 1.5 MPa att. Sst
- **29.0035.52** rated 25 bar – 2.5 MPa att. Sst
- **29.0035.62** rated 25 bar – 2.5 MPa att. Sst
- **29.0040.00** rated 40 bar – 4 MPa att. Brass
- **29.0040.11** rated 15 bar – 1.5 MPa att. Brass
- **29.0040.15** rated 25 bar – 2.5 MPa att. Brass
- **29.0040.20** rated 40 bar – 4 MPa att. Brass
- **29.0040.30** rated 25 bar – 2.5 MPa att. Brass
- **29.0040.40** rated 15 bar – 1.5 MPa att. Brass
- **29.0040.50** rated 25 bar – 2.5 MPa att. Brass

- Microswitch with very high resistance openings.
- Electrical insulation: **IP55**
- Possibility to choose from 3 different pressure settings acting on the electrical switch.
- Three core cable
- Threaded connections; either in Sst or Brass versions.

TECHNICAL SPECIFICATIONS

PART NUMBER	RATED PRESSURE bar - MPa	PERMISSIBLE PRESSURE bar - MPa	INTERVENT. PRESSURE bar - MPa	COLOR	DIFFER. WORKING PRESSURE bar - MPa	(1) MAX.TEMP OF THE FLUID °C	INLET	WEIGHT g
29.0035.10	310 - 31	350 - 35	40 - 4	BLACK	±6	90	G 3/8	260
29.0035.15	310 - 31	350 - 35	25 - 2.5	RED	±6	90	G 3/8	260
29.0035.25	310 - 31	350 - 35	25 - 2.5	RED	±6	90	G 1/4	260
29.0035.30	310 - 31	350 - 35	40 - 4	BLACK	±6	90	G 1/4	260
29.0035.50	310 - 31	350 - 35	40 - 4	BLACK	±6	90	1/4 Npt	260
29.0035.51	310 - 31	350 - 35	15 - 1.5	BLUE	±6	90	1/4 Npt	260
29.0035.52	310 - 31	350 - 35	25 - 2.5	RED	±6	90	1/4	260
29.0035.62	310 - 31	350 - 35	25 - 2.5	RED	±6	90	3/8 Npt	260
29.0040.00	310 - 31	350 - 35	40 - 4	BLACK	±6	90	G 3/8	260
29.0040.11	310 - 31	350 - 35	15 - 1.5	BLUE	±6	90	3/8 Npt	260
29.0040.15	310 - 31	350 - 35	25 - 2.5	RED	±6	90	G 3/8	260
29.0040.20	310 - 31	350 - 35	40 - 4	BLACK	±6	90	G 1/4	260
29.0040.30	310 - 31	350 - 35	25 - 2.5	RED	±6	90	G 1/4	260
29.0040.40	310 - 31	350 - 35	15 - 1.5	BLUE	±6	90	G 1/4	260
29.0040.50	310 - 31	350 - 35	25 - 2.5	RED	±6	90	3/8	260

ELECTRICAL SPECIFICATIONS

Max rated voltage: 250 V
 Breaking switch: 16 (A) – resistive load - 6 (A) – inductive load
 Cable length : 1200 mm – Electric wire : 3 x 1 mm
 Max.amperage cable: 10 A

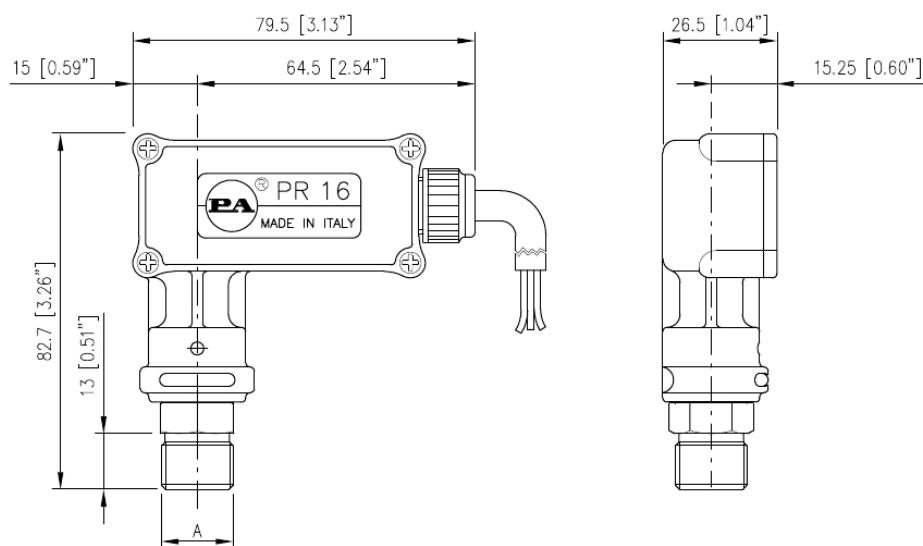
Rated temperature: 75 °C – Type of action: 1C

Lifetime electrical component: 50.000 commutations, T.85°C, a 250V a.c.in line with CEE 24- VDE 0630

Pollution situation of the device control: High

(1) The Pressure switch has been designed for a continuous use at a water temperature of 60°C. It can resist for short periods at a maximum temperature of 90°C.

DIMENSIONAL DRAWING



CODICE CODE	A
29.0035.30	G1/4 M
29.0035.25	G1/4 M
29.0035.10	G3/8 M
29.0035.15	G3/8 M
29.0035.50	1/4NPT M
29.0035.52	1/4NPT M
29.0035.51	1/4NPT M
29.0035.62	3/8NPT M
29.0040.20	G1/4 M
29.0040.30	G1/4 M
29.0040.40	G1/4 M
29.0040.00	G3/8 M
29.0040.15	G3/8 M
29.0040.11	3/8NPT M
29.0040.50	3/8NPT M

SELECTION

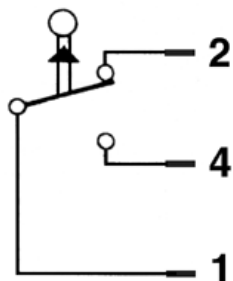
Choose the appropriate pressure switch for the rated pressure of the system and for the required intervention of the electric commutation.

In any case, the pressure of the machine should not exceed the permissible pressure rate imprinted on the pressure switch.

INSTALLATION

When installed on machines that produce hot water, the pressure switch has to be fitted in front of the heat generator. This accessory has to be installed on a finished machine. **Electrical installation has to be carried out by a qualified person.**

WARNING !! – Always assure earth wiring to the electric device.



WIRING DIAGRAM

1) RED - 2) BLUE - 4) BROWN

ELECTRICAL CONNECTION

N.O. RED + BROWN – Normally opened

N.C. RED + BLUE – Normally closed

OPERATIONS

The PR16 Pressure switch signals the surpass of a pre-set pressure, through a piston, which operates a switch lever. The set pressure of 45bar – 4.5 MPa is of the fixed type.

PROBLEMS AND SOLUTIONS

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Pressure switch does not function	Electric connection faulty or loose Rupture of microlever Rupture of piston spring Rupture of microcontacts Jammed piston	Check and/or replace Replace microswitch Replace Replace microswitch Check and/or replace
Fluid in the casing	Damaged piston seals Damaged nut seals	Check and/or replace Check and/or replace

REGULATIONS :

The accessory hereby described bears the CE marking in accordance with the Norms and Directives applied on the **Declaration of Conformity**.

For a correct utilization, follow the directions described in this manual and re-print them on the Use and maintenance manual of the machine

Make sure that you are given the Original Conformity Declaration for the accessory chosen. The present manual is valid for all Pressure switches named **PR16**

SPARES

Use only original PA spares, in order to benefit for a correct function and long reliability.

MAINTENANCE

STANDARD: every 400 working hours (circa 10,000 cycles), check and lubricate the seals with water resistant grease.

SPECIAL: every 800 working hours(circa 20,000 cycles), control the wear of the seals and internal parts and if necessary, replace with original PA parts taking care during installation and to lubricate with water resistant grease.

Maintenance has to be carried out by Specialized Technicians

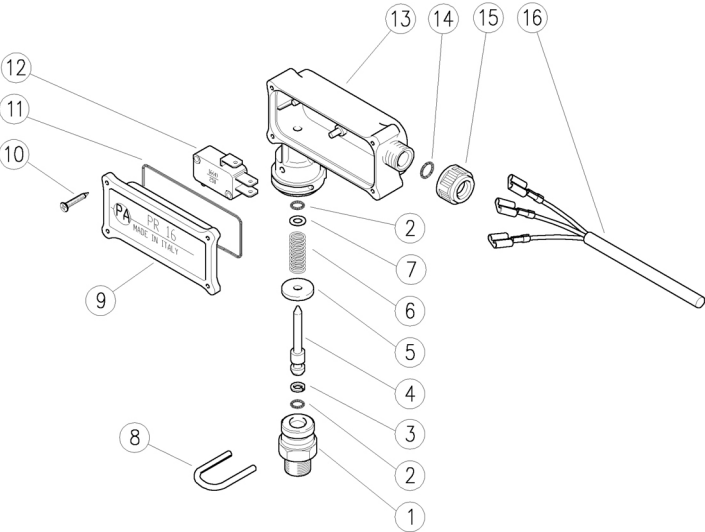
For a correct assembly, follow the phases indicated on the exploded view referred.

The manufacturer is not to be considered responsible for damage as a result from incorrect fitting and maintenance

Technical data, descriptions and illustrations are indicative and liable to modification without notice

Instruction manual, maintenance, installation, spare parts. For a correct utilization, follow the directions of this manual. <u>Re-print them on the use and maintenance booklet of the machine</u>	n. 12.9811.00

29.0035.10 PR16 press.sw.,sst,3/8M Bsp 40bar black
29.0035.15 PR16 press.sw.,sst,3/8M Bsp 25bar red
29.0035.25 PR16 press.sw.,sst,1/4M Bsp 25bar red
29.0035.30 PR16 press.sw.,sst,1/4M Bsp 40bar black
29.0035.50 PR16 press.sw.,sst,1/4M Npt 40bar black
29.0035.52 PR16 press.sw.,sst,1/4M Npt 25bar red



29.0035.62 PR16 press.sw.,sst,3/8M Npt 25bar red
29.0040.00 PR16 press.sw.,brass,3/8M Bsp 40bar black
29.0040.11 PR16 press.sw.,brass,3/8M Bsp 15bar blue
29.0040.20 PR16 press.sw.,brass,1/4M Bsp 40bar black
29.0040.30 PR16 press.sw.,brass,1/4M Bsp 25bar red
29.0040.40 PR16 press.sw.,brass,1/4M Bsp 15bar blue

Pos.	P/N	Description	Q.ty	K1	K2	K3	K4	
1	29.0045.51R	Housing, 1/4M Bsp Sst. (1,2)	1					5
1	29.0044.51R	Housing, 3/8M Bsp Sst. (3,4)	1					5
1	29.0046.51R	Housing, 1/4M Npt Sst. (5,6)	1					5
1	29.0047.51R	Housing, 3/8M Npt Sst. (7)	1					5
1	29.0081.31R	Housing, 1/4M Bsp brass (8,9,10)	1					5
1	29.0044.31R	Housing, 3/8M Bsp brass (11,12)	1					5
2	10.3038.00R	O-ring, 1,78x3,68 mm	2	•				10
3	10.4002.00R	Back-up ring, opn. 4,2x7x1,5 mm	1	•				10
4	29.0043.31R	Piston, PR16 brass	1					10
5	29.0086.31R	Washer, 4x16x2,5 mm brass	1					10
6	29.0094.51R	Spring, 15Bar 1,3x6,7x18mm Sst.	1					10
6	29.0085.61R	Spring, 25Bar-1,4x8x18 mm	1					10
6	29.0084.61R	Spring, 40Bar-1,6x8x18 mm	1					10
7	14.3519.00R	Washer, 4x8x0,5 mm brass	1					10
8	29.0087.51R	U-bolt, Sst.	1					10
9	29.0042.84R	Lid, PR16 PA black	1					5
10	16.3020.00R	S/tapp. screw, 2,5x12mm chrom	4					10
11	10.3210.42R	O-ring, 2,62x42,52 mm	1	•				10
12	12.5001.00R	Microswitch, 16A 250V	1					10
13	29.0041.84R	Casing, PR16 PA black	1					5
14	10.3109.92R	O-ring, 2,4x7,3 mm	1	•				10
15	29.0110.84R	Locknut for cable gland, PA blue	1					50
15	29.0109.84R	Locknut for cable gland, PA red	1					10
15	29.0082.84R	Locknut for cable gland, PA black	1					10
16	12.5000.00R	Câble, 3x1 L.1200 mm	1					10

Kit	P/N	Description	
K1	29.0048.24	Spares kit -PR16, 4x1 pcs.	1
(1) 29.0035.25 (2) 29.0035.30 (3) 29.0035.10 (4) 29.0035.15 (5) 29.0035.50			
(6) 29.0035.52 (7) 29.0035.62 (8) 29.0040.20 (9) 29.0040.30 (10) 29.0040.40			
(11) 29.0040.00 (12) 29.0040.11			