Aerre2 PUMPS

CATALOGO ACCESSORI

ACCESSORY CATALOGUE

AERRE 2 PUMPS
Via G.Mazzini 44/A-37077 ALTAVILLA VICENTINA - VI ITALY
Tel e Fax +39 444 370644 Email: info@aerre2.com - www.aerre2.com

ACCESSORI

DISPOSITIVI ELETTRONICI PER CONTROLLO DI ELETTROPOMPE

REGOLATORI DI LIVELLO IDRAULICI

INVERTER

SONDE DI LIVELLO

PRESSOSTATI

GALLEGGIANTI

MANOMETRI

RACCORDI IN OTTONE

ACCESSORY

ELECTRONIC DEVICE FOR ELECTRIC PUMP CONTROL

HYDRAULIC LEVEL SENSOR

INVERTER

ELECTROPROBE

PRESSURE SWITCH

FLOATSWITCH

PRESSURE GAUGE

BRASS CONNECTION

LOGICFLOW

ELECTRONIC FLOWSWITCH

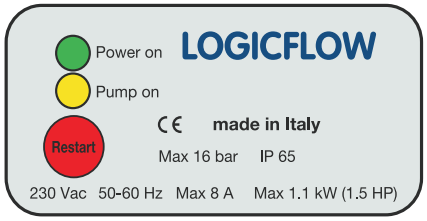
Starts and stops the pump and protects it from dry running

Technical features

Single-phase mains voltage	230 Vac	Maximum operating pressure	16 bar
Acceptable voltage fluctuations	+/- 10%	Minimum flow	1 l/min
Frequency	50 Hz	Maximum Operating temperature	60° C
Maximum pump motor current	8 A	Protection degree	IP 65
Maximum pump motor power	1,1 kW (1,5 HP)	Male connections	1”

Control panel

OPERATING PHASES		
Power on	Green Led on	Power on
Pump on	Yellow Led on	Pump on
Restart	Red button	Serves for resetting the device and the system in the case of the pump stopping



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Operation

The device must be mounted in a vertical position.
In order to operate, the flowswitch requires a minimum flow that passes through it when a tap of the system is opened.
For this reason the device and the system tap must be installed underneath the tank (Fig. 1 - Fig. 2).
It stops and starts the pump depending on the opening and closing of the system taps.
It stops the motor and saves the pump in the case of a water shortage.
To restore normal operation to the device and the system simply press the red “Restart” button.
In case of a blackout, it will automatically rearm again several seconds after the electricity returns.
This device can also be used for direct withdrawal from the water mains.

Fig. 1

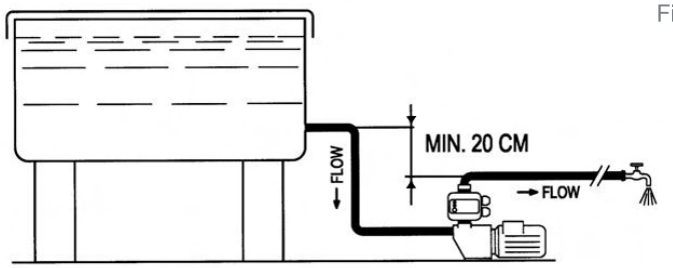
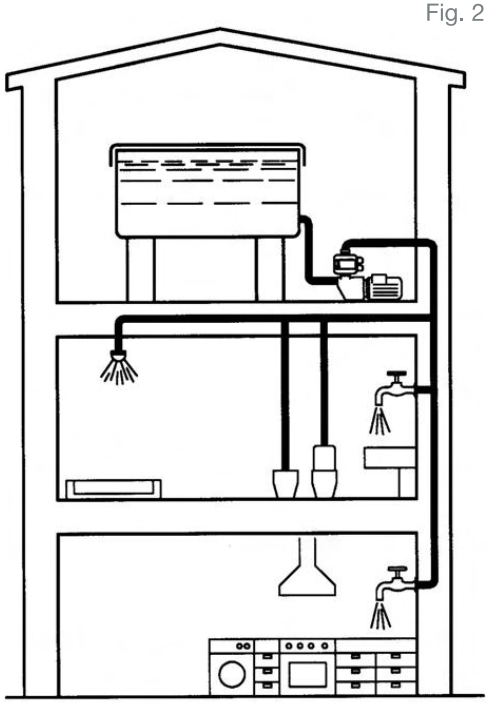
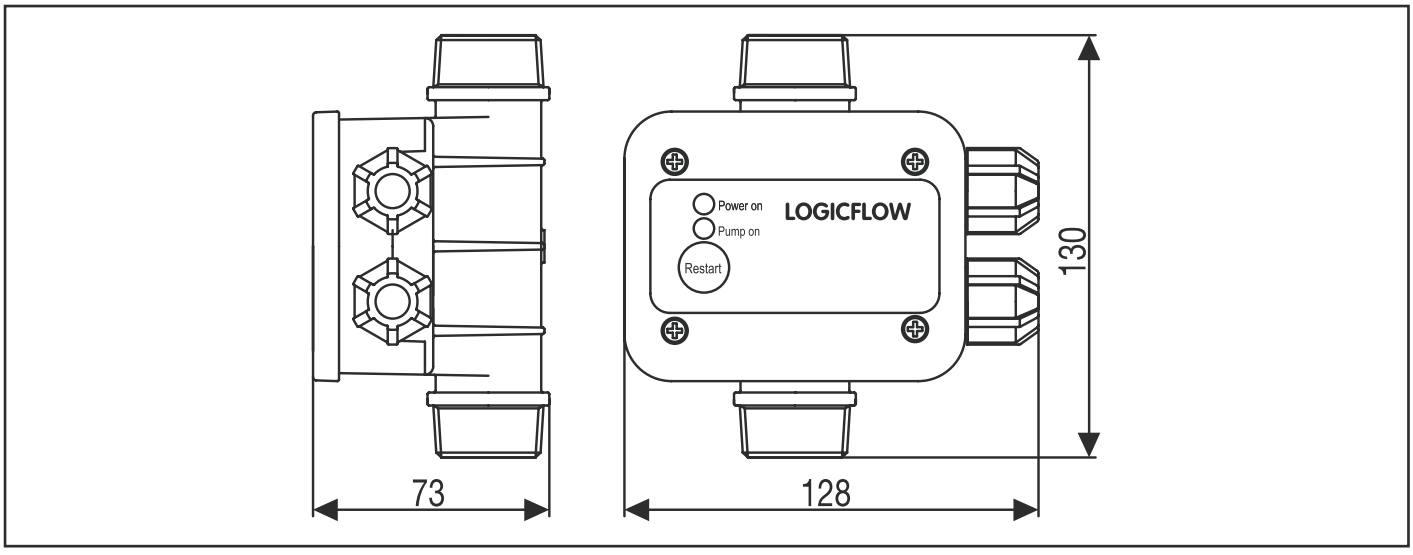


Fig. 2



Overall dimensions



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LOGICSTOP

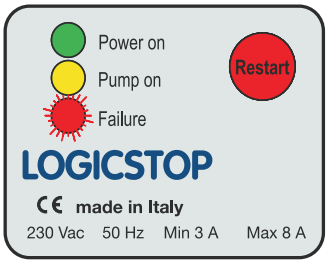
ELECTRONIC DEVICE FOR PROTECTING THE PRESSURE BOOSTER SYSTEM AGAINST DRY RUNNING
Stops the motor and protects the pump in the case of a water shortage.

Technical features

Single-phase mains voltage	230 Vac	Pump motor current	Min 3 A - Max 8 A
Acceptable voltage fluctuations	+/- 10%	Operating temperature	Min 5 °C - Max 45 °C
Frequency	50 Hz	Maximum ambient temperature	55 °C
Electrical connections			
to the cable of pump motor (Schuko plug incorporated)		to the power point (Schuko plug incorporated)	

Control panel

OPERATING PHASES AND MALFUNCTIONING		
Power on	Green Led on	Power on
Pump on	Yellow Led on	Pump on
Failure	Red Led blinking	Water shortage
Failure	Red Led on	Overcurrent
Restart	Red button	Acquisition of motor data Reset after Failure



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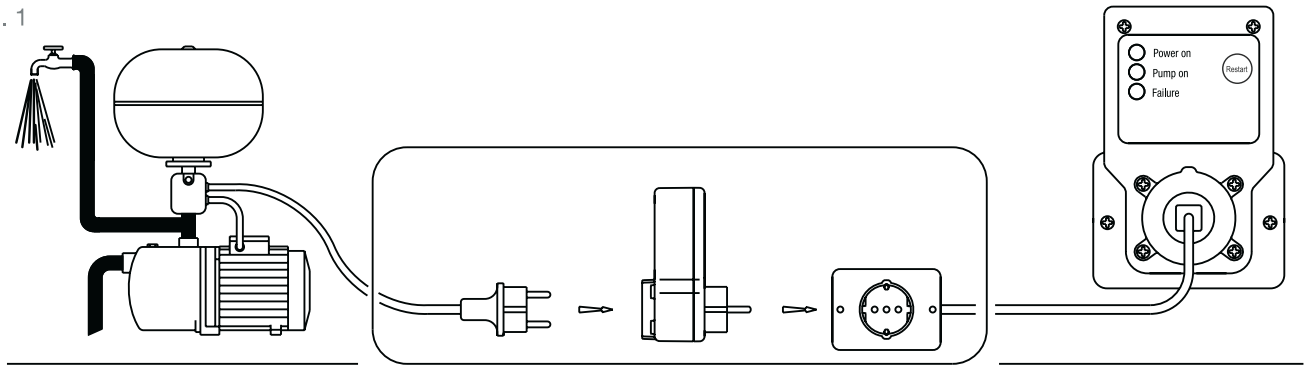
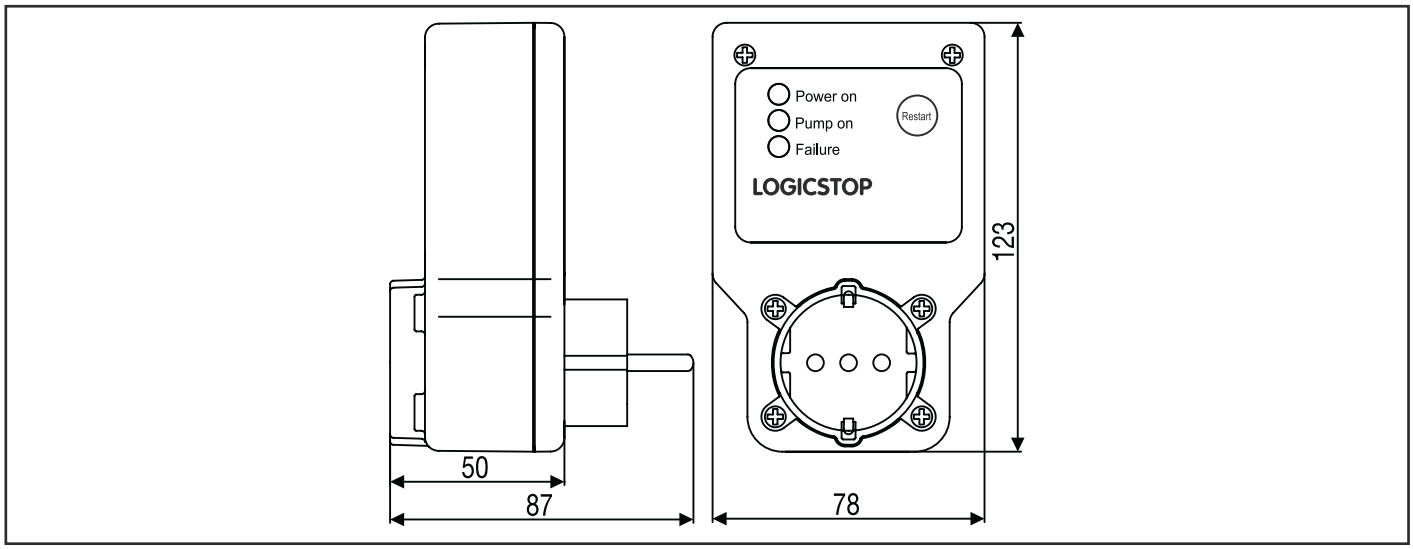
Operation

In order to operate, the electrical power supply of the pump must be connected to the mains.
For this reason the power supply plug of the pump must be inserted in the socket of the device which is in turn connected to the power point (Fig. 1)
In case of a water shortage on suction, the device will stop the pump and protect it against dry running.
This malfunctioning is indicated with the red “Failure” Led lit up.
In case of the current absorption exceeding 8 ampere, the device will stop the pump motor and protect it against over-current.
This malfunctioning is indicated with the red “Failure” Led lit up.
To restore normal operation to the device and the system simply press the red “Restart” button.
In case of a blackout, it will automatically rearm again several seconds after the electricity returns.

Fig. 1



Overall dimensions



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LOGIC SP / STP

made in italy

AUTOMATIC DEVICE WITH INCORPORATED FREQUENCY VARIATOR DRIVE FOR CONTROLLING ELECTRICAL PUMPS

It can be mounted on surface pumps and submerged pumps
Easy to install, set and adjust

Advantages

It varies the number of motor revolutions of the electric pump depending on the water withdrawn by the system in order to maintain a constant delivery and pressure.

It allows to regulates the system pressure and restarting pressure of the pump.
It protects the pump from dry running.
It ensures energy savings.

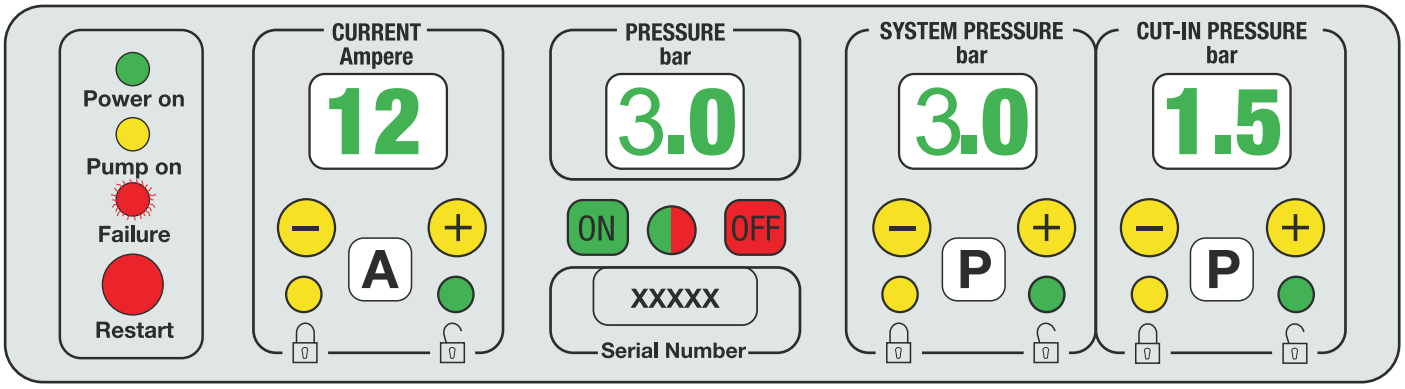
It comes with an accumulator.
And not need for expansion tank, non-return valve, filter and pipe fittings.

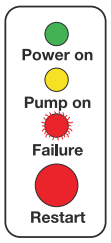
It reduces the effects of water hammering.
It is maintenance-free.

SERIE LOGIC: models and technical features

VOLTAGE / MOTOR	SINGLE-PHASE/SINGLE-PHASE			SINGLE-PHASE/THREE-PHASE	
MODELS	SP 7,5	SP 10	SP 13	STP 7,5	STP 10
Single-phase mains voltage	230 Vac	230 Vac	230 Vac	230 Vac	230 Vac
Acceptable voltage fluctuations	+/- 15%	+/- 15%	+/- 15%	+/- 15%	+/- 15%
Frequency (automatic recognition)	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Motor frequency 140 Hz (manual selection)	_____	_____	_____	Si	Si
Single-phase pump motor voltage	230 Vac	230 Vac	230 Vac	_____	_____
Three-phase pump motor voltage	_____	_____	_____	230 Vac △	230 Vac △
Maximum pump motor current	7,5 A	10 A	13 A	7,5 A	10 A
Maximum pump motor power	1,3 kW (1,7 HP)	1,5 kW (2 HP)	2,2 kW (3 HP)	1,9 kW (2,5 HP)	2,2 kW (3 HP)
Connection to mains	Cable H07VV-F 3G 1.5 mm^2 L = 1.5 m. Schuko plug				
Connection to the motor	Cable H07VV-F 3G 1.5 mm^2 L = 0.8 m. Schuko plug			_____	
Maximum running pressure	12 bar	12 bar	12 bar	12 bar	12 bar
Adjustable system pressure	2 ÷12 bar	2 ÷ 12 bar	2 ÷ 12 bar	2 ÷ 12 bar	2 ÷ 12 bar
Adjustable restart pressure	1 ÷ 11 bar	1 ÷ 11 bar	1 ÷ 11 bar	1 ÷ 11 bar	1 ÷ 11 bar
Minimum flow	~1 l/min	~1 l/min	~1 l/min	~1 l/min	~1 l/min
Maximum working temperature	60 °C	60 °C	60 °C	60 °C	60 °C
Protection degree	IP 65	IP 65	IP 65	IP 65	IP 65
Digital manometer	Yes			Yes	
Digital ammeter	Yes			Yes	
Dry run protection	Yes			Yes	
Timed automatic rearming	Yes			Yes	
Anti-jamming function	Yes			Yes	
Protection fuse	Yes			Yes	
Short-circuit protection between phases	Yes			Yes	
Short-circuit protection between phases and earth	Yes			Yes	
Amperometric protection	Yes			Yes	
Protection against power surges	Yes			Yes	
Over-temperature protection	Yes			Yes	
Pressure sensor fault detection	Yes es			Y	
Accumulation		Incorporated	ted	Incorpora	
Non-return valve		Incorporated	ted	Incorpora	
Male connections	1"	1" 1/4	1" 1/4	1" 1/4	1" 1/4
Interchangeable male connections	1" 1/4	1" 1/2	1" 1/2	1" 1/2	1" 1/2
Overall dimensions	260 x 312 x 285 mm			260 x 312 x 285 mm	
Weight	4,7 Kg			4,7 Kg	
COMMUNICATION AND AUXILIARY CONTACTS					
Serial RS 485: dialogue	Standard			Standard	
Input for remote ON/OFF	Standard			Standard	
Input for maximum float	Standard			Standard	
Input for minimum float	Standard			Standard	
Output for remote alarm	Standard			Standard	

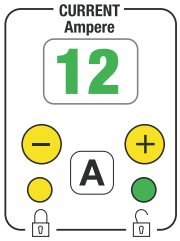
Control and adjustment panel





SIGNALLING OF THE PHASES AND ANY MALFUNCTIONING

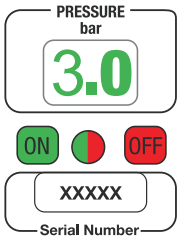
Power On (green Led on) Power on
Pump On (yellow Led on) Pump on
Failure (red Led blinking) Pump stopped due to water shortage or malfunctioning.
The malfunctioning code will remain lit up the “CURRENT” display until the device is reset.
(Example: H1 water shortage on suction)
Restart (red button): this serves for starting up or restarting the device again in case of a pump stop.



SETTING THE VALUE OF THE CURRENT ABSORBED BY THE MOTOR

Read the value of the current in amperes indicated on the pump motor nameplate, press the A button (green Led on) and set the value on the display using the buttons -/+ (0,5 A steps).
After entering the value, press the A button again (yellow Led on) to lock the setting.

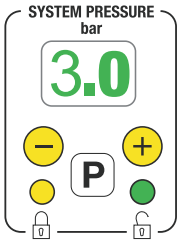
When the pump is working the real value of the motor input will appear on the display.



MANOMETER: The real value of the system pressure will appear on the display.

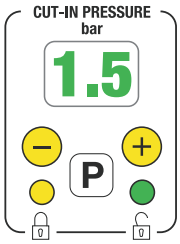
SWITCH: Press the green ON button (green Led on) to start the pump and the red OFF button to turn it off (red Led on).

IDENTIFICATION: Specific serial number of the device to be indicated when necessary.



SETTING THE VALUE OF THE SYSTEM PRESSURE

Press the P button (green Led on) and set the value on the display using the – / + buttons (0,5 bar steps).
After setting the desired value, press the P button again (red Led on) to lock the adjustment set.



SETTING THE RESTART VALUE OF THE PUMP

Press the P button (green Led on) and set the value on the display using the - / + buttons (0,1 bar steps).
After setting the desired value, press the P button again (red Led on) to lock the adjustment set.

INSTALLATION

It is possible to replace the fittings (supplied as spare-parts or included in the package) on the inlet and/or outlet of the d evice, depending on the system requirements, without compromising the operation of the device.

Mount the device in a vertical position directly onto the pump or between the pump and the first tap.

While not necessary to install a ball valve between the device and the system, this makes it possible to identify whether any anomalies derive from the device or the system.

Carry out the electrical wiring and energize

On the panel, the green “Power On” Led (power on) and the red “Off” Led light up and blinking dashes appear on all the displays while the device performs the setup.

At the end of the setup, the current values and the pressure set in the factory will appear (CURRENT 1.5 A- SYSTEM PRESSURE 3.0 Bar – CUT-IN PRESSURE 1.5 bar) and the “CURRENT” display will start blinking.

Now set the first current value absorbed by the motor as indicated on its nameplate.

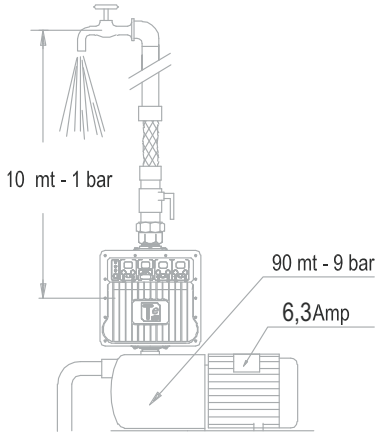
To adapt the system to the desired operation, it may be necessary to change the factory-set values of the device: system pressu re 3 bar- cut-in pressure 1.5 bar.

The set pressure value of the system must be less than the maximum effective pressure generated by the pump and compatible with the desired pump delivery.

The set cut-in pressure value must be less than the maximum effective pressure generated by the pump and higher than the pressure delivered by the eight of the water column exerted on the device.

EXAMPLE OF SETTING PARAMETERS

- **Current**
  Adjustment step 0.5A up to 10A – 1 A above 10 A
  Set the value **immediately after** the value indicated on the nameplate.
  Example: motor absorption (nameplate data) 6.3 A max. 6.5 A
- **System pressure**
  Adjustment step 0.5 bar.
  Set the desired value **provided it is lower than the maximum effective pressure** generated by the pump.
  Example: maximum pump pressure 9 bar max. 8 bar
- **Cut-in pressure**
  Adjustment step 0.1 bar.
  Set the desired value provided it is **higher (~ 0.5 bar) than the pressure** generated by the water column.
  Example: water column pressure 1 bar min. 1.5 bar.



After setting the values press the green “ON” button on the switch (green Led lit up) to turn on.

The set pressure values can also be changed while the pump is operating.

OPERATION

The device varies the number of motor revolutions of the electric pump depending on the water withdrawn by the system in order to maintain a constant delivery and pressure, provided compatible with the characteristics of the relative electric pump and the system.

- In case of malfunctioning, the device will stop the pump, the ed “Failure” Led will start blinking on the panel and the respe ctive code will appear on the “CURRENT” display. Example: H1 incoming water shortage.
- In case of a pump stop due to an input water shortage, the device will automatically make 6 double attempts to earm the pump (according to a tredetermined sequence) to allow the pump and the system to reload after the pump stop. After the last failed attempt to rearm, the device will remain permanently in “Failure” status (blinking red Led) pending manual rearming by pressing the red “Restart” button. The user can try to rearm the device at all times by pressing the red “Restart” button.
- If the pump emains stopped for 24 consecutive hours for any reason, the device will carry out a start up of the pump motor every 5 seconds (anti-jamming function).
- In case of a temporary blackout, the device will automatically rearm once the electricity returns.

It is possible to communicate among two or more devices of the Logic series or with a device with a control panel designed for communicating, and to also connect a remote control and alarm (lamp and/or siren), float and level probe to the device.

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Smart

Liquid level controller

Features	
Electrical features	10(8) A
Microswitch	21(8) A 250 V ~
Operating room temperature	50 °C
Storage temperature	-20 °C ÷ +80 °C
Protection grade	IP68
Switch angle	±45°
Dimensions	81x130x43.2 mm
Weight	157 g
Volume	280 cm^3
Specific weight	0.561 g
Buoyancy	123 g
Housing	non toxic polipropylene (PP)
Function class	I/II
Pressure resistance	10 m / 1 atm

Smart float switch, constructed according to the most advances industrial design criteria, is a highly reliable product used for automated liquid control both in industrial and civil fields.
Made from totally atoxic material which can also be recycled, is suitable for alimentay uses. Available with various types of cables, PVC, H07, A07 etc,with three or four wire cables, is provided with a high power microswitch 2/(8A) 250V. which permits the control of 1HP pumps at 117V. and 2HP at 230V. Smart comes in diffeerents versions: with multitension 230 Volt/400Volt microswitch, with golden contact microswitch for low current absorption (max. 0,1A) and with piggy-back plug.

Skill

Legel regulator for sewage water

Features	
Microswitch:	*20 (8) A*
Homologation	*CE 10 (8)A-250Vac*
Operating temperature °C:	*0- 50°C*
Storage temperature °C:	*-20- +80°C*
Protection category:	*IP 68*
Dimensions diam. x h in mm:	*117x222*
Weight in g.:	*1010*
Volume in cm^3:	*920*
Pressure resistance:	*2 Bar*
Container:	*Polypropylene*
Colouring agents:	*Non toxic*
Functional class:	*I/II*

Skill is an immersed tilting level regulator device. Its principal feature being its heavy body, which is also bulky and free of any irregularity, making it ideal for use sewage water, in industrial waste water with suspended agglomerate residues and tumultuous water.
The polypropylene body is made with a double airtight chamber with high-pressure melted polypropylene re-injection sealing to ensure perfect sealing capacity against infiltrations.

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QuickStop Advance

Instant closure hydraulic regulator

QuickStop is a hydraulic level regulator of advanced design that eliminates the classic defects of such devices. Its main feature and an intrinsic part of the patent (Pat. FI/96/A/000083) is the rapidity of operation of the system which goes from open to closed and viceversa in a fraction of a second, avoiding long noise periods and the dripping due to choked filling. Thanks to its servo-controlled closure device, a small float is sufficient for any pipe diameter and the closure strength increases as the entry piping pressure increases.

Type	QuickStop
Material	ABS
Operating Temperature	0 ÷ +50 °C
Storage temperature	-20°C ÷ +80 °C
Service	Continuous
Working pressure	0,2-6 bar
Overpressure	10 bar
Bolts and screws	stainless steel
Equipped with inlet filter	

Versioni disponibili / Avaiability

QuickStop con attacco BSP versione Europea o NPT versione Americana / *Quickstop with BSP connection of European version or NPT American version*

BSP connection	Ø uscita mm / *Exit Ø mm*	Dimensioni mm / *Dimensions mm*	codici / *codes*
3/8"	9,5	240x80x50	QS00A00009
1/2"	25	240x80x50	QS00A00012
3/4"	25	350x150x70	QS00A00018
1"	25	350x150x70	QS00A00025
1 1/4"	25	350x150x70	QS00A00032
1 1/2"	25	350x150x70	QS00A00040
NPT connection	Ø uscita mm / *Exit Ø mm*	Dimensioni mm / *Dimensions mm*	codici / *codes*
3/4"	25	350x150x70	QS0F000018
1"	25	350x150x70	QS0F000025
1 1/4"	25	350x150x70	QS0F000032
1 1/2"	25	350x150x70	QS0F000040

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BRIO 2000-M

BRIO 2000-M

DISPOSITIVO ELETTRONICO PER CONTROLLO DI ELETTROPOMPE

- Controlla automaticamente l'avvio e l'arresto di **elettropompa monofase fino a 2HP**
- Sostituisce totalmente il sistema tradizionale composto da pressostato e vaso di espansione
- Avvia l'elettropompa in seguito alla diminuzione della pressione (apertura rubinetti) e la arresta quando si interrompe il flusso del liquido alla massima pressione dell'elettropompa (chiusura rubinetti)
- **Protegge contro la marcia a secco**
- **Pressione di intervento regolabile** in fase di installazione
- Connessioni idrauliche standard 1" M
- Installazione in qualsiasi posizione-verticale od orizzontale-rispettando il senso del flusso
- Scheda elettronica di facile sostituzione
- Manutenzione nulla

APPLICAZIONI: presso-flussostati elettronici, protezione marcia a secco

BRIO 2000-M

ELECTRONIC DEVICE FOR ELECTRIC PUMP CONTROL

- It automatize the start and stop operations of single - phase electric pumps up to 2HP
- It replaces completely the traditional water system set up consisting on pressure switch and pressure tank
- It starts the electric pump after a pressure decrea-se (taps opening) and stops it when the fluid flow interrupts at the maximum pressure level of the electric pump (taps closing)
- **It protects against the dry running**
- **Starting pressure is adjustable during installation**
- Standard 1" M hydraulic connections
- Installation in any position-both vertical and horizontal-according to the flow direction.
- Easily replaceable electronic printed board
- No need of maintenance

APPLICATIONS: Electronic flow and pressure devices. Dry running protection

Alimentazione: Power supply:	115-220Vac ±10% 50/60 Hz.
Corrente max: Max rated current:	12A
Campo pressione di intervento: Starting pressure range:	1-3,5 bar
Pressione massima amissibile: Max allowable pressure:	10 bar
Grado di protezione: Protection degree:	IP 65
Temperatura max liquido: Max fliud temperature:	55°C
Temperatura ambiente max: Max ambient temperature:	55°C

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Electro probe Q

Electroprobe at high, low and variable sensitivity for DIN rail

The electroprobes of the Q, series, produced by Aerre 2, are regulators of conductive fluid suitable for the minumum and maximum level control of deep well, tanks, cisterns etc. The operating principle is based on the detection, on the part of the control box, of the fluid resistance the level being controlled by means of special probes immersed in the liquid with the longest acting as a common element. When the level of the liquid inside the container or the well wets all three probes a relay is activated and subsequently deactivated only when the level descends, uncovering the lower probe.

Models NS (the best for waters)

In the case of wells with a diameter max of 100 mm the NS model probes should be positioned in such a way that there is not more than mt 2,0 between the lowest and the highest (sufficient to protect the pump). For wells with a larger diameter, the probed can be set at a greater distance, there are no limits for tanks. To conclude, liquids with a total resistance of 5,6 Kohm max can be well controlled. The control box can be placed at a distance of up to 1,000 mt, from the probes.

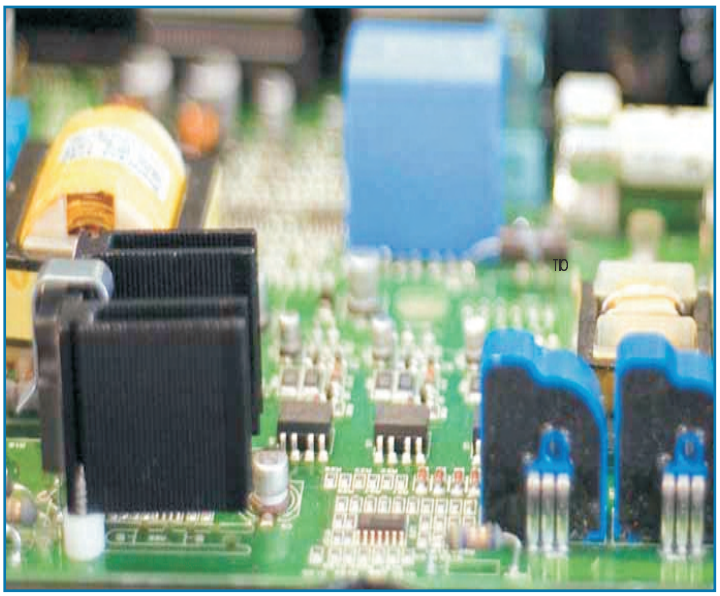
Models AS

To control liquids with low conductivity, rainwater for example the AS type is particurarly suitable. These models permit liquids with a very high total resistance up to 70 Kohm, to be controlled.

Models SR

For the control of conductive liquids with unknown conductivity this model is essential which controls up to 100 Kohm.

Type ac single-voltage	V
Supply voltage	24 - 117 - 230 - 415V ~ 50
Inter-electrode voltages	10V~
Power consumption VA	Max 4
Vdc double-v	
Supply voltage -	12/24V
Inter-electrode voltages	1,5V pp
Power consumption Watt	Max 2
Operating resistance	5,6 K 1 (NS) 68 K1 (AS) 0 ÷ 100 K1 (SR)
AC1 resistive load	5A to 250V~
0.4	2A to 250V~
DC inductive load	5A to 30V~
Dielectric strength	2000V
Response time	100 ms
temperature	- 10° ÷ + 50 °C
temperature	- 20° ÷ +80 °C
Dimensions	mm 90x54x59
Weight . 200	gr
Housing Noryl (PPO) UL 94V0	
Max cable length of probes	80 m 70 ÷(AS-SR) m 1000 (NS)



On request available 2 modules DIN rail for supply voltage 24V - 117V - 230V

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Electro-probe accessories

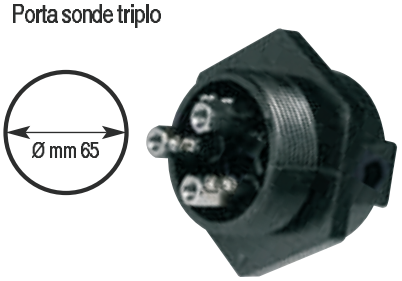
The accessories manufactured by AERRE2 are to complete its range of level regulation devices.

Sonda

Tipo/ *Type*	Zoccolo octal/ *Socktes 8 pin*
Codice/ *Code*	TZ08000000
Montaggio/ *Mounting*	Barra DIN/Superficiale/ *DIN rail or surface mounting*
Materiale/ *Material*	ABS
Peso/ *Weight*	gr. 45
Dimensioni/ *Dimensions*	mm 60x40x23
Temperatura di funzionamento *Operating room temperature*	80 °C max

Tipo/ *Type*	Sonda/ *Probe*
Codice/ *Code*	TS0ND00000
Montaggio/ *Mounting*	Direttamente nel liquido/ *Directly in the liquid*
Materiale/ *Material*	ABS + AISI 316
Peso/ *Weight*	gr.45
Dimensioni/ *Dimensions*	Ø mm 22x85
Temperatura di funzionamento *Operating room temperature*	80 °C max

Porta sonde triplo



Tipo/ *Type*	Zoccolo undecal/ *Socktes 11 pin*
Codice/ *Code*	TZ11000000
Montaggio/ *Mounting*	Barra DIN/Superficiale/ *DIN rail or surface mounting*
Materiale/ *Material*	Noryl UL 94 V1
Peso/ *Weight*	gr. 55
Dimensioni/ *Dimensions*	mm 60x40x23
Temperatura di funzionamento *Operating room temperature*	80 °C max

Tipo/ *Type*	Porta sonde triplo/
Codice/ *Code*	TP00000000
Montaggio/ *Mounting*	Foro Ø mm 65/
Materiale/ *Material*	Resina termoindurente/ *Thermosetting resin*
Peso/ *Weight*	gr. 190
Dimensioni/ *Dimensions*	Ø mm 80x72
Temperatura di funzionamento *Operating room temperature*	80 °C max
Note	odi mm Ø 5 non inclus Elettr Copertura di protezione sui terminali di uscita. *Elettrodes mm Ø 5 not included.* *Protective terminal cover.*

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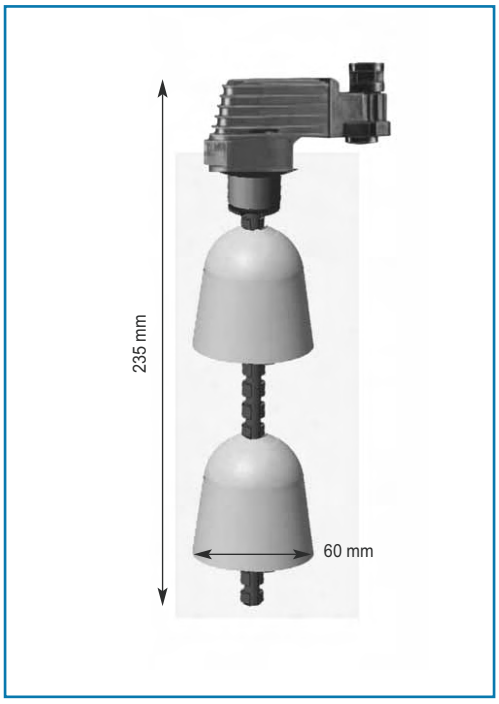
Agma W

Level regulator for water with debris

The Agma W level regulator is a very useful instrument when used directly on pumps which must work in very small wells,for which the common float switch would not have enough room to work. The switching mechanism is inherited by Agma 22 and is magnetic. This device is usable even in the presence of debris in the water and, if it is not possible to use a floating tilting, can also be used in the presence of waste water in compliance with a periodical verification and cleaning of the mechanisms of buoyancy.



General features		
Housing non toxis PP - Non toxic ABS		
Microswitch electrical features		20(8)A 250V~
Operating temperature	+50 °C	0 °C ÷
Storage temperature	+80 °C	-20 °C ÷
Service		Continuous
Protection grade the microswich head		is of watertight construction
Max pressure working		0,5 bar
Differential min.	50	mm.
Differential max.	150	mm.

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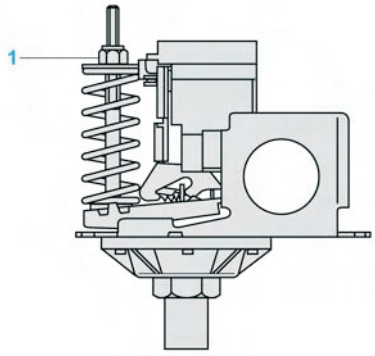
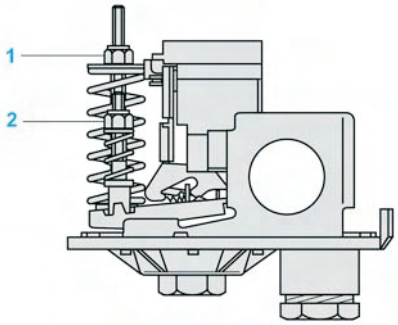
Electromechanical pressure switches

OsiSense XM

For power circuits, types FTG, FSG and FYG





Presentation

Pressure switches types FTG, FSG and FYG are switches for power circuits.
They are used to control the pressure of water, up to 10.5 bar.

2 types of product are available:
- pressure switches type FTG with fixed differential, for detection of a single threshold,
- pressure switches type FSG and FYG with an adjustable differential, for regulation between 2 thresholds.

For specific needs, these 2 types of product can be supplied in IP 65 versions, thus ensuring a higher degree of protection. They feature 2 cable entries, fitted with cable gland, and are referenced **F●G ●NE**.

Setting

Pressure switches with fixed differential (type FTG)

Only the switching point on rising pressure is adjustable.

Switching point on rising pressure
The switching point on rising pressure (PH) is set by adjusting screw-nut 1.

Switching point on falling pressure
The switching point on falling pressure (PB) is not adjustable.
The difference between the tripping and resetting points of the contact is the natural differential of the switch (contact differential, friction, etc.).

Pressure switches with adjustable differential (types FSG and FYG)

When setting the pressure switch, 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 screw-nut 1.

Switching point on falling pressure
The switching point on falling pressure (PB) is set by adjusting screw-nut 2.

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Electromechanical pressure switches
OsiSense XM
For power circuits, types FTG, FSG and FYG

Characteristics

Environmental characteristics						
Pressure switch type			**FTG ● FTG ●NE**		**FSG ● and FYG ● FSG ●NE and FYG ●NE**	
Conformity to standards			CE, IEC/EN 60730			
Protective treatment			Standard version: "TC"			
Ambient air temperature		**°C**	For operation: 0…+ 45. For storage: - 30…+ 80			
Fluids controlled			Fresh water, sea water (0…+ 70 °C)			
Materials			Case: polystyrene, resistant to mechanical impact Component materials in contact with fluid: nylon 6/6, zinc plated steel, nitrile			
Operating position			All positions			
Electric shock protection			Class I conforming to IEC 536			
Degree of protection conforming to IEC/EN 60529	**FTG ●, FSG ● and FYG ●**		IP 20			
	FTG ●NE, FSG ●NE and FYG ●NE		IP 65			
Operating rate		**Op. cycles/h**	600			
Repeat accuracy			< 2 %			
Fluid connection	**F●G 2, FYG ●2**		G 1/4 (BSP female) conforming to NF E 03-005, ISO 228			
	F●G 9		R 1/4 (BSP male) conforming to NF E 03-004, ISO 7			
Electrical connection	**FTG ●, FSG ● and FYG ●**		Terminals. 2 cable entries, with grommet			
	FTG ●NE, FSG ●NE and FYG ●NE		Terminals. 2 entries incorporating n° 13 plastic cable gland (DIN Pg 13.5)			
Contact block characteristics						
Rated operational characteristics			Ie = 10 A, Ue = ∼ 250 V conforming to EN 60730-1			
Power ratings of controlled motors	Voltage		∼ 2-pole 1-phase	∼ 2-pole 3-phase	∼ 2-pole 1-phase	∼ 2-pole 3-phase
	110 V		0.75 kW (1 HP)	1.1 kW (1.5 HP)	0.75 kW (1 HP)	1.1 kW (1.5 HP)
	230 V		1.1 kW (1.5 HP)	1.5 kW (2 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)
	400 V		1.5 kW (2 HP)	1.5 kW (2 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)
Rated insulation voltage conforming to IEC/EN 60947-1		**V**	Ui = 500			
Rated impulse withstand voltage conforming to IEC/EN 60947-1		**kV**	U imp = 6			
Type of contacts			1 2-pole 2 NC (4 terminal) contact, snap action			
Short-circuit protection			20 A cartridge fuse type gG			
Connection			Screw clamp terminals. Clamping capacity, min: 1 x 1 mm², max: 2 x 2 mm²			
Electrical durability at an operating rate of 600 operating cycles/hour		**Op. cycles**	40 000		100 000	

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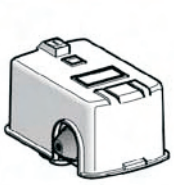
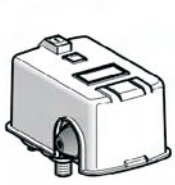
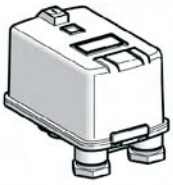
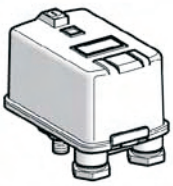
References, characteristics

Electromechanical pressure switches

OsiSense XM

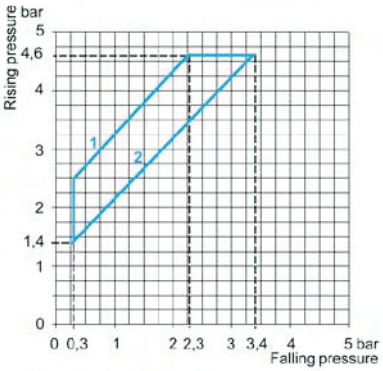
!""###

For power circuits, type FSG
Size 0-6 Bar adjustable differential, for regulation between 2 thresholds. Switches with 2-pole 2 NC contact.
Degree protection IP 20 or IP 65

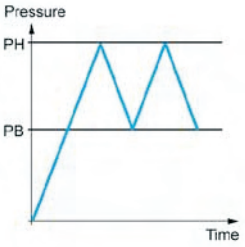
Fluid connection		G 1/4 (BSP female)	R 1/4 (BSP male)	G 1/4 (BSP female)	R 1/4 (BSP male)
					
Adjustable range of switching point (PH) (Rising pressure)		0-6 Bar			
Degree of protection conforming to IEC/EN 60529		IP 20		IP 65	
References					
Fluids controlled	Fresh water, sea water, from 0 °C to + 70 °C *(1)*	**FSG 2**	**FSG 9**	**FSG 2NE** *(2)*	**FSG 9NE**
Weight (kg)		0.340			
Complementary characteristics not shown under general characteristics (page 30380-EN/3)					
Possible differential (subtract from PH to give PB)	Max. at low setting	2.1 bar (30.45 psi)			
	Max. at middle setting	2.2 bar (31.9 psi)			
	Max. at high setting	2.3 bar (33.35 psi)			
	Min. at low setting	1 bar (14.5 psi)			
	Min. at middle setting	1.1 bar (15.95 psi)			
	Min. at high setting	1.2 bar (17.4 psi)			
Maximum permissible pressure	Per cycle	5.75 bar (83.38 psi)			
	Accidental	8 bar (116 psi)			
Destruction pressure		20 bar (290 psi)			
Mechanical life		1 x 10^6 operating cycles			
Cable entry		2 cable entries, with grommet		2 entries with n° 13 plastic cable gland (DIN Pg 13.5)	
Clamping capacity		–		9 to 13 mm	
Pressure switch type		Diaphragm			

(1) Component materials of units in contact with the fluid, see page 30380-EN/3.
(2) Variant: for a G 3/8 female fluid entry that pivots throughout 360°, select the ***FSG 2NEG****.*

Operating curves

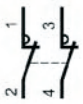


1 Maximum differential
2 Minimum differential



— Adjustable value

Connections



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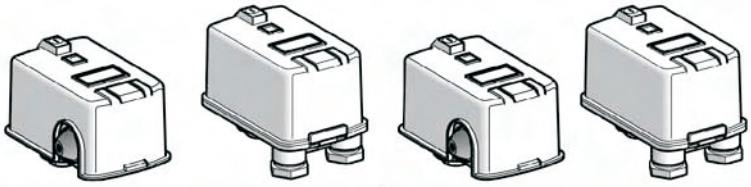
Electromechanical pressure switches

OsiSense XM

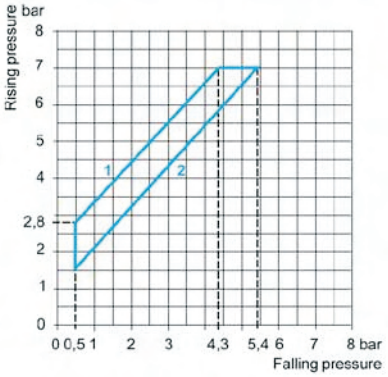
For power circuits, type FYG
Sizes 7 and 10.5 bar (101.5 and 152.3 psi), adjustable differential, for regulation between 2 thresholds. Switches with 2-pole 2 NC contact. Degree of protection IP 20 or IP 65

Fluid connection		**G 1/4 (BSP female)**			
					
Adjustable range of switching point (PH) (Rising pressure)		**2.8…7 bar (40.6…101.5 psi)**		**5.6…10.5 bar (81.2…152.3 psi)**	
Degree of protection conforming to EN/IEC 60529		**IP 20**	**IP 65**	**IP 20**	**IP 65**
References					
Fluids controlled	Fresh water, sea water, from 0 °C to + 70 °C *(1)*	**FYG 22** *(2)*	**FYG 22NE**	**FYG 32** *(3)*	**FYG 32NE**
Weight (kg)		0.340			
Complementary characteristics not shown under general characteristics (page 30380-EN/3)					
Possible differential (subtract from PH to give PB)	Max. at low setting	2.3 bar (33.35 psi)		3 bar (43.5 psi)	
	Max. at middle setting	2.5 bar (36.25 psi)		3.2 bar (46.4 psi)	
	Max. at high setting	2.7 bar (39.15 psi)		3.4 bar (49.3 psi)	
	Min. at low setting	1.2 bar (17.4 psi)		1.9 bar (27.55 psi)	
	Min. at middle setting	1.4 bar (20.3 psi)		2.1 bar (30.45 psi)	
	Min. at high setting	1.6 bar (23.2 psi)		2.3 bar (33.35 psi)	
Maximum permissible pressure	Per cycle	8.75 bar (126.9 psi)		13 bar (188.5 psi)	
	Accidental	15 bar (217.5 psi)		15 bar (217.5 psi)	
Destruction pressure		20 bar (290 psi)		20 bar (290 psi)	
Mechanical life		1 x 10^6 operating cycles			
Cable entry		2 cable entries, with grommet			
Pressure switch type		Diaphragm			

(1) Component materials of units in contact with the fluid, see page 30380-EN/3.
(2) Variant: for a 2.8 to 7 bar, IP 20, pressure switch with R 1/4 (BSP male) fluid entry, select the ***FYG 29****.*
(3) Variant: for a 5.6 to 10.5 bar, IP 20, pressure switch with R 1/4 (BSP male) fluid entry, select the ***FYG 39****.*

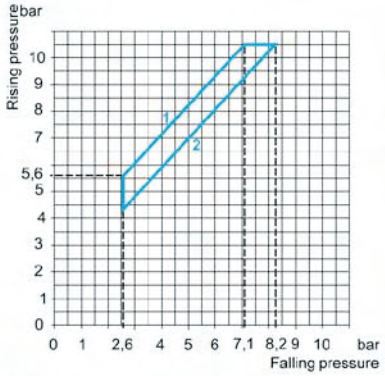
Operating curves

FYG 22



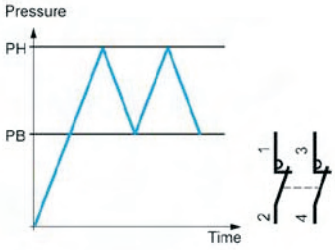
1 Maximum differential
2 Minimum differential

FYG 32



1 Maximum differential
2 Minimum differential

Connections



— Adjustable value

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References, characteristics

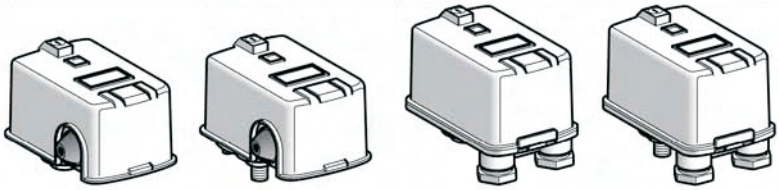
Electromechanical pressure switches

OsiSense XM

For power circuits, type FTG

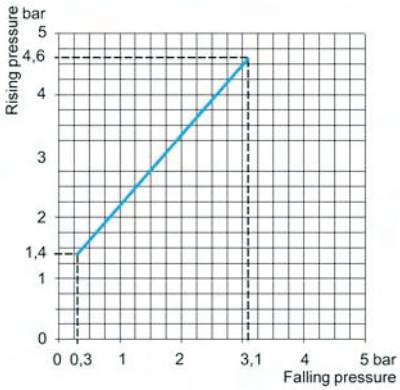
Size 0-6 Bar fixed differential, for detection of a single threshold. Switches with 2-pole 2 NC contact.

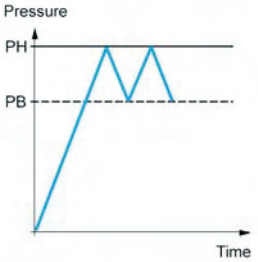
Degree of protection IP 20 or IP 65

Fluid connection		G 1/4 (BSP female)	R 1/4 (BSP male)	G 1/4 (BSP female)	R 1/4 (BSP male)
					
Adjustable range of switching point (PH) (Rising pressure)		0-6 Bar			
Degree of protection conforming to IEC/EN 60529		IP 20		IP 65	
References					
Fluids controlled	Fresh water, sea water, from 0 °C to + 70 °C *(1)*	FTG 2	FTG 9	FTG 2NE	FTG 9NE
Weight (kg)		0.340			
Complementary characteristics not shown under general characteristics (page 30380-EN/3)					
Natural differential (subtract from PH to give PB)	At low setting	1.1 bar (15.95 psi)			
	At middle setting	1.3 bar (18.85 psi)			
	At high setting	1.5 bar (21.75 psi)			
Maximum permissible pressure	Per cycle	5.75 bar (83.38 psi)			
	Accidental	8 bar (116 psi)			
Destruction pressure		20 bar (290 psi)			
Mechanical life		4 x 10^5 operating cycles			
Cable entry		2 cable entries, with grommet		2 entries with n° 13 plastic cable gland (DIN Pg 13.5)	
Clamping capacity		–		9 to 13 mm	
Pressure switch type		Diaphragm			

(1) Component materials of units in contact with the fluid, see page 30380-EN/3.

Operating curves





— Adjustable value

---- Non adjustable value

Connections

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M R 50...: Radial pressure gauge ø 50 (available scale in bar: 4, 6,10,12,16 Bar) 1/4" GAS connection- Bottom entry - Copper tubular spring – Sn-Ag welding - Working temperature: -20°C / +80°C – box: black plastic

M R 63...Radial pressure gauge ø 63 (avaiable scale in bar: 4,6,10,12,16 Bar) 1/4" GAS connection- Bottom entry - Copper tubular spring – Sn-Ag welding Working temperature: -20°C / +80°C – box: black plastic

M C 50...: ø 50 Axial pressure gauge (available scale in bar: 4, 6,10,12,16 Bar) 1/4" GAS connection- Back entry - Copper tubular spring – Sn-Ag welding - Working temperature: -20°C / +80°C – box: black plastic

M R 63... ø 63 Axial pressure gauge (available scale in bar: 4, 6,10,12,16 Bar) 1/4" GAS connection- Back entry - Copper tubular spring – Sn-Ag welding - Working temperature: -20°C / +80°C – box: black plastic

M GX ... : Pressure gauge with glycerine ø 50., 63 or 100 (avaiablescales in bar: 4, 6 ,10 ,12,16, 20 ,25 ,40 e 100 Bar)1/4" GAS connection (1/2" connection for r ø 100) **Bottom entry (M GX ...R) or back entry (M GX C)** – Working temperature: -10°C /+ 80°C **STAINLESS STEEL CONSTRUCTION**

M P R 50 025 OPTIMA
Radial pressure gauges for swimming-pools 0-2,5 Bar

Connection of brass UNI EN 12165 and DIN 50930.6 assembled on surge tanks.
Max operating pressure 25 Kg./cm².

R 5 VIE ....Brass 5 way connections (72 mm, 82 mm o 91 mm) 1" GAS

R 3 VIE ....Brass 3 way connections 71 mm 1" GAS

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