

MAC3 began with the production its namesake float switch. In the following years the range was extended to cover all areas: clear water, sewage water, drainage, tanks, wells, etc. Together with float switch, MAC3 offers a wide range of devices:

Float switches Device:

Device:

Electromechanical level regulator based on microswitch.

Application:

main application is control of pumps, filling or emptying, dry running protection.



Regulators for small spaces

Device:

Very compact regulator with limited differential.

Application:

Particularly suitable for very small wells, where a traditional float switch would not have enough room to work.



Hydraulic Valve

Dispositivo:

Hydraulic valve for the opening and closing of pipes.

Application:

Used in storage tanks in order to keep a reserve of water.



Monitoring Levels

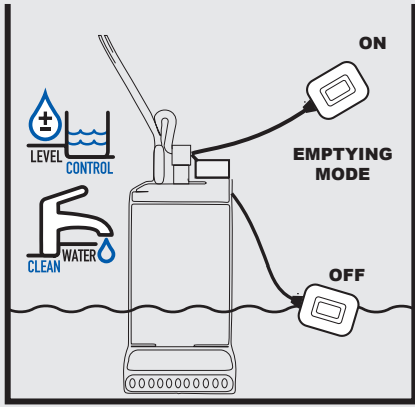
Device:

Electronic device for water level monitoring, with acoustic and visual alarms.

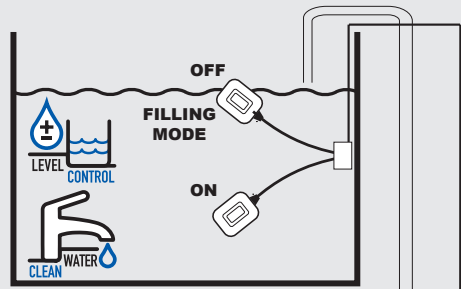
Application:

Used to drive control systems and generate alarms based on the level of liquids.

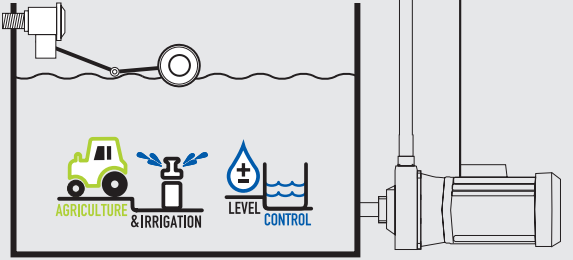




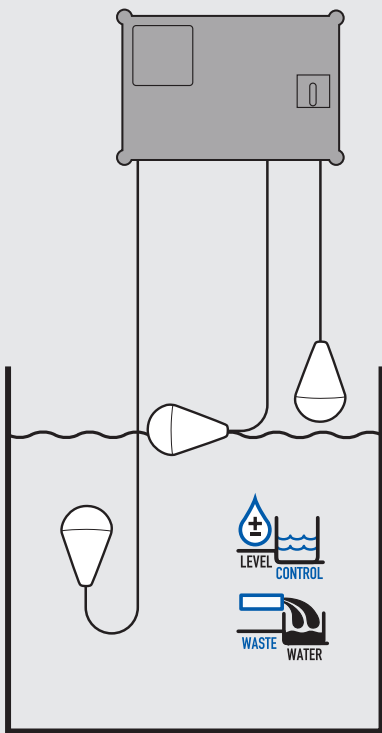
Typical application of a float switch in filling and emptying mode.



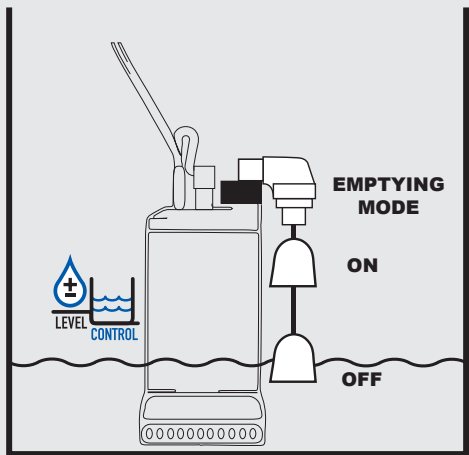
Hydraulic valve installation for the filling of a storage tank.



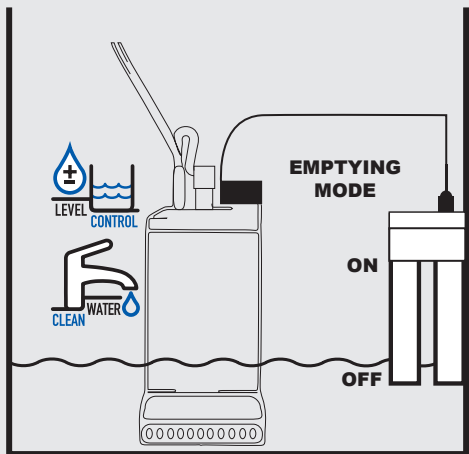
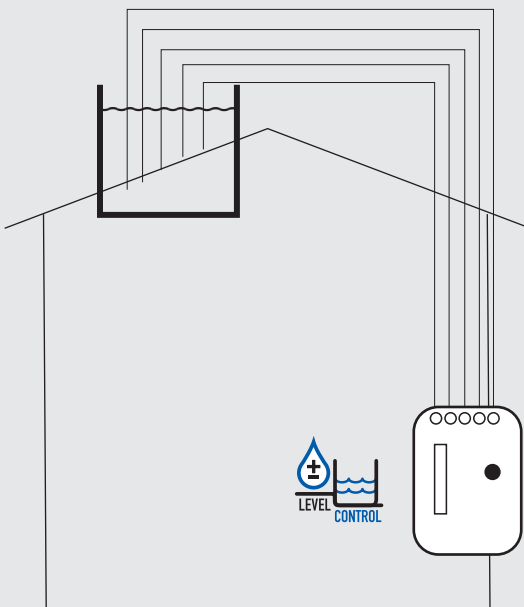
Tilting level regulators for the emptying of a sewage tank.



Level Regulators for small tanks, usually used in emptying mode.



Device that displays the water level in storage tank.



Float switch

Level Regulator with electro mechanical equipment

The level regulator is a float switch that allows electrical equipment to start and stop automatically (usually pumps, but also solenoid valves, alarms, etc.) when a prefixed level has been reached. A microswitch that is inside the device turns the contact that powers the pump on and off, depending on the level of the liquid. The models with cable 3X1 or cable 4G1 can be used for the filling or emptying function according to the cables that have been connected.

The models with 3G1 cable (with a ground cable) are set for only one function.

Small



MAC3 CABLES

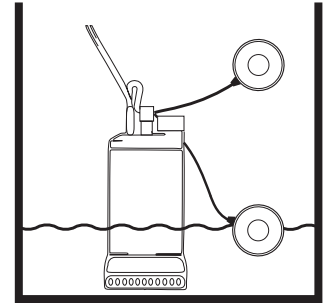
all cables supplied with our floats are produced in compliance with a Mac3 specification and are subjected to an acceptance test which ensures their flexibility.

Application: The most popular onboard drainage pumps. The most widely used by electric pump manufacturers that are mounted on their products directly in the factory.

Advantages: Its essential feature is that it is small in size and is highly reliable.

Benefits: It has a high breaking capacity, with the microswitch 20Amps. Dual operation for filling and emptying.

Microswitch electrical features	20(8)A 250 V~ 20(8)A 250 V~ 10(6)A 400 V~ (multivoltage)
Approval	ENEC/CE 10(8)A 250V~ 10(8)A 250 V~ 10(6)A 400 V~ (multivoltage)
Operating Temp.	0°C + + 50°C
Storage temp.	-10°C + +60°C
Switch angle	IP 68
Switch angle	±45°
Dimensions	mm 82x111x48
Weight	gr. 113
Volume	cm³ 179
Max depth level	2 bar e 5 bar
Container	Non-toxic polypropylene(PP)
Dyes	Non- toxic
Standard cable	PVC 3X1 H07RN-F 3G1 H07RN-F 3X1
Note	When ordering please specify if needed for filling or emptying function



Available IECEX approved version

Key

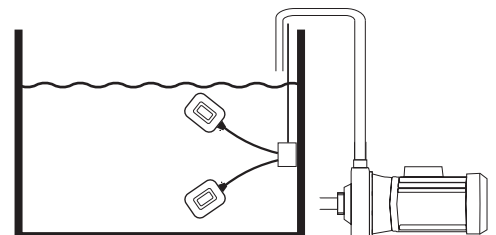


Application: It is the most universally used float switch in the world for the automation of pumps and in storage tanks.

Advantages: Due to its size makes it is the most versatile for any application.

Benefits: It is highly reliable and can be produced in many variations in accordance with the needs of each client and country. Dual operation for filling and emptying.

Microswitch electrical features	16(4)A 250V ~ , 20(8)A 250 V~ 20(8)A 250 V~ 10(6)A 400 V~ (multivoltage)
Approval	ENEC/CE 10(4)A 250V ~ , 10(8)A 250V~ 10(8)A 250 V~ 10(6)A 400 V~ (multivoltage)
Operating Temp.	0°C + + 50°C
Storage temp.	-10°C + +60°C
Switch angle	IP 68
Switch angle	±45°
Dimensions	mm 81x131x41.5
Weight	gr. 154
Volume	cm³ 243
Max depth level	1 bar
Container	Non-toxic polypropylene(PP)
Dyes	Non- toxic
Standard cable	PVC 3X1 H07RN-F 3G1 H07RN-F 3X1 H07RN-F 4G1
Note	When ordering please specify if needed for filling or emptying function



Mac 3

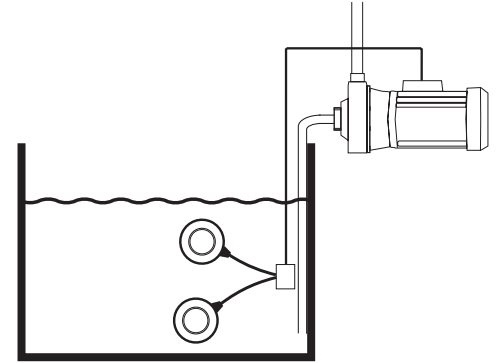


Application: Professional installations and industrial buildings. Any project that requires a high standard of quality and safety.

Advantages: MAC3's historical first float switch, a device with a double liquid-proof chamber for maximum reliability.

Benefits: Large Dimensions to allow a bigger buoyancy and an edgeless shape which is also suitable for sewage water. Dual operation for filling and emptying.

Microswitch electrical features	16(4)A 250V ~ , 20(8)A 250 V~
Approval	ENEC/CE 10(4)A 250V ~ , 10(8)A 250V~
Operating Temp.	0°C ÷ + 50°C
Storage temp.	-10°C ÷ + 60°C
Switch angle	IP 68
Switch angle	+20°/-45°
Dimensions	mm 106 x 154 x54
Weight	gr. 234
Volume	cm³ 384
Max depth level	1 bar
Container	Non-toxic polypropylene(PP)
Dyes	Non- toxic Non- toxic
Standard cable	PVC 3X1 H07RN-F 3G1 H07RN-F 3X1 H07RN-F 4G1
Note	When ordering please specify if needed for filling or emptying function



Level regulator for sewage water.

Tilting level regulators were designed specifically for sewage water. Normally used in the control panel, for lifting station, the device can be also installed directly on pumps.

Mac 5

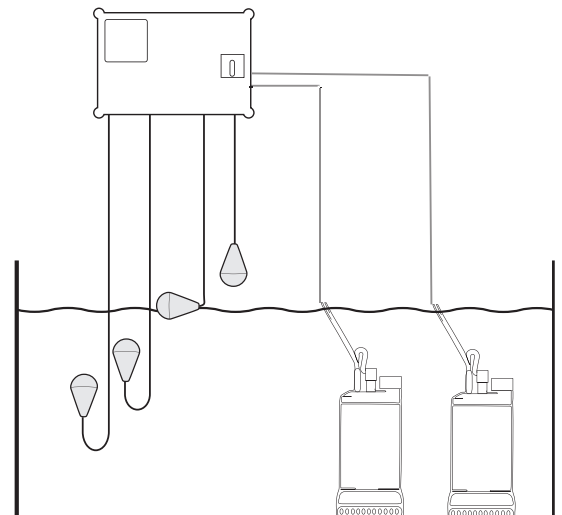


Application: It has a heavy body, which is also bulky and free of any irregularity, making it ideal for use in sewage water, in industrial waste water with suspended agglomerate residues and in tumultuous water.

Advantages: Made with a double liquid proof chamber and counterweight built into the body of the float.

Benefits: Available with switch angle standard +/-10° and also with a wider one. ALSO AVAILABLE ATEX VERSION

Microswitch electrical features	10(3)A 250 V~
Approval	ENEC/CE 10(3)A 250V~
Operating Temp.	0°C ÷ + 50°C
Storage temp.	- 10°C ÷ +60°C
Switch angle	IP 68
Switch angle	+/-45° or +/-10°
Dimensions	mm 117x222 (Øxh)
Weight	gr. 1100
Volume	cm³ 1000
Max depth level	2 bar
Container	Non-toxic polypropylene(PP)
Dyes	Non- toxic
Standard cable	PVC 3X1 H07RN-F 3X1 H07BN4F 3X1
Note	ATEX version available



LEVEL REGULATORS

CONTROL PANELS &
LEVEL CONTROLLERS

BOOSTING SYSTEMS

VARIABLE FREQUENCY
DRIVES

E-Fly

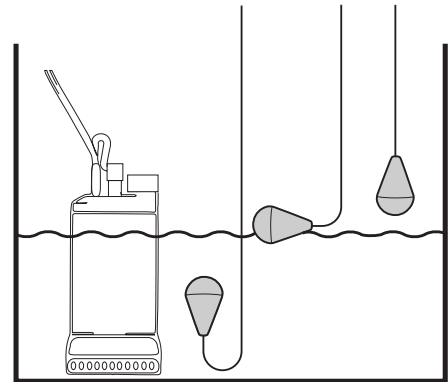


Application: It's body has a smaller size, compared to Mac 5, without edges, suitable for use in small tanks for disposal of sewage water.

Advantages: Made with a double liquid proof chamber and counterweight built into the body of the float.

Benefits: Available with different types of cables, suitable for different applications.
ALSO AVAILABLE ATEX VERSION

Microswitch electrical features	10(3)A 250 V~
Approval	ENEC/CE 10(3)A 250V~
Operating Temp.	0°C ÷ + 50°C
Storage temp.	-10°C ÷ +60°C
Switch angle	IP 68
Switch angle	±10°
Dimensions	mm 100x156 (Øxh)
Weight	gr. 700
Volume	cm³ 620
Max depth level	2 bar
Container	Non-toxic polypropylene(PP)
Dyes	Non- toxic
Standard cable	PVC 3X1 H07RN-F 3X1 H07BN4F 3X1
Note	ATEX version available

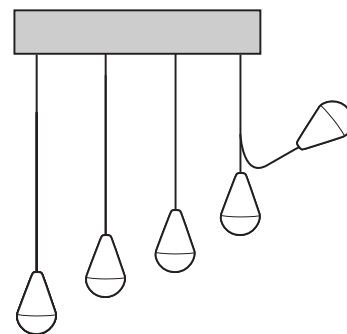


Bracket



Metallic bracket for installation up to 4 regulator as Mac5 or E-Fly.

Weight	gr. 500
Dimensions	mm 37,4 x 9 x 7
Material	Galvanized steel



Compact level regulators for applications in small wells

In some applications there is not enough space for a float switch. Moreover, it might be necessary to implement very compact installations with precise levels of intervention. MAC3 offers the following devices for these applications:

Agma
22

LEVEL CONTROL

CLEAN WATER

RESIDENTIAL & DOMESTIC

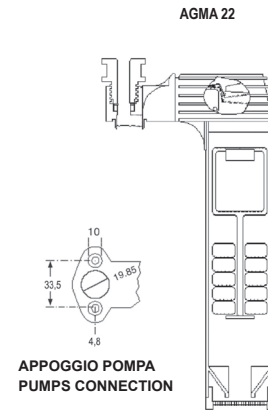


Application: Very compact device usually installed onboard sewage pumps. Two versions for clear water (Agma22) and water with debris (AgmaW).

Advantages: The level controller Agma 22 is a patented device with magnetic coupling. The micro is placed in an upper chamber completely sealed, which ensures a long life to the device.

Benefits: The model Agma 22 is also available with flame-retardant cables; the model AgmaW allows the adjustment of the levels of intervention. If it is not possible to use a tilting float, AgmaW can also be used in the presence of waste water, with a periodical verification and cleaning of the mechanisms of buoyancy.

Microswitch electrical features	20(8)A 250 V~
Approval	ENEC/CE (mod. B) CE (mod. A)
Service	Continuous
Differential switching	cm. 7-8
Operating Temp.	0°C ÷ + 50°C
Storage temp.	-10°C ÷ +60°C
Switch angle	IP 68
Pressione max utilizzo	0,5 bar
Dimensions	mm 37x100x226.5
Weight	gr. 300
Container	Non-toxic polypropylenePP/PC
Dyes	Non- toxic
Standard cable	H07RN-F 3G1 (mod. B) H07RN-F 2X1 (mod. B) 2 PVC flame-retardant cables (mod. A) 3 PVC flame-retardant cables (mod. A)
Note	Mod. B Also available UL approved Version is also available with a manual selector



W

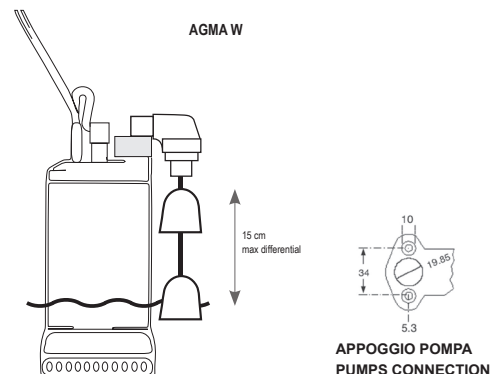
LEVEL CONTROL

CLEAN WATER

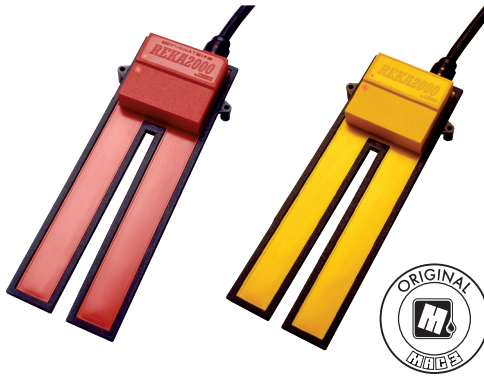
RESIDENTIAL & DOMESTIC



Microswitch electrical features	20(8)A 250 V~
Approval	ENEC/CE
Service	Continuous
Differential switching	cm. min5-max15
Operating Temp.	0°C ÷ + 50°C
Storage temp.	-10°C ÷ +60°C
Switch angle	IP 68
Pressione max utilizzo	0,5 bar
Dimensions	mm 60x235 (Øxh)
Weight	gr. 270
Container	Non-toxic polypropylenePP/ABS
Dyes	Non- toxic
Standard cable	H07RN-F 3G1 PVC 3x1 H07RN-F3X1
Note	Also available UL approved



Reka

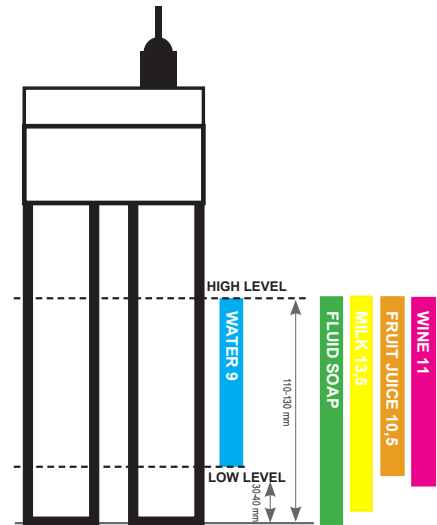


Application: Particularly suitable when there is not enough space for the movement of a traditional float.

Advantages: For its operation uses a capacitive sensor, integrated in the plastic structure, that makes it suitable for a wide range of liquids. It can be operated by battery or electricity and thanks to an internal relay 10(4)A it is able to control pumps with up to 1 HP.

Benefits: It can be easily installed near the pump through the two holes in the structure. The models with 12V or 24V power supply with delay ON/OFF, are particularly suitable for marine use.

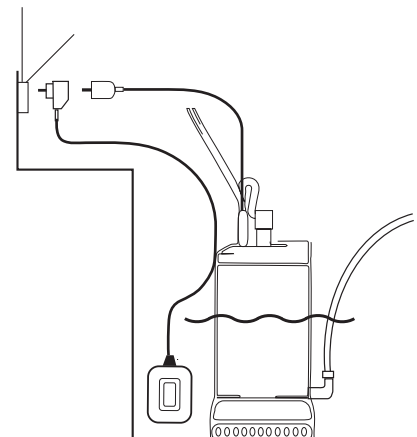
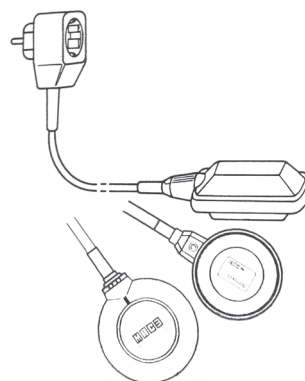
Output Relay characteristics	250V 10(4)A
Power Supply	12/24Vcc-Vca 117Vca 230Vca
Rigid. Dielectric	1500V
Differential	cm 9 ±1 (for water)
Approval	CE EN60730
Operating Temp.	0°C ++ 50°C
Storage temp.	-20°C ++ 80°C
Switch angle	IP 68
Dimensions	mm 93X250
Weight	gr. 240
Container	Non-toxic polypropylene(PP)
Dyes	Non- toxic
Delayed version of nautical	0 ÷ 8 sec
Standard cable	H07RN-F 4G1
Max depth level	0,2 Bar



Piggy back plugs



Upon request, all MAC3level regulators may be equipped with a piggy back plug. The piggy back plug is connected to the power supply and receives the pump's plug so that the pump power is controlled by the float.



Electronic Level Monitors

Used in storage tank system for monitoring the water level.

Mac Nivel

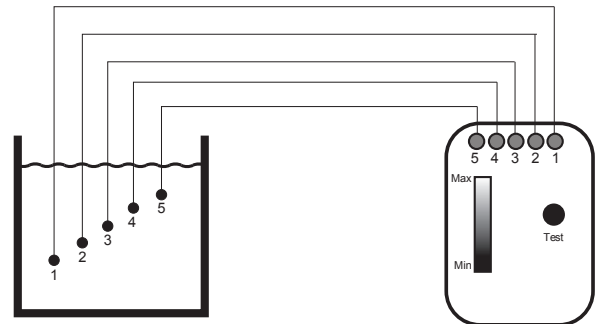


Application: This product allows us to view the water level present in a storage tank.

Advantages: Based on the principle of the probes, the device, powered by a battery, applies a voltage across the wires inserted in the terminal block. These wires are positioned into the tank.

Benefits: Easy to install on a wall thanks to the support provided. The LED bar allows a simple and intuitive reading of the water reserve.

Power Supply	9V Battery
Approval	CE
Operating Temp.	0°C ± + 50°C
Storage temp.	-20°C ± + 80°C
Dimensions	mm 106x80x30
Weight	gr. 70
Container	ABS



Sentinel

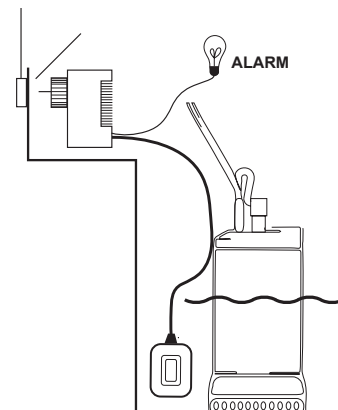


Application: Connected to a level controller, allows acoustic signals according to the level of the liquid.

Advantages: The product is equipped with an output relay with free contacts, to activate an alarm signal at a distance. The relay works only when the device is powered on the network.

Benefits: When the level regulator closes the switch, Sentinel 2 activates its internal buzzer and activates any alarm connected to the relay.

Power Supply	230 V~ 50 ± 60 Hz
Back up battery	9 V - 110 mA (Ni-MH)
Output Relay characteristics	0.5A a 250 V~
Current at command IN	13 mA max
Consumption	1 VA
Charging current	13 mA
Holding current	3 mA
Buzzer Approval	yes
Approval	CE
Operating Temp.	0°C ± + 50°C
Storage temp.	0°C ± + 60°C
Dimensions	mm 105x55x46(64)
Weight	gr. 160
Container	ABS
Notes	Other voltages upon request



LEVEL REGULATORS

CONTROL PANELS &
LEVEL CONTROLLERS

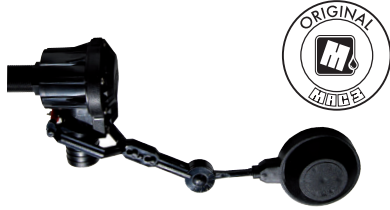
BOOSTING SYSTEMS

VARIABLE FREQUENCY
DRIVES

Hydraulic level regulator.

Hydraulic valves are normally used to open/close a water inlet pipe in order to maintain a prefixed level inside a storage tank.

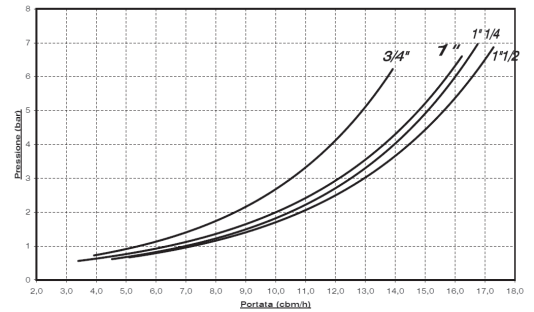
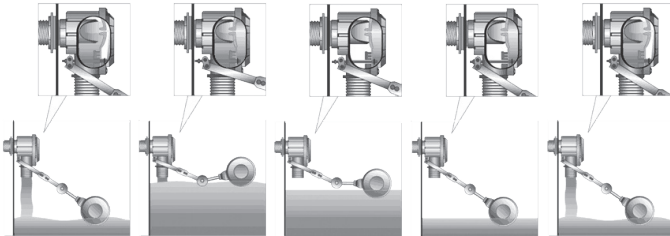
Quickstop Std



Application: Patented hydraulic regulator that eliminates the classic defects of such devices. Especially suitable for filling storage tanks or cisterns.

Advantages: The working mechanism is patented, the jointed arm allows opening and closing instantly by ensuring a high flow and avoiding dripping water.

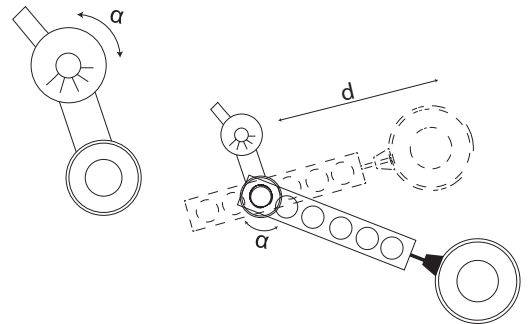
Benefits: A wide range from 3/8" to 1 1/2" and two versions: Standard and Advanced (ADJ). The ADJ version has adjustable intervention levels, the adjusting mechanism is very simple and versatile and acts on the corner of the joint and on the length and angle of the arm.



Adj



Operating Temp.	0°C ++ 50°C
Storage temp.	-20°C ++ 80°C
Overpressure	10 bar
Service	Continuous
Working pressure	0,2-6 bar
Container	Non-toxic polycarbonate
Screws	Stainless Steel
Equipped with input filter	
Dimensions	240x80x50 mm (mod. 3/8", 1/2") 350x150x70 (mod. 3/4" -> 1 1/2")
Thread	BSP (mod. 3/8" -> 1 1/2") NPT (mod. 3/4" -> 1 1/2")



Accessories and special executions

In addition to the standard production, MAC3 has available a line of accessories, which are useful in installations, and some special productions. In special productions some devices carry the CE mark and not ENEC approvals. Some special cables do not meet MAC3 standards and therefore the size of the diameter and the mechanical characteristics of flexibility cannot be guaranteed.

Counterweight



A device used to determine the level regulator excursion point, it is inserted directly onto the cable.

Code	CONTR	CONTRP
Weight	Di serie gr. 220	gr. 300
Dimensions	Ø 47X55	Ø 47X55
Material	Anti-impact polystyrene	Anti-impact polystyrene
Standard colour	yellow	yellow
Filling material	sand iron grit	iron grit



Special Cables



When the float switch operates with temperatures higher than 60°C we recommend H07BN4-F cable that is suitable for temperatures up to 90°C. This cable is also suitable for use in chemically aggressive environments.

In any event, we advise that tests should be carried out in order to determine the exact degree of resistance under your specific conditions.

Micro



When the float switch operates with electronic devices such as personal computers or PLC, the current on the microswitch is very low. MAC3 offers a particular type of microswitch, with gold contacts, for such low currents:

- AC: up to 0,1(0,05)A max 250V ~
- DC: 1mA ÷ 100mA voltages 5V ÷ 24V

You can also request execution with microswitches suitable for controlling pumps powered by solar panels (DC current)

Approvals



MAC3 can provide level regulators with special approvals:

- UL/CSA for North American market
- ACS for drinking water
- SASO for Saudi Arabian market
- ATEX explosion-proof

	Class	Certificate
Mac3	II	SASO
	I/II	ACS
KEY	II	SASO
	I/II	UL
	I/II	CSA
SMALL	I/II	UL
	I/II	CSA
	I/II	IECEX
Mac5	II	SASO
	I/II	ATEX version
E-Fly	I/II	ATEX version

