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# SOFTENERS and MEDIA FILTERS

techno equipments

# MEDIA FILTERS

MARS IRON REMOVERS - VENUS CHLORINE REMOVERS - SAND QUARTZITE FILTERS - VEGA ARSENIC REMOVERS

ACCESSORIES ON DEMAND

## MARS - VENUS - SAND

The water used for drinking, sanitary or technological applications supplied by the water system or an autonomous source can have various problems such as:

- impurities (sand, clay, silt)
  - iron and manganese
  - excess of chlorine or bad smells and tastes
- In the first case, in order to protect the water system (valves, pressure switches, taps, boilers, etc.) it is necessary to place a filter at the system supply inlet to stop all impurities. If the water contains only sand or small quantities of foreign bodies, normal filter cartridges are used; if clay, silt and/or colloidal substances are present in the water, multi-layer, different size quartz sand filters are used, capable of stopping big quantities of impurities. The **SAND** clarification filters by ATLAS FILTRI consist of a column containing a permanent multi-layer filtering bed; to get rid of the impurities and restore the filter efficiency, just carry out counter-current rinsing at regular intervals. This is done automatically by the controlling head, controlled by an electronic displacement timer/control.
- In the second case iron and manganese must be eliminated because their presence gives water a yellow-reddish colour and an unpleasant taste, causes deposits leading to blockages and often system corrosion. In domestic use the iron in the water can also stain bathroom fittings, taps and linen, with aesthetic and hygienic problems. Drinking water must not contain more than 0.2mg/l of iron or 0.05 mg/l of manganese. **MARS** deferrizing filters by ATLAS FILTRI consist of a column containing a manganese dioxide (pyrolusite) filtering bed acting as a catalyst for the oxidation of the iron, manganese and hydrogen sulphide present in the water. To ensure the filter is effective, carry out counter-current rinsing of the filtering bed at regular intervals. In this case too this is done automatically by the controlling head, controlled by an electronic displacement timer/control.
- In the third case, a filter must be installed at the water supply inlet using charcoal filters. The **VENUS** dechlorination filters by ATLAS FILTRI consist of a column containing a filtering bed of selected vegetable granular charcoal, with a high internal surface and optimum porous structure to absorb the organic compounds present in the water for civil or industrial use. To ensure the filter is effective, carry out counter-current rinsing of the filtering bed at regular intervals. As with the other models, this is done automatically by the head, controlled by an electronic displacement timer/control. In drinking water systems a disinfection (UV or chlorine dosing) system must be installed downstream from the dechlorination filter.

## VEGA

The average content of arsenic found in the rocks of the earth's crust is about 1.5 ppm, which corresponds to 1.5g of arsenic per ton of rock. In the food chain and water for human consumption, arsenic is extracted from rocks, soil and water.

Small doses of arsenic are considered a vital element for man, but higher doses have very serious effects.

The European Community has recognized the problems connected with this element and has consequently reduced the limit value for water for human consumption to 10 µg/l.

Arsenic can be divided into As5+ (forming compounds called arsenates) and As3+ (forming compounds called arsenites).

All treatment processes for extracting arsenic from water for human consumption usually extract As5+ better than As3+.

Consequently the oxidizing of As3+ (in comparison with As5+) with substances such as hypochlorite, potassium permanganate and ozone is often required.

At the moment the separation of arsenic from drinking water with granulated ferric hydroxide (GFH) is a very advantageous process thanks to low investment and maintenance costs.

In removing arsenic from water, both As3+ and As5+ compounds are absorbed by the GFH in a specially constructed filter the water to be treated runs through. Even during very long running periods, the filtering material maintains good porosity and good capacity of holding arsenic.

Good porosity is due to the fact that the grain size is very homogeneous between 0.2 and 2 mm. The high capacity of absorbing arsenic is due to the fact that GFH is produced so that it has low crystallinity and high microporosity.

The **VEGA** arsenic removing filters by ATLAS FILTRI can be used to treat all or just part of the water for human consumption.

The problem of whether to treat all or just part of the water for human consumption with subsequent mixing depends on the maximum level of arsenic required, but above all from the expected peak consumption.

The typical behaviour of a GFH arsenic removal system shows that the content of arsenic in the water treated with the above filters slowly and predictably increases with time. This means there is no sudden 'death' of the absorbing power typical of other filtering substances.



chlorine test drops CODE RE8000012

iron test drops CODERE8000010

arsenic test drops CODE RE8000013



manual by-pass for 263/268 valve CODE EA1015037

manual by-pass for 255 valve CODE EA1015038

## OPERATING MODES

- **TIME (ATL):** regeneration valve with electronic timer automatically starting the regeneration at a time programmed by the user (for domestic use normally at night, when the demand for softened water is minimal). The unit allows programming of the time and frequency of the regeneration, from a minimum of 1 regeneration every 12 hours to a maximum of 1 every 99 days. Alternatively, the regeneration can be programmed for a fixed day in the week, always at the same time.
- **VOLUME (AVL):** regeneration valve fitted with a flow sensor and a turbine meter checking the volume of the water treated. This version starts the regeneration at the selected time of the day chosen by the electronics according to the real water consumption, the exchange capacity and the set hardness. The unit allows programming in the following modes:
  - time-volume: after reaching the set volume, at a set time.
  - pure volume: immediately after reaching the set volume.

## CERTIFICATIONS



The products are tested and certified under the most stringent procedures worldwide, in compliance with DM 25 (Italy) and with the sanitary certification EAC (Russia).

## SYMBOLS LEGEND

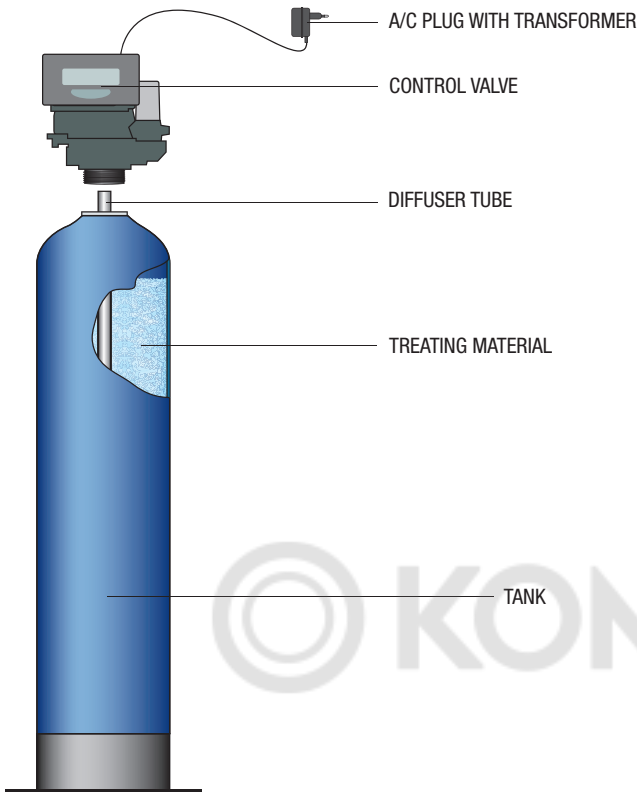


For domestic use



For technical and industrial use

## INSTALLATION SCHEME



## MATERIALS

Non-toxic materials, suitable for drinking water.

- Control-valve: NORYL®
- Tank: glass-fibre reinforced polyethylene
- Treating material:

**SAND** - sand and single-crystal spherical quartz gravel of alluvial origin with high silica content, specifically selected to filter water for civil and industrial use.

**MARS PRL** - superb quality and purity pyrolusite (manganese dioxide), obtained by washing, drying and screening mineral selected specifically for oxidizing.

**VENUS** - selected vegetable granular charcoal, with a high internal surface and optimum porous structure to absorb the organic compounds present in the water for civil or industrial use.

**VEGA** - GFH granular ferric hydroxide: absorbing means for the selective removal of arsenic (both arsenite and arsenate), phosphate, selenium and other heavy metals from natural water.

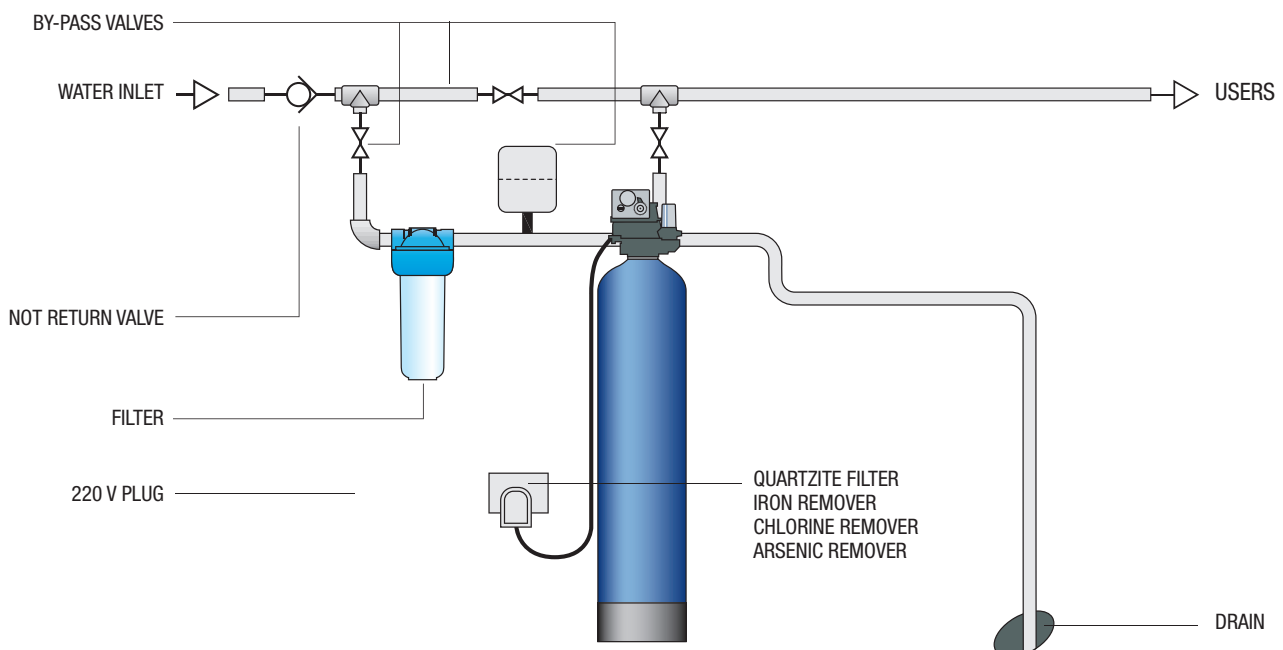
## TECHNICAL REQUIREMENTS

Microprocessor dedicated electronics with the following characteristics:

- easily programmed display with dedicated keyboard
- possible manual start of the regeneration process with guided progression through the various phases
- display of the regeneration phases and their duration
- memory autonomy up to 10 days (if the power supply is lacking)
- unit safety voltage 12V/50Hz

## WORKING CONDITIONS

|                               |       |
|-------------------------------|-------|
| Max working pressure .....    | 6 bar |
| Min working pressure .....    | 2 bar |
| Max working temperature ..... | 50°C  |
| Electrical functioning .....  | 12V   |
| Electrical absorption .....   | 8W    |

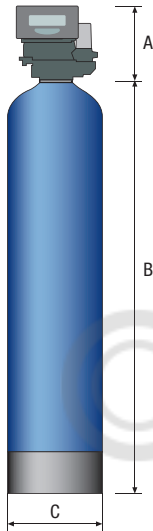




# MARS iron removers

Standard models with PYROLUSITE treatment material.  
Note: models with different treatment materials  
(BIRM, MANGANESE GREENSAND) available on request

\* Data referring to water with 3 ppm iron maximum  
\*\* Data referring to water with 1.5 ppm iron max and a tank  
oxidizing time of 30 minutes.  
The flow data are calculated using supply water with a TDS of  
500 ppm and at a temperature of 20°C.



## MARS PRL ATL

| WITH TIMER CONTROL VALVE |                  |                |        |                  |                   |                        |                            |        |        |            |        |             |
|--------------------------|------------------|----------------|--------|------------------|-------------------|------------------------|----------------------------|--------|--------|------------|--------|-------------|
| CODE                     | MODEL            | AUTOTROL VALVE | IN/OUT | MEDIA VOLUME [l] | FLOW RATE* [m³/h] | MAX FLOW RATE** [m³/h] | BACK WASH FLOW RATE [m³/h] | A [mm] | B [mm] | A + B [mm] | C [mm] | WEIGHT [kg] |
| EA1000075                | MARS PRL 25 ATL  | LOGIX 263/740  | 1"     | 25               | 0,3               | 0,5                    | 0,8                        | 180    | 1132   | 1312       | 214    | 55          |
| EA1000076                | MARS PRL 50 ATL  | LOGIX 263/740  | 1"     | 50               | 0,5               | 0,8                    | 1,3                        | 180    | 1386   | 1566       | 264    | 100         |
| EA1000077                | MARS PRL 75 ATL  | LOGIX 263/740  | 1"     | 75               | 0,8               | 1,3                    | 2,1                        | 180    | 1398   | 1578       | 338    | 150         |
| EA1000078                | MARS PRL 100 ATL | LOGIX 263/740  | 1"     | 100              | 0,9               | 1,5                    | 2,3                        | 180    | 1674   | 1854       | 365    | 195         |
| EA1000079                | MARS PRL 125 ATL | LOGIX 263/740  | 1"     | 125              | 1,2               | 1,9                    | 2,7                        | 180    | 1671   | 1851       | 416    | 250         |
| EA1000080                | MARS PRL 150 ATL | LOGIX 263/740  | 1"     | 150              | 1,5               | 2,5                    | 4,6                        | 180    | 1722   | 1902       | 491    | 300         |

## MARS PRL AVL

| WITH VOLUMETRIC CONTROL VALVE |                  |                |        |                  |                   |                        |                            |        |        |            |        |             |
|-------------------------------|------------------|----------------|--------|------------------|-------------------|------------------------|----------------------------|--------|--------|------------|--------|-------------|
| CODE                          | MODEL            | AUTOTROL VALVE | IN/OUT | MEDIA VOLUME [l] | FLOW RATE* [m³/h] | MAX FLOW RATE** [m³/h] | BACK WASH FLOW RATE [m³/h] | A [mm] | B [mm] | A + B [mm] | C [mm] | WEIGHT [kg] |
| EA1000086                     | MARS PRL 25 AVL  | LOGIX 263/760  | 1"     | 25               | 0,3               | 0,5                    | 0,8                        | 180    | 1132   | 1312       | 214    | 55          |
| EA1000087                     | MARS PRL 50 AVL  | LOGIX 263/760  | 1"     | 50               | 0,5               | 0,8                    | 1,3                        | 180    | 1386   | 1566       | 264    | 100         |
| EA1000088                     | MARS PRL 75 AVL  | LOGIX 263/760  | 1"     | 75               | 0,8               | 1,3                    | 2,1                        | 180    | 1398   | 1578       | 338    | 150         |
| EA1000089                     | MARS PRL 100 AVL | LOGIX 263/760  | 1"     | 100              | 0,9               | 1,5                    | 2,3                        | 180    | 1674   | 1854       | 365    | 195         |
| EA1000090                     | MARS PRL 125 AVL | LOGIX 263/760  | 1"     | 125              | 1,2               | 1,9                    | 2,7                        | 180    | 1671   | 1851       | 416    | 250         |
| EA1000091                     | MARS PRL 150 AVL | LOGIX 263/760  | 1"     | 150              | 1,5               | 2,5                    | 4,6                        | 180    | 1722   | 1902       | 491    | 300         |