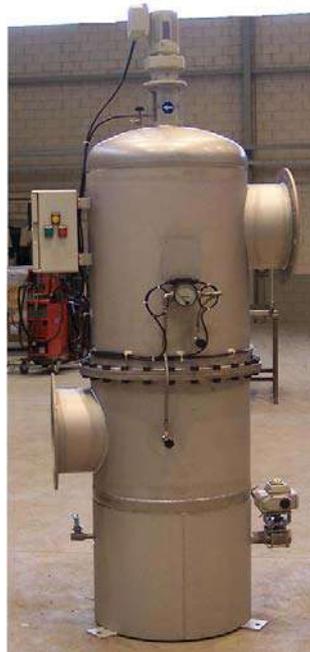


Description & Working

Automatic self-cleaning Filters: HSC Series



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Automatic self-cleaning Filter: HSC Series

Range of application:

Potable waters systems and treatment
Waste water treatment
Desalination
Hydroelectric powerhouse
Thermal power station & heat-electric station
Irrigation (by aspersion, dripping)
Industrial refrigeration systems
Cooling towers systems
Industrial water reuse
Dissolved solid recovery
Industrial process water
Aqua culture
Metallurgy industries
Petroleum and petrochemical industries
And very much applications.

Construction features:

Materials:

The HECISA HSC self-cleaning filters are constructed body in carbon steel epoxy coating, internal and external, with internal parts in SS AISI 304 and filter elements in SS AISI 316 L as standard materials.

For special applications with aggressive fluids (seawater, acid solutions, etc.) can be made in the following materials and special alloys, among others:

- AISI 316 L
- Duplex and Super duplex Steel
- AISI 321
- Alloy 20 (Uranus B6)
- Alloy 276
- Copper nickel
- Alloy 400
- Titanium

Filtering elements

HSC Series:

In this series, the filtering elements are constituted by a coiled wedge wire, stiffened by means of longitudinal profile welded in the interior of the cylinder. Separation between wedge wire borders determines the filtration degree.

Due to the specific form of the profile, particles larger than the opening between profiles will be retained, while smaller will pass freely, this is easier because of the broadening made between the adjacent tapered profiles in the sense of the flow through filtering media.

Filter grade: 50 microns and larger.

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HSC-JFM & HSC-P Series:

Filtering elements in these series have a metallic mesh or fiber filtering element, with protection mesh in both faces, linked all them by sintering, supported by meshes or a slotted cylinder placed in the interior and a metallic grid or a supporting mesh in the outside, this confers optimal characteristics to them: mechanical resistance, durability and precision.

Filter grade: 3 to 40 microns.

Filtration System

Fluid comes into the nozzle, located in the inferior body of the housing, and it's deal to the filtering elements located on the chamber separation. The flow runs from the inside to the outside of the filtering elements and penetrates through these into the filtrated product chamber, coming out through tubing located in the superior part.

The differential pressure switch and indicator measure the pressure lost between both chambers.

Cleaning system

Cleaning is made by backwash using the filtrate fluid when the differential pressure switch reaches the prefixed value. At this moment, the motor-reducer which drives the cleaning arm begins the process doing a slowly turn of the hollow arm to located it under the filtering elements in a progressive way to avoid blows of ram and abrupt actions, sliding under the intermediate board until it describes a turn of 360°, stopping again by means of the position switch located in the base of anchorage of the motor-reducer, this guaranties the backwash of all the filtering elements.

During the cleaning of each filtering element the rest of the filtering elements are providing the sufficient amount of the fluid for the filtration process and also for cleaning of the selected filter.

Fluid with solid content is evacuated through the electric purge valve that will simultaneously remain open during a complete cycle of cleaning, closing itself to the shutdown of the driving motor.

Water consumption in cleaning varies between 20 and 100 liters by filtering element depending on filter grade.

Arrangement

Normal arrangement is vertical.

Inlet is located in the inferior part of the cylinder; at the bottom you can find backwash outlet, emptied valve and manual purge. In the superior body you can find filtered product outlet. Vent valve and cleaning motor-reducer with their accessories, are mounted on the superior cover and the control panel is on the lateral.

Filter is delivered with 180° orientation inlet and outlet, although this orientation could be varied on demand according to requirements being able to orient it 90° to 90°, therefore they can be arrange in the same side, or turned 90°, right or left.

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Working

Normal working: filter depends on the orders transmitted from the differential pressure switch, which is the one who commands cleaning once reached the pressure drop fixed.

If you wish to program cleaning one time or several times during a day, in addition to the resultant by pressure drop, you need to fix the timing cycle cleaning in the electronic control and put on the switch placed in the control box.

Furthermore of automatic cleaning by pressure drop or timer, you can also order a cleaning of the filter pressing the "Manual Cleaning" push button placed in the outside of the control box, also it is possible to arrange the cleaning cycle from a remote position applying 24 VCC on the corresponding terminals in the control box.

Test lamps placed in the control box indicate situation: amber "Power O.K.", green "Cleaning cycle" and red "Alarm".

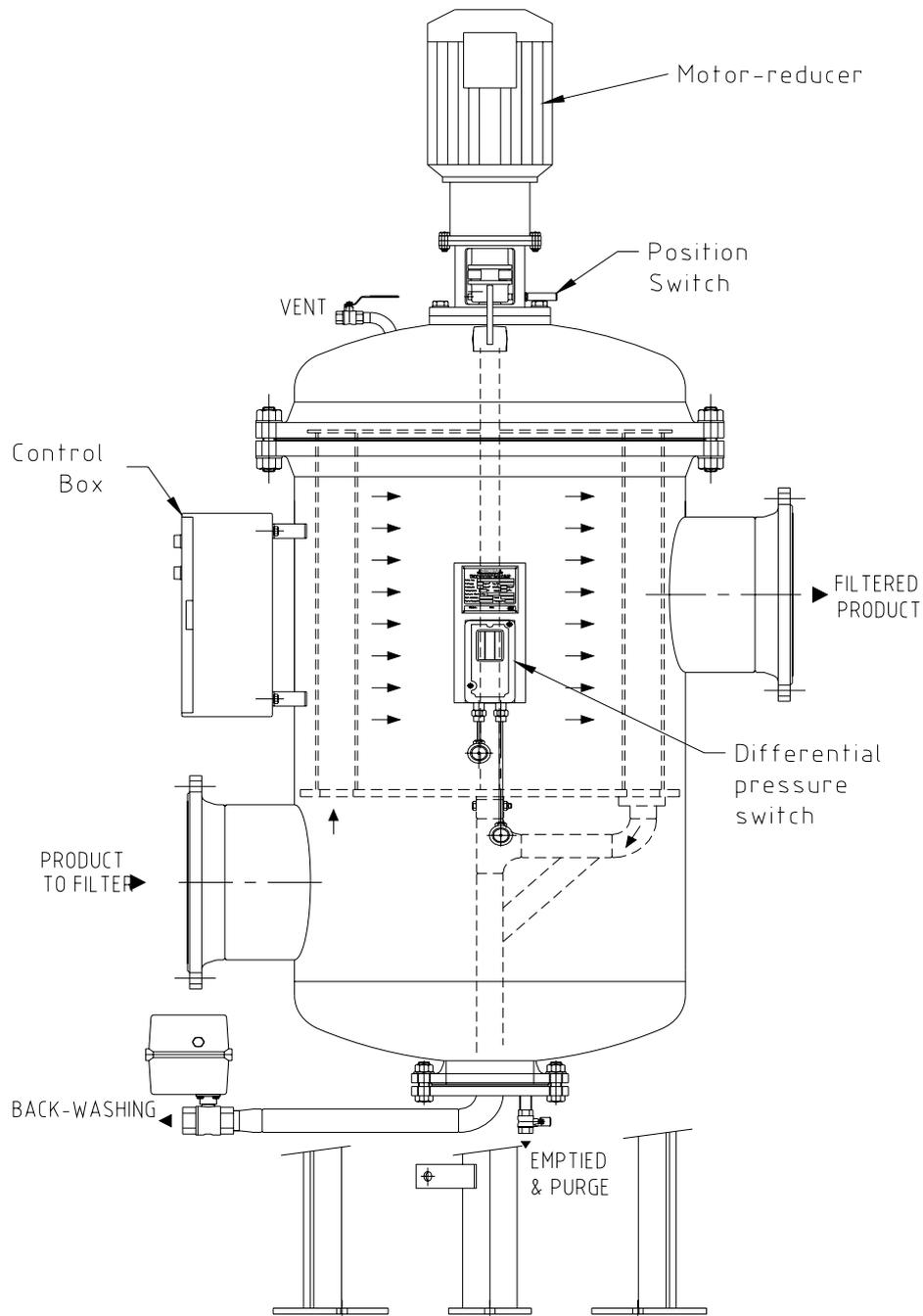
The micro PLC emits different messages, as much of operation as of error or defect.

- Filter in service.
- Filter in cleaning cycle.
- Number of cleaning cycles today.
- Total cleaning cycles from commissioning.
- Cleaning cycle failure.
- Failure at opening of backwashing valve.
- Failure at closing of backwashing valve.

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Schematic drawing



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