

# SPT-WBV-MR, SPT-SBV-MR

## Single Stage Combined Vacuum Nozzle & Brush Cleaning Automatic Self-Cleaning Filter



**Filternox®** proudly presents the new generation SPT-WBV.

### Background

25 years working in filtration systems technology and more than 10 years manufacturing high-standards filters award our company with the latest and most rigorous knowledge, experience and information compilation.

Subsequently, the execution of continuous research, development and innovation is one of our main policies in order to ease the filtration applications and convert them into more effective ones. Along these years we have been witness to the great increase in the usage of surface water. Especially sea water and river water maybe due to the lack of underground aquifers capacity and/or the changes in the global patterns.

In order to offer more efficient filtration solutions for these types of applications, it is essential to have a single stage system able to filter both coarse and fine particles together. With laboratory and field tests, this new filter has proven to be a key technological progress.

SPT-WBV is the abbreviation code established for this new Single-stage Wedge Wire Screen built in this model of **Filternox®**.

### Advantages

Detailed characteristics and specifications:

- ✓ Just one unique single stage, whatever the micron target is, to eliminate coarse and fine particles once and for all.
- ✓ Adjustable  $\Delta P$  value to increase efficiency; special screen structure allows arrangement of  $>0.5$  bar which, together with the dirt cake building up on the screen surface, improves the efficiency of particle elimination.
- ✓ Adaptability;  $90^\circ$  angle between inlet and outlet offers possibility of assembling horizontally or vertically according to the installation requirements.
- ✓ Generated footprint is tiny, so operation is very easy.
- ✓ Minimum consumable or spare parts necessities.
- ✓ Material from any different products and qualities can be arranged so the filter can be easily implemented to all kinds of liquids (sea water, brine water, etc.)
- ✓ For the best and most effective cleaning of screen surface, the rotation and movement is adjustable by a frequency converter which also enables the filter to be installed under different electrical conditions. (Voltage, hertz, etc.)
- ✓ Solar panels are available as the power source.
- ✓ Filtration process is not interrupted during the back-flush process.



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### Working Principle

Water enters into the filter through the inlet (1) and turns 90° degrees towards the screen (2).

After running through the screen, water leaves via the outlet (3).

When a preset  $\Delta P$  value is reached, the motor (4) starts rotating by receiving the signal from the control panel.

As the system is combined together with motor and reducer (5) the collector shaft (6) which has brushes (7) and vacuum nozzles (8) starts the helical movement.

The filter has two exhaust drainage valves: First valve (9) conducts the discharge of the accumulated dirt which has been removed from the screen surface with the help of the sweeping effect of the water through the first exhaust valve.

After this complete cycle  $\Delta P$  reduces and the valve closes. The small particles remaining on the screen surface still create a  $\Delta P$  value.

Then, second exhaust valve (10) serving to the suction of the vacuum nozzle cleaning opens and during one complete cycle keeps opened. When the cycle is finished  $\Delta P$  value is zero and second exhaust valve (10) closes.

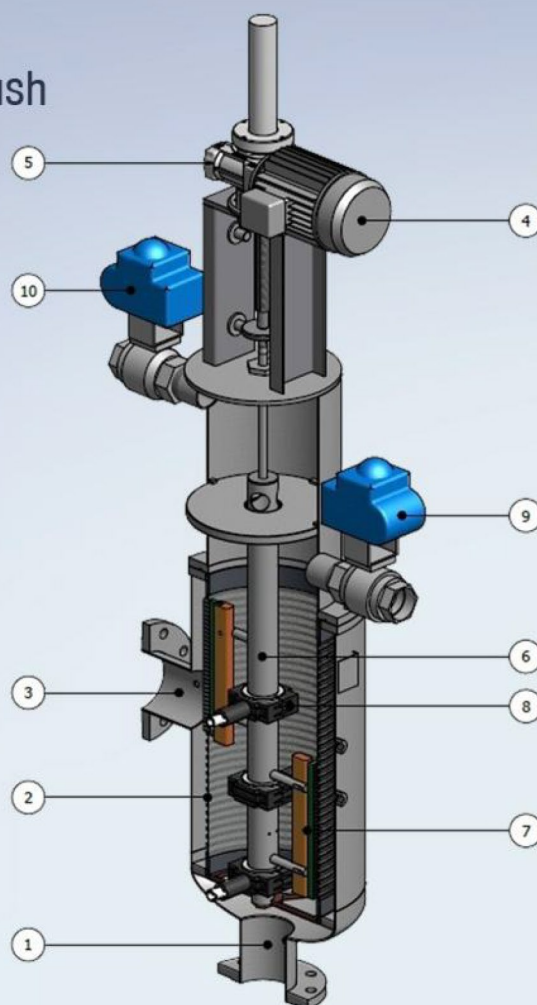
During all this process, filtration is not interrupted in the first or second cycle.

### Animation video:

<https://www.youtube.com/watch?v=-l9b-p77IPM>

### Notice

Specially during first brush cleaning, pressure may drop more than expected and during all this cleaning period (depending on the inlet pressure and the flow) the amount of discharge drainage water will be higher as for standard filters.



As the design and engineering team of Filternox® we are ready to find the best and most feasible solution to remove the **noxious** particles from your water