

# Automatic filter 863R



## Automatically Self-Cleaning Electric Screen Filter:

The **UDI 863R** series is an automatic self-cleaning filter series that offers the most efficient solution to water filtering with varying dirt loads or fluctuating flow rates. The self-cleaning system draws the filter cake from the filter screen discharging the dirt without interrupting the filtration process. The entire filter surface is flushed within 20-30 seconds using minimum flushing water.

This unique design combines a suction scanner with Self Adjusting suction nozzles - to remove and discharge dirt from the filter surface – driven by an electric motor and an internal reversing direction screw which enables a continuous linear movement (back and forth) of the cleaning mechanism.

The **UDI** Automatic Self-cleaning Electric Screen Filters are available in a wide range of sizes and filter perforations for a broad range of applications. The filters are available in 2" to 14" (DN 50 mm - 350 mm) connections with flows up to 550 m<sup>3</sup>/h. Filter perforations are available in 400 to 10 microns.

Possibilities include adaptations to the water quality using, for instance, an enlarged filter surface, and an advanced flushing programme. For high flow applications, numerous filters can be installed to form a filter unit of very high capacity.

## Applications:

- Process water
- Cooling water processes
- Industrial wastewater
- Recirculation systems
- Irrigation systems
- Pre-filtration of disinfection equipment



\* Switchbox and airvalve are optional (premiums)



Subject to modifications.  
No liability accepted for errors or misprints

## Automatic filter 863R Technical data

### Advantages of the UDI Automatic Self-Cleaning Electric Screen Filter:

- Efficient and automatic self-cleaning system capable of processing high dirt loads
- Low pressure loss
- Continuous uninterrupted filtration during the flushing process
- Long life as a result of polyester-coated steel, stainless steel filterscreen and flushing mechanism
- High filtration efficiency resulting from the unique stainless steel Super Screen
- Low flushing capacity at minimal loss of flushing water
- pH 5-9 resistant
- Max. operating temperature 55 ° C, up to 65° C on request

### Unique Super Screen Filter Element:

The Super Screen filter is a multi layer stainless steel 316L wire mesh sintered together. This creates a self-supporting structure with a very large effective filter surface to achieve excellent filtering results.

### Coating:

In preparation for the coating, the filters are provided with a special layer of zinc phosphate. This treatment ensures proper adhesion of the coating, and protects against rusting-through from the inside. Subsequently, the polyester coating is applied electrostatically, both internally and externally, before being furnace-hardened. The entire process involves 7 steps, and results in a perfect coating with a thickness of approximately 120 microns.

### Self-Adjusting flushing nozzle:

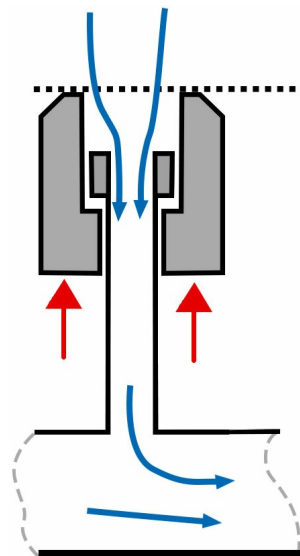
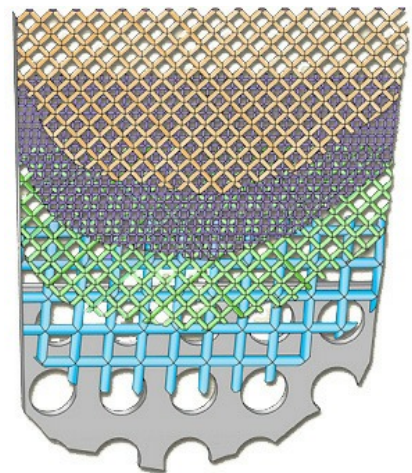
The current generation of Automatic 863R filters is equipped with patented nozzles (S.A.- patent pending) that, during the flushing process, due to hydraulic differences, follow the filter surface as close as possible. This results in highly efficient cleaning with as little drain water as possible and reliable operation.

### Automatic Reversing Mechanism:

The internal flushing mechanism automatically creates a linear movement (back and forth), eliminating the use of limit switches and the need for a 3-phase connection. This simplifies the control and guarantees easy, efficient and reliable operation.

### Materials:

- Filter housing: Polyester-coated steel (option: stainless steel)
  - Filter element:
    - coarse screen: Perforated PVC
    - fine screen: Multi layer sintered stainless steel wire mesh
  - Rubbers: Natural rubber (NR)
- Filter perforations: 400-300-200-130-100-80-50 microns (on request: 40-30-25-10 microns)



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### Operation:

Filtration process in two stages:

**first stage- coarse filtration:** the raw water enters the filter through the inlet and passes through the coarse screen (1) to the inside of the filter. This prevents passage of large particles which may damage the filter internals.

**second stage- fine filtration:** after coarse filtration the water flows through the inside of the filter to the internal side of the fine screen (2). The water passes through the screen from inside out to the filtered water chamber (8) and flows out through the outlet. As the water passes through the fine screen, the solids accumulate creating a cake of dirt on the inner surface of the screen; as a result the pressure drop across the screen increases, and when it reaches a preset level (0.5 bar) the filter controller activates the self cleaning process.

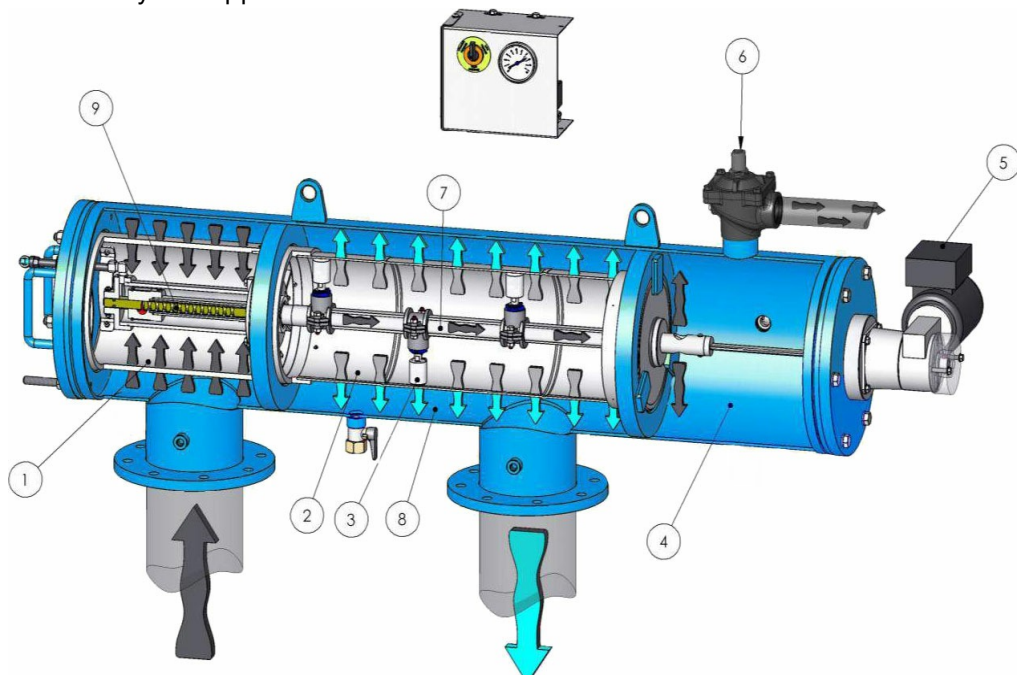
### Flushing cycle:

On a flushing command, the flushing valve (6) opens to the atmosphere and pressure drop is created in the flushing chamber (4). As a result, water with dirt from the screen begins flowing through the suction nozzles (3) and collector pipe (7) to the drain via flushing chamber (4) and flushing valve (6). The pressure differential created at the suction nozzles provides a local back-flushing effect, drawing a portion of the water back through the screen and removing the accumulated solids. The nozzles are self-adjusting in accordance with the screen surface. The accurate contact point between the unique self-adjusting nozzle and the screen insures an increased suction ability and decreases significantly the water consumption during flushing. Simultaneously a unidirectional electric motor with the worm gear (5) starts moving the collector with the suction nozzles in helical movement to cover the entire screen's surface, enabling complete and effective cleaning of the screen. The electrical motor is connected through the collector to a reversing direction unit (9) which enables a continuous linear movement (back and forth) of the collector.

The filter is equipped with a pressure gauge and a differential pressure switch that activate the cleaning process, using a computer, PLC control or switch box, in the most efficient manner. Self-cleaning takes place by moving the suction system in a spiral movement across the entire filter surface, removing the dirt off the surface and subsequently draining it.

### Customisation:

Upon request, each Automatic 863R filter can be adapted to meet design, water quality, and type of dirt. Consult your supplier.

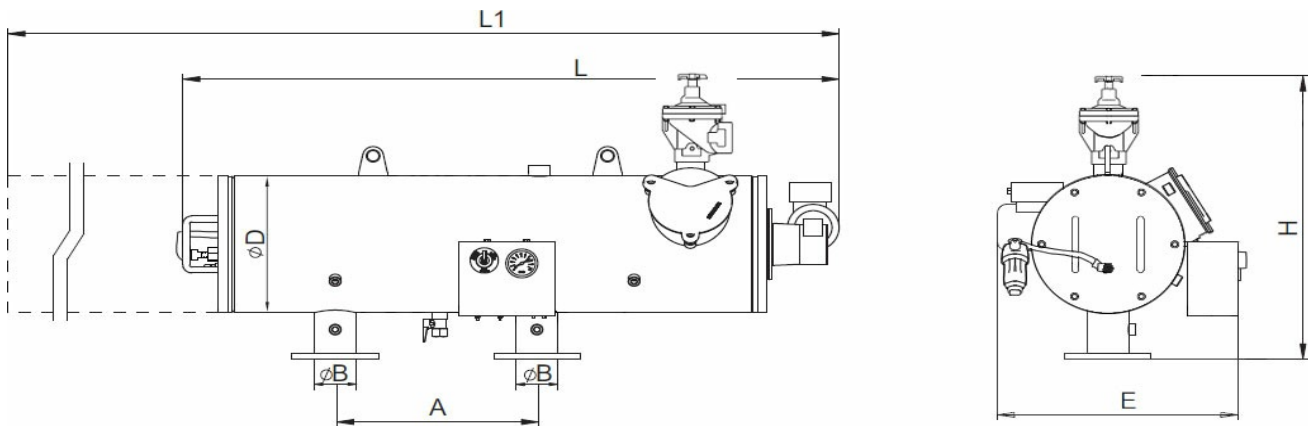


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## Technical data

Model		7863R02	7863R03	7863R04	7863R06	7863R086	7863R08	7863R10	7863R12	7863R14
Connection	inch	2"	3"	4"	6"	6"	8"	10"	12"	14"
Capacitt*	m <sup>3</sup> /h	25	40	80	150	150	300	400	470	550
Diameter	inch	12"	12"	12"	12"	16"	16"	16"	16"	16"
Flange (ISO 7005 PN10)		50	80	100	150	150	200	250	300	350
Bolt circle dia.	mm	125	160	180	240	240	295	350	400	460
Bolt holes	mm	4Ø18	8Ø18	8Ø18	8Ø22	8Ø22	8Ø22	12Ø22	12Ø22	12Ø22
Weight	kg	175	178	212	215	308	312	318	350	376
Length	mm	1480	1480	1660	1660	1925	1925	1925	2225	2225
Pitch in/out	mm	430	430	600	600	780	780	780	990	990
Drain valve	inch	1½"	1½"	2"	2"	2"	2"	2"	2"	2"
Filtersurface	cm <sup>2</sup>	2500	2500	4000	4000	6000	6000	6000	8000	8000
Max. pressure	bar	10	10	10	10	10	10	10	10	10
Min. flush. pres.	bar	2	2	2	2	2	2	2	2	2
Min. flush. cap.	m <sup>3</sup> /h	8	8	10	10	12	12	12	14	14
Flushing water	ltr	45	45	55	55	100	100	100	115	115
Electric motor	1 fase 230V/50Hz (other voltages on request)									

\* capacity based on 200 micron filter perforation and water of a good quality



Model	B	D	A	E	H	L	L1
	mm	inch	mm	mm	mm	mm	mm
2"	50	12"	430	540	650	1480	2480
3"	80	12"	430	540	650	1480	2480
4"	100	12"	600	540	650	1660	2780
6"	150	12"	600	540	650	1660	2780
8"	200	16"	780	575	780	1925	3280
10"	250	16"	780	575	780	1925	3280
12"	300	16"	990	575	780	2225	3830
14"	350	16"	990	575	780	2225	3830