

## PRESSURE FILTERS RFA

### Automatic Pressure Filters

#### MACHINE DESCRIPTION

The physical filtration systems, mod. RFA, of the primary and effluent waters are divided in 2 categories:

1. FILTRATION USING QUARTZ SAND.
2. FILTRATION BY ADSORPTION USING ACTIVATED CARBON or ZEOLITE.

The quartz sand filter captures suspended particles having size as small as 20 microns. The activated carbon absorptive filter captures colloidal and suspended particles.



The process is cyclical: **FILTRATION THEN WASHING**. During filtration, the effluent is introduced inside the filter and forced through the filtering layer made of quartz sand and activated carbon in the bottom.

During the wash cycle, clean water (or air) is introduced inside the filter from the bottom of the container. This injection causes the expansion of the filtering layer and its resultant washing, the wash cycle is automatic.

#### WORKING LOGIC FOR AUTOMATIC PRESSURE FILTERS RFA

The working of sand filters is divided into two phases which are the following.

**Filtration:** The effluent enters the filter through the inlet valve and flows through the filtering material (activated carbon and/or quartz sand) placed on the nozzleholder filter plate or at the bottom of the filter.

**Regeneration of filtration layer:** The regeneration phase may be manual by using the hand wheels on the valves, or automatic by means of the following methods:

1. TIMED.
2. INPUT / OUTPUT PRESSURE DIFFERENCE.
3. VOLUME OF FILTERED WATER.
4. SET-POINT ON FLOW METER WITH CALIBRATED FLANGE.

#### Features of pressure filters:

1. SEPARATE MICROSCOPIC SUSPENDED SOLIDS.
2. ELIMINATE ODOURS.
3. ELIMINATE COLOURS.
3. REMOVE IRON.
4. REMOVE MANGANESE.

#### Configuration available:

1. REGENERATION BY WASHWATER ONLY (5 VALVES).
2. REGENERATION BY WATER AND AIR (6 VALVES)  
- REQUIRES PED CERTIFICATION.



**R.E.M. RFA pressure filters can be equipped with the following accessories:**

- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.
- Pneumatic valves.
- Electrically actuated valves.
- Safety release valve.
- Backwash pump.
- Food grade painting (for drinking water).

**STANDARD DIMENSION DATA FOR PRESSURE FILTERS FA**

RFA MODELS	RFA600	RFA800	RFA900	RFA1000	RFA1200	RFA1400	RFA1600	RFA1800	RFA2000	RFA2200	RFA1600	RFA2800	RFA3000
ØA - mm	600	800	900	1000	1200	1400	1600	1800	2000	2200	2600	2800	3000
B - mm	1900	2000	2300	2400	2600	2750	3000	3200	3300	3500	3600	3700	3800
Inlet Outlet Discharge	DN40 PN16	DN40 PN16	DN40 PN16	DN40 PN16	DN40 PN16	DN50 PN16	DN65 PN16	DN65 PN16	DN80 PN16	DN100 PN16	DN100 PN16	DN100 PN16	DN100 PN16
AIR INLET	DN40 PN16	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN50 PN10	DN50 PN10	DN65 PN10	DN65 PN10	DN65 PN10	DN65 PN10

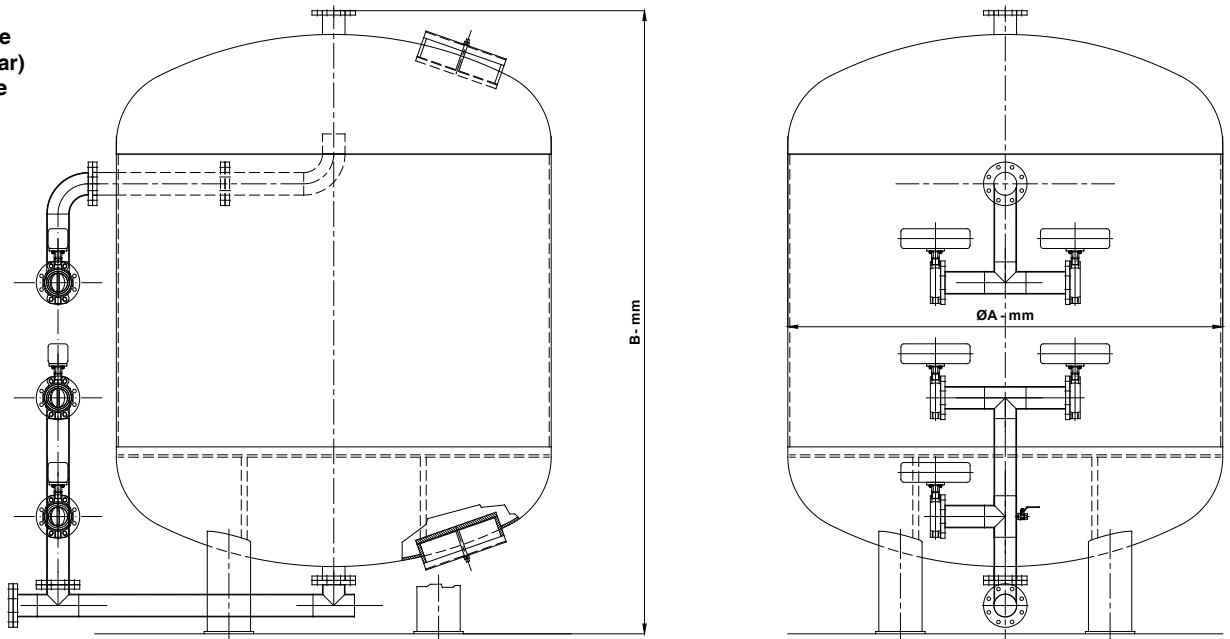
**SAND AND ACTIVATED CARBON PRESSURE FILTERS: DATA CALCULATED AT VELOCITY V=10 M/H.**

**IMPORTANT! FOR SMALL FILTERS A NOZZLEHOLDER BAR IS PROVIDED WHILE LARGE FILTERS HAVE NOZZLEHOLDER PLATE WITH ABOUT 54 NOZZLES / SQUARE METER.**

**Fabricated parts material: \*Painted Mild Steel / \*Stainless Steel AISI 304 / \*Stainless Steel AISI 316**

**n.b.: the manufacturer may modify some dimensions or sizes without prior information**

- Q<sub>e</sub> : Working capacity**
- Q<sub>c</sub> : Backwash flow rate**
- Q<sub>a</sub> : Air flow rate (0.5 bar)**
- PR<sub>e</sub> : Working pressure**



RFA MODELS	RFA600	RFA800	RFA900	RFA1000	RFA1200	RFA1400	RFA1600	RFA1800	RFA2000	RFA2200	RFA1600	RFA2800	RFA3000
Q <sub>e</sub> (m³/h)	4	5	7	8	10	15	20	25	30	40	50	60	70
Q <sub>c</sub> (m³/h)	6	8	10	16	20	30	40	50	60	80	100	120	140
Q <sub>a</sub> (Nm³/h)	25	30	35	40	50	75	100	125	150	200	250	300	350
PR <sub>e</sub> (bar)	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4