

# TECHNICAL DATA SHEET-

Rev 08.02.2024



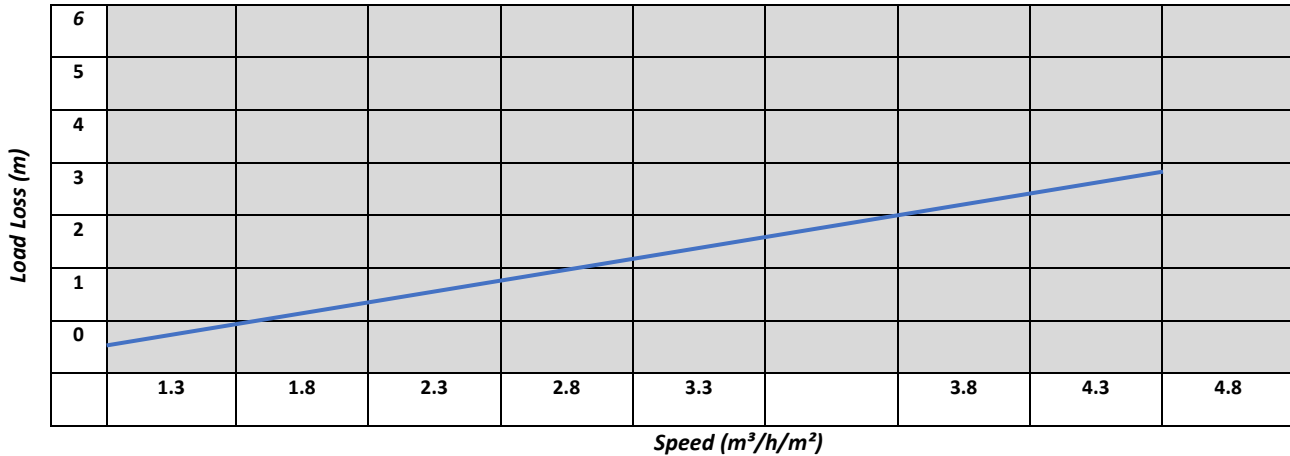
## 1. EFFICPOOL FILTER

### HIGH EFFICIENCY REGENERATIVE FILTRATION

Efficpool medium regeneration filtration system, with perlite. Especially designed for community swimming pools and aquatic facilities with large volumes of water. High filtration capacity.



Efficpool filter pressure drop curve



HPRFV FILTER MODELS	HPRFV-600 HPRFV-600L	HPRFV-900 HPRFV-900L	HPRFV-1200 HPRFV -1200L	HPRFV-1400 HPRFV-1400L	HPRFV-1700 HPRFV-1700L
<b>PRODUCT CODE</b>	WPP-HPRFV-600 WPP-HPRFV-600L	WPP-HPRFV-900 WPP-HPRFV-900L	WPP-HPRFV-1200 WPP-HPRFV -1200L	WPP-HPRFV-1400 WPP-HPRFV-1400L	WPP-HPRFV-1700 WPP-HPRFV 1700L
Filtration area: m2	11 15	32 41	55 70	80 105	120 150
Min-max filtration flow rate: m3/h	20-53 20-72	42-154 53-197	72-264 91-336	104-384 136-504	156-576 195-720
Perlite load: kg	5 6	13 16	22 28	32 42	48 60

You can check our range of AISI-316L stainless steel models

**Filter designed for filtration of swimming pools, water parks and ponds.  
With high filtration quality, great water savings and occupying a small space.**

### 1.1 HPRFV EFFICPOOL FILTER CHARACTERISTICS

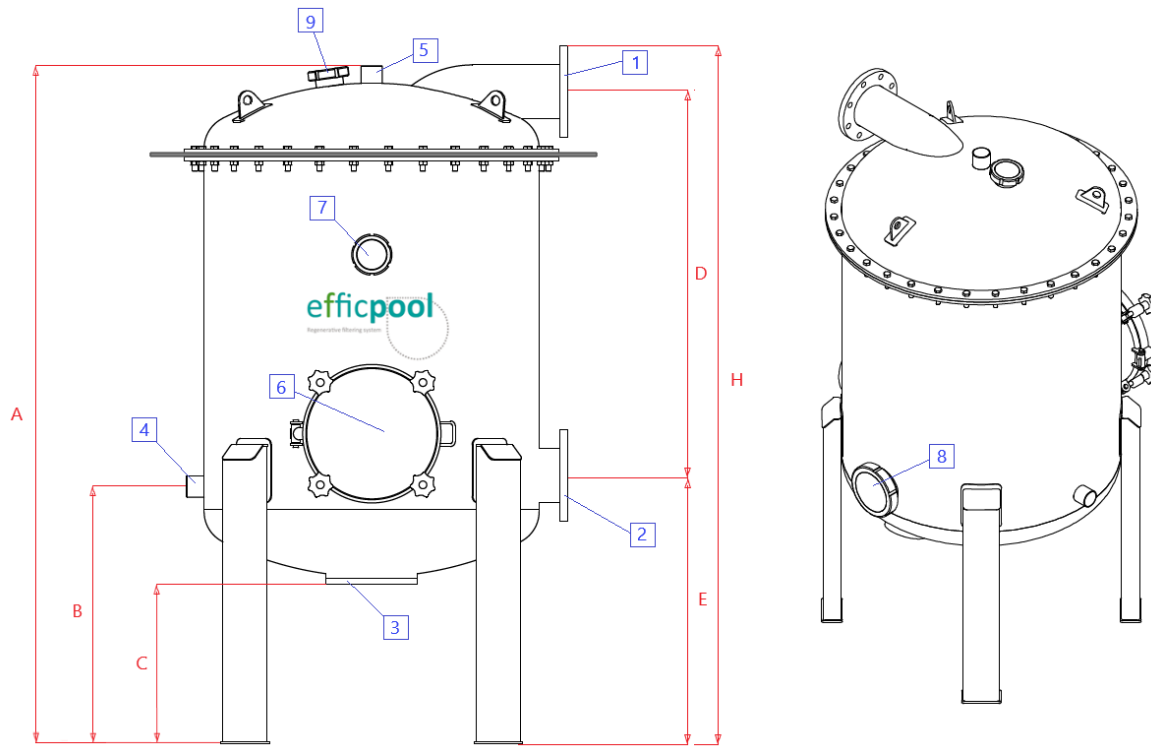
- Regenerative perlite medium filter, able to retain up to 1 micro. Does not require backwashing for operation. Filter made of fibreglass reinforced polyester. Manifold plate can be disassembled with screws. Candles with threaded manifolds that can be easily cancelled or replaced individually. Access manhole with no screws for maintenance of filter and inner elements. Manifold and manifold plate sight glass. Patented automatic vibration regeneration system. Automatic manifold cleaning system with a hydroclone vortex cleaning system. Semiautomatic perlite vacuum loading system. Filtration speed from 1.3 to 4.8 m<sup>3</sup>/h/m<sup>2</sup>. Upper body cover, with the same diameter as the filter, to completely open the access to the filter's interior. Inlet and outlet glycerine pressure gauge panel. It includes a full manual purge, automatic purge and perlite vacuum kit with manual valves. Maximum daily electricity consumption of full filter, 0.7kWh/day. Lower drainage valve enables complete filter drainage. Working temperature 1-45 °C. Working pressure up to 3.5bar.

#### Specifications:

- Filtration area (depending on model) m<sup>2</sup>
- Min-max filtration flow rate: (depending on model) m<sup>3</sup>/h
- Perlite load: (depending on model) kg
- DN80 sight glass to inspect the candles.
- DN80 sight glass to inspect the manifold plate.
- DN150 sight glass to inspect and access the filter body interior. (depending on model)
- 400 mm side access manhole without screws, for maintenance inside the filter. *From model 900 and above.*
- Inlet connections for water to be filtered, horizontal DIN flange, (DN depending on model)
- Outlet connections for filtered water, horizontal DIN flange, (DN depending on model)
- Flanged lower drainage for complete drainage, with horizontal DIN flange, (DN depending on model)
- Power supply 400V III 50Hz
- Maximum peak consumption 1.5kWh



## 1.2 CONNECTIONS AND DIMENSIONS

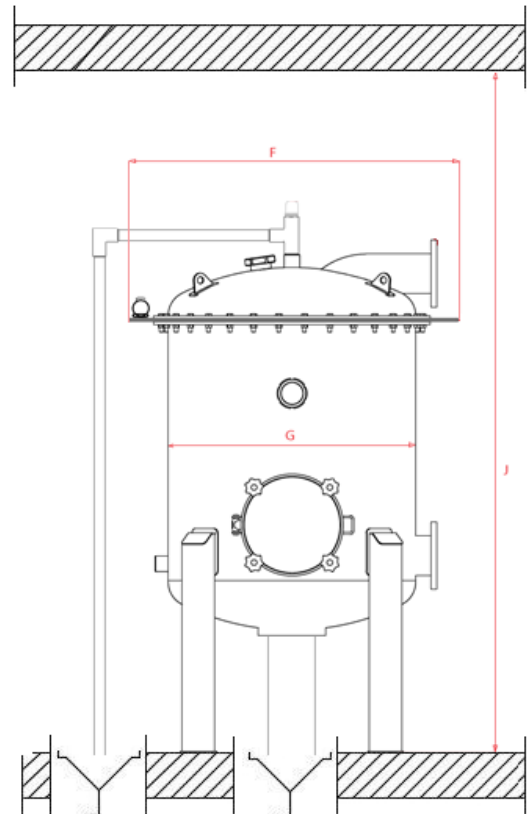


POS	ITEM	HPRFV-600 HPRFV-600L	HPRFV-900 HPRFV-900L	HPRFV-1200 HPRFV -1200L	HPRFV-1400 HPRFV-1400L	HPRFV-1700 HPRFV-1700L
1	Water outlet connection: (flange)	DN100 DN125	DN150 DN150	DN250 DN250	DN300 DN300	DN300 DN300
2	Water inlet connection: (flange)	DN100 DN125	DN150 DN150	DN250 DN250	DN300 DN300	DN300 DN300
3	Drain connection: (flange)	DN100	DN125	DN200	DN250	DN300
4	Perlite inlet connection: (H thread)	2" RH	2" RH	2" RH	2" RH	2" RH
5	Purge connection: (female thread)	2" RH	2" RH	2" RH	2" RH	2" RH
6	Manhole: (access)	D.150	D.400	D.400	D.400	D.400
7	Candle sight glass: (threaded)	DN80	DN80	DN80	DN80	DN80
8	Back access sight glass: (threaded)	-	DN150	DN150	DN150	DN150
9	Manifold plate sight glass: (threaded)	DN80	DN80	DN80	DN80	DN80

MODEL	(A)mm Aut purge outlet height	(B)mm Perlite input height	(C)mm Drain flange free height	(D)mm Bypass dimension	(E)mm Inlet height	(H)mm Total height disassembled
HPRFV-600 HPRFV-600L	2080 2350	700 750	400 450	1270 1570	720 720	2100 2400
HPRFV-900 HPRFV-900L	2350 2650	800 800	500 500	1360 1660	900 900	2400 2700
HPRFV-1200 HPRFV -1200L	2600 2900	1000 1000	600 600	1420 1720	1080 1080	2700 3000
HPRFV-1400 HPRFV-1400L	2800 3100	1100 1100	650 650	1465 1765	1210 1210	2900 3200
HPRFV-1700 HPRFV-1700L	3100 3400	1200 1200	700 700	1645 1945	1330 1330	3200 3500

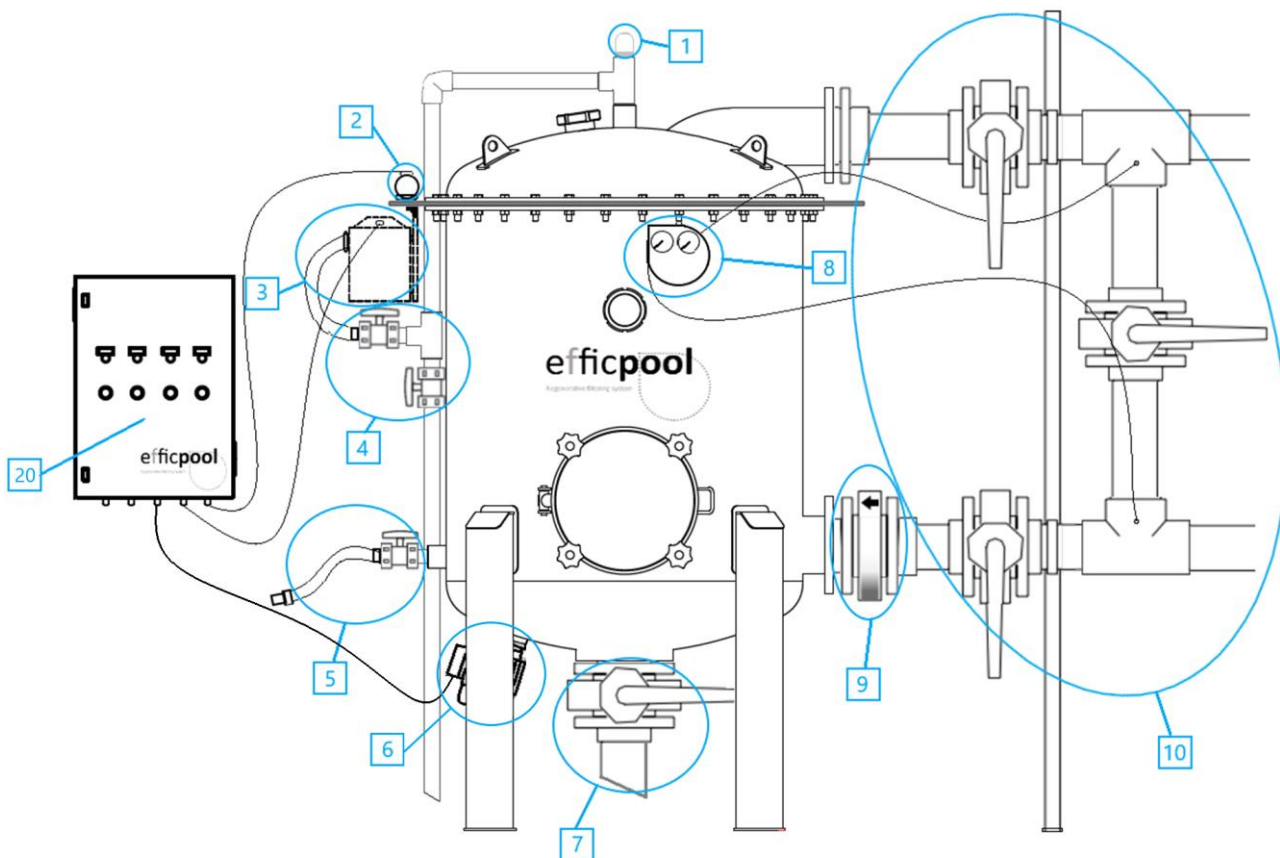
### Filter height cross-section and drains

MODEL	(F) TOTAL WIDTH	(G) INTERNAL DIAMETER	(J) REQUIRED FREE HEIGHT
HPRFV-600 HPRFV-600L	770 mm 770 mm	600 mm 600 mm	2500 mm 2800 mm
HPRFV-900 HPRFV-900L	1400 mm 1400 mm	900 mm 900 mm	2900 mm 3200 mm
HPRFV-1200 HPRFV -1200L	1600 mm 1600 mm	1200 mm 1200 mm	3200 mm 3500 mm
HPRFV-1400 HPRFV-1400L	1810 mm 1810 mm	1400 mm 1400 mm	3400 mm 3700 mm
HPRFV-1700 HPRFV-1700L	2200 mm 2200 mm	1700 mm 1700 mm	3700 mm 4000 mm



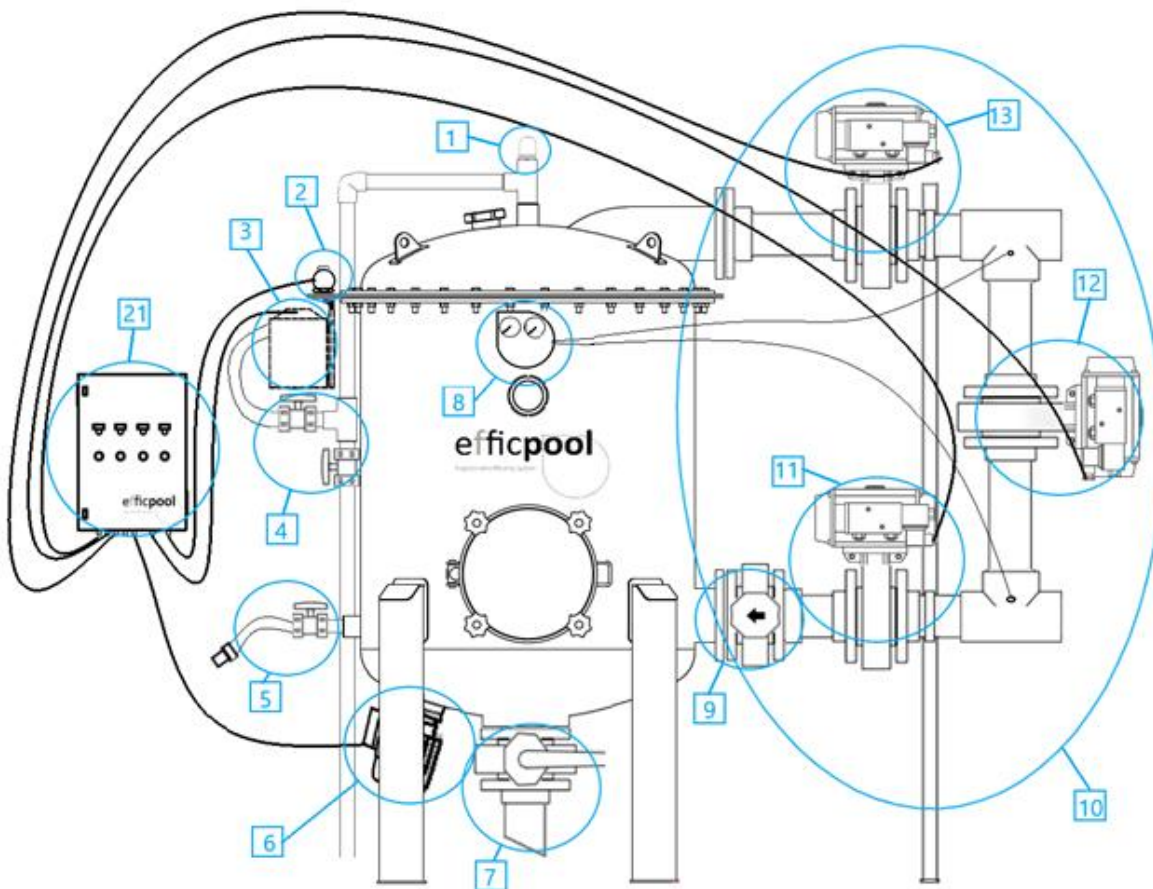
### 1.3. COMPONENTS OF THE BASIC MANUAL EFFICPOOL SYSTEM

Pos	COMPONENT	Pos	COMPONENT
1	SUCTION PURGE, 1" M TRIPLE EFFECT.	7	PVC DRAIN VALVE
2	ELECTRIC VIBRATOR MVE 200/3M 230 II 0.18KW	8	PRESSURE GAUGE PANEL
3	EFFICPOOL VACUUM 230V II 50Hz 1200W	9	NON-RETURN VALVE
4	VACUUM MANIFOLD VALVE KIT, PVC-63mm	10	BYPASS KIT, 3 MANUAL VALVES
5	PVC-63mm VALVE KIT + PERLITE LOADING HOSE	20	MANUAL BYPASS BASIC CABINET
6	CANDLE VORTEX CLEANING SYSTEM 400V III		



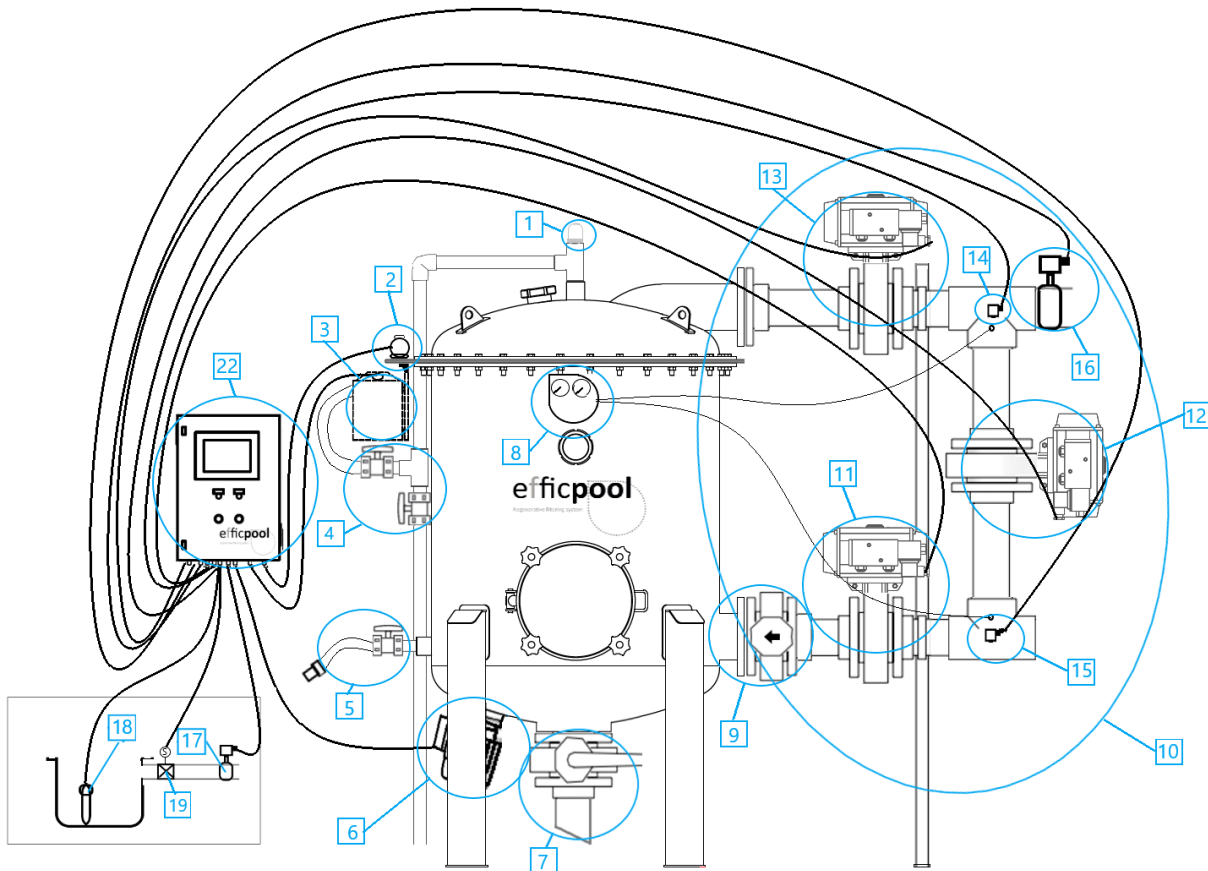
#### 1.4. COMPONENTS OF THE BASIC AUTOMATIC EFFICPOOL SYSTEM

Pos	COMPONENT	Pos	COMPONENT
1	SUCTION PURGE, 1" M TRIPLE EFFECT.	8	PRESSURE GAUGE PANEL
2	ELECTRIC VIBRATOR MVE 200/3M 230 II 0.18KW	9	NON-RETURN VALVE
3	EFFICPOOL VACUUM 230V II 50Hz 1200W	10	BYPASS KIT, 3 AUTOMATIC VALVES
4	VACUUM MANIFOLD VALVE KIT, PVC-63mm	11	INLET PNEUMATIC VALVE
5	PVC-63mm VALVE KIT + PERLITE LOADING HOSE	12	BYPASS PNEUMATIC VALVE
6	CANDLE VORTEX CLEANING SYSTEM	13	OUTLET PNEUMATIC VALVE
7	PVC DRAIN VALVE	21	AUTOMATIC BYPASS BASIC CABINET



### 1.5. COMPONENTS OF THE EFFICPOOL PRO SYSTEM

Pos	COMPONENT	Pos	COMPONENT
1	SUCTION PURGE, 1" M TRIPLE EFFECT.	11	INLET PNEUMATIC VALVE
2	ELECTRIC VIBRATOR MVE 200/3M 230 II 0.18KW	12	BYPASS PNEUMATIC VALVE
3	EFFICPOOL VACUUM 230V II 50Hz 1200W	13	OUTLET PNEUMATIC VALVE
4	VACUUM MANIFOLD VALVE KIT, PVC-63mm	14	OUTLET PRESSURE SENSOR
5	PVC-63mm VALVE KIT + PERLITE LOADING HOSE	15	INLET PRESSURE SENSOR
6	CANDLE VORTEX CLEANING SYSTEM	16	RECIRCULATION FLOW RATE SENSOR (ANALOGUE)
7	PVC DRAIN VALVE	17	SUPPLY FLOW RATE SENSOR (DIGITAL)
8	PRESSURE GAUGE PANEL	18	BALANCE TANK LEVEL SENSOR
9	NON-RETURN VALVE	19	SUPPLY ELECTROVALVE 2"
10	BYPASS KIT, 3 AUTOMATIC VALVES	22	PRO CONTROL CABINET



## 2. ADDITIONAL ITEMS

To complete the system, additional to the filter, a BYPASS KIT and a CONTROL CABINET are required.



Automatic Bypass



Manual Bypass

ITEMS TO COMPLETE THE EFFICPOOL FILTER	
BYPASS KIT	<ul style="list-style-type: none"> <li>MANUAL bypass kit. (3 valves)</li> <li>AUTOMATIC bypass kit. It enables the regeneration to be performed without stopping the recirculation.</li> <li>AUTOMATIC PRO bypass kit. With pressure and flow rate sensors. (only for the PRO cabinet)</li> </ul>
CONTROL	<ul style="list-style-type: none"> <li>MANUAL BYPASS basic control cabinet.</li> <li>AUTOMATIC BYPASS basic control cabinet.</li> <li>Motorised control cabinet (<b>EFFICPOOL PRO</b>).</li> <li>Motorised control cabinet with VFD (<b>EFFICPOOL PRO</b>).</li> </ul>
OTHER OPTIONS	<ul style="list-style-type: none"> <li>Automatic conductivity purge kit (1 ½" electrovalve + probe)</li> <li>Tank control kit (2" supply electrovalve + proportional level probe + supply flow rate sensor) Only for PRO cabinet</li> </ul>



BASIC Cabinet



PRO Cabinet



PRO VFD Cabinet

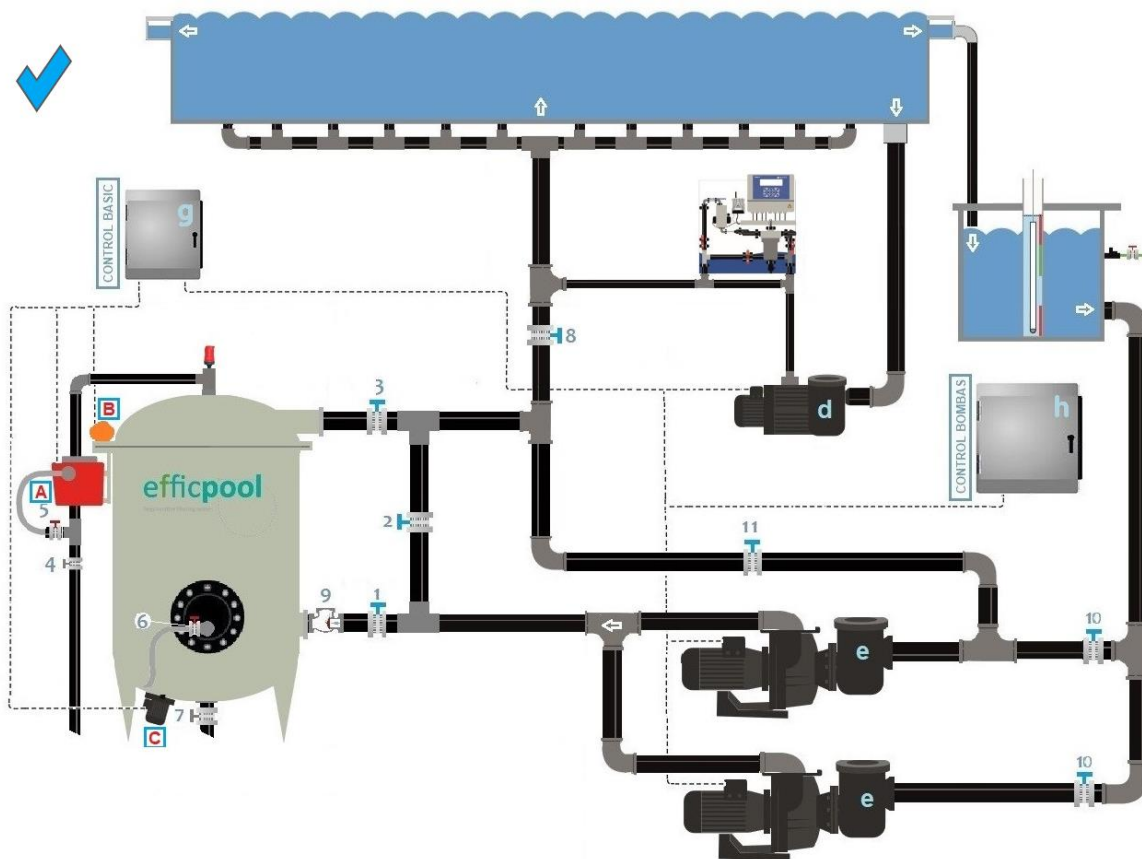


### 3. INSTALLATION RECOMMENDATIONS

#### 3.1 BASIC INSTALLATION WITH MANUAL BYPASS

##### Requirements for installation

- Electrical power: 400V III at 50Hz,
- Maximum consumption: kW 2.0kW (without pumps)

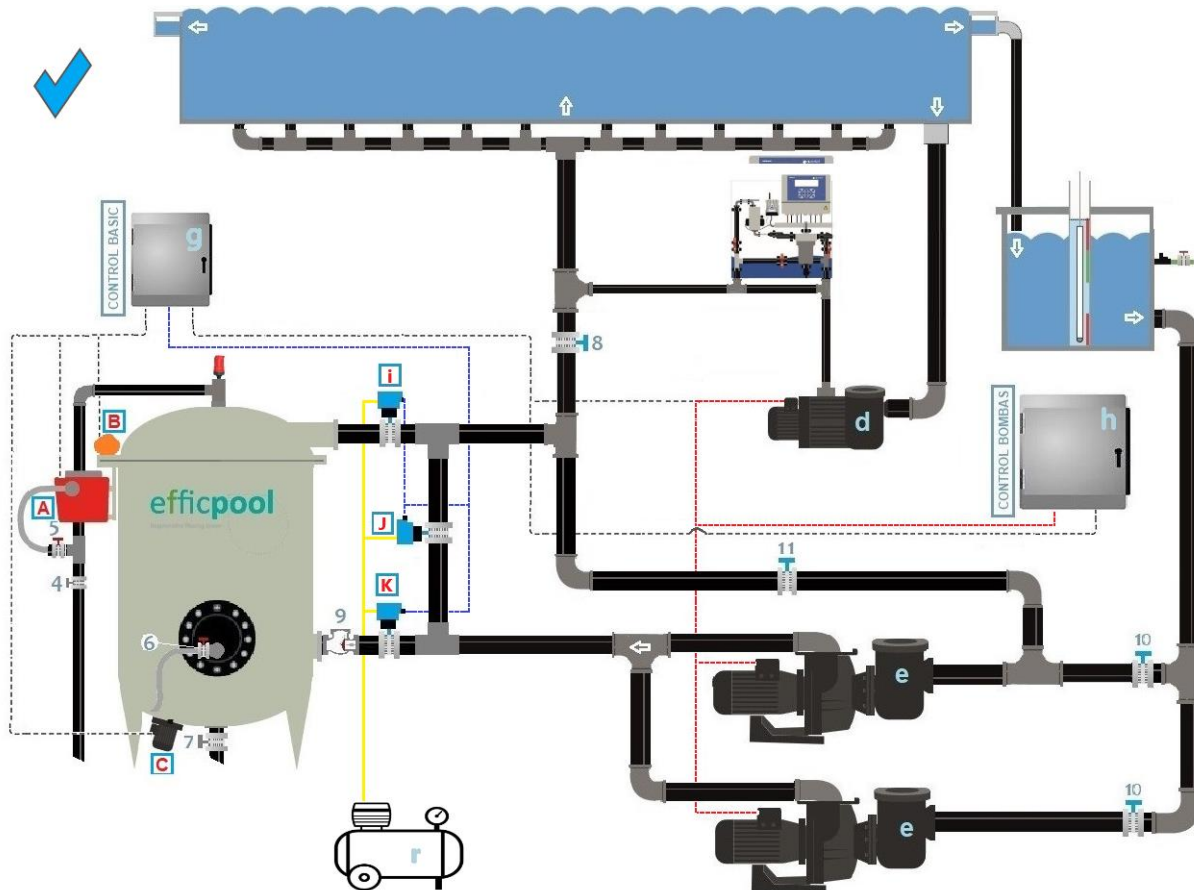


A	Perlite vacuum	1	(bypass) Inlet valve	8	Discharge valve
B	Electric vibrator	2	(bypass) Recirculation valve	9	Check valve
C	Candle vortex cleaner	3	(bypass) Outlet valve	10	Suction valve
d	Treatment pump	4	Purge / discharge valve	11	Filter treatment bypass valve
e	Filtration pump/s	5	"Vacuum" suction valve		
g	BASIC cabinet	6	Perlite input valve		
h	Pump control	7	Drain valve		

### 3.2 BASIC INSTALLATION WITH AUTOMATIC BYPASS

#### Requirements for installation

- AUTOMATIC Bypass: Filtered compressed air (1000l/min at 6bar) or 50l tank at 6bar, for each bypass.
- Electrical power: 400V III at 50Hz,
- Maximum consumption: kW 2.0kW (without pumps)

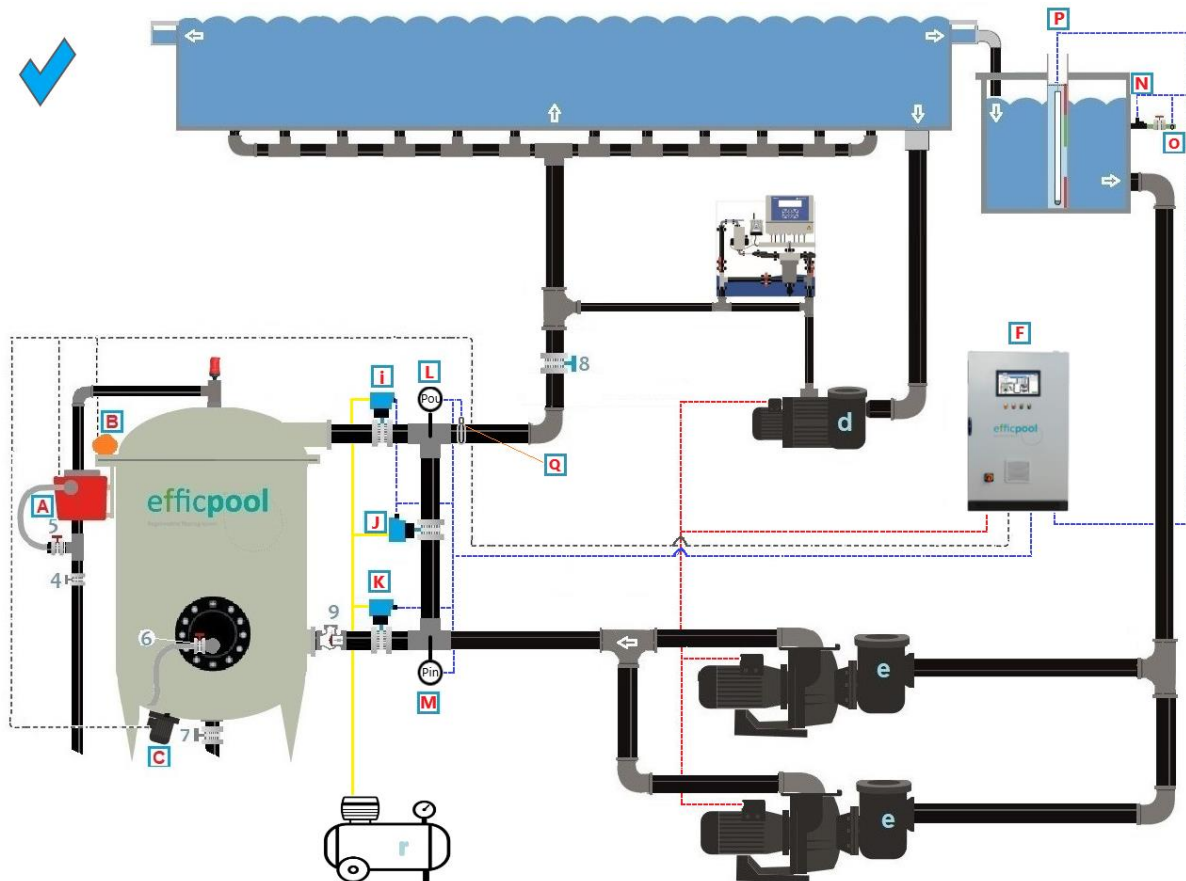


A	Perlite vacuum	I	Outlet pneumatic valve	6	Perlite loading input valve
B	Electric vibrator	J	Bypass pneumatic valve	7	Drain valve
C	Candle vortex cleaner	K	Inlet pneumatic valve	8	Discharge valve
d	Treatment pump (not included)	r	Air compressor (not included)	9	Inlet check valve
e	Filtration pump/s (not included)			10	Pump suction valve
g	Automatic BYPASS BASIC cabinet	4	Purge / discharge valve	11	Filter disinfection valve
h	Pump control (not included)	5	Suction valve (vacuum)		

### 3.3 PRO AND PRO VFD (variable frequency drives) INSTALLATION, WITH AUTOMATIC BYPASS

#### Requirements for installation

- AUTOMATIC Bypass: Filtered compressed air (1000l/min at 6bar) or 50l tank at 6bar, for each bypass.
- Electrical power: 400V III at 50Hz,
- Maximum consumption: kW 2.0kW (without pumps)

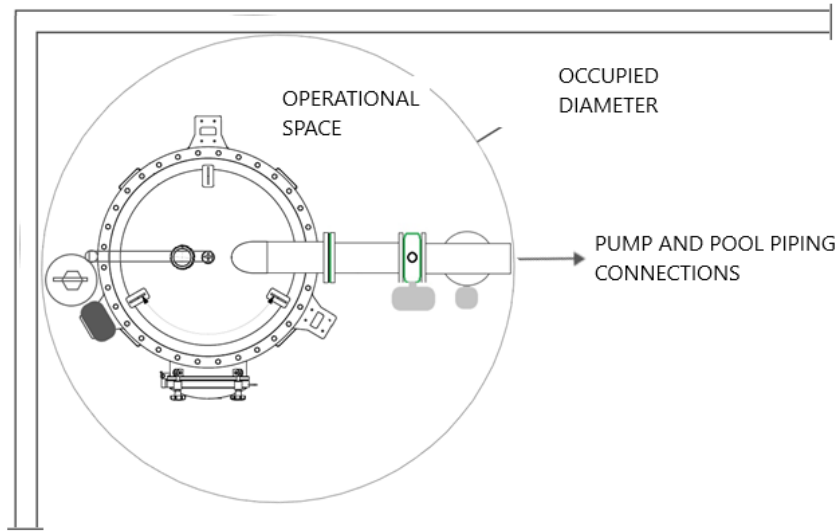


A	Perlite vacuum	K	Inlet pneumatic valve	4	Purge / discharge valve
B	Electric vibrator	L	Outlet pressure sensor	5	Suction valve (vacuum)
C	Candle vortex cleaner	M	Inlet pressure sensor	6	Perlite loading input valve
d	Treatment pump (not included)	N	Supply electrovalve	7	Drain valve
e	Filtration pump/s (not included)	O	Fresh water flow rate sensor	8	Discharge valve
F	PRO / PRO-VFD Cabinet	P	Tank level probe	9	Inlet check valve
I	Outlet pneumatic valve	Q	Recirculated water flow rate sensor		
J	Bypass pneumatic valve	r	Air compressor (not included)		

## 4. SITE AND WEIGHTS

### Space requirements

The Efficpool filter requires some space for maintenance. Below, we show the working diameter that must be respected around the filter. It also includes the recommended height.



MODEL	OCCUPIED DIAMETER	RECOMMENDED HEIGHT	ACCESS GATE WIDTH	NET WEIGHT	LOADED WEIGHT
HPRFV-600 HPRFV-600L	3000 mm 3000 mm	2500 mm 2800 mm	770 mm 770 mm	305 kg 330 kg	685 kg 770 kg
HPRFV-900 HPRFV-900L	3700 mm 3800 mm	2900 mm 3200 mm	1400 mm 1400 mm	820 kg 870 kg	1920 kg 2230 kg
HPRFV-1200 HPRFV -1200L	3700 mm 3850 mm	3200 mm 3500 mm	1600 mm 1600 mm	1200 kg 1400 kg	2700 kg 3040 kg
HPRFV-1400 HPRFV-1400L	4200 mm 4400 mm	3400 mm 3700 mm	1800 mm 1800 mm	1380 kg 1800 kg	3280 kg 4350 kg
HPRFV-1700 HPRFV-1700L	4900 mm 5300 mm	3700 mm 4000 mm	2300 mm 2300 mm	1990 kg 2890 kg	4790 kg 5440 kg

*\*Special non-standard products. Can be manufactured to size*

To request information, additional documentation,  
calculations for requirements or drawings, you can contact us on:

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