



VOLUMETRIC FILTER

MODELS:

T450

T500

T600

T700

T600B

T700B

WARNING - Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

WARNING - Never operate or test the circulation system at more than 4 bar.

WARNING - Never change the filter control valve position while the pump is running.

WARNING - Hazardous Pressure. Due to the high operation pressure, some components from the pump or the filter could be violent separated.

Do not operate the pool equipment if a system component is not assembled properly, damaged, or missing.

1. MAIN FEATURES:

Our Volumetric filter (fig.1) is a one-piece blow moulded filter made in high density polyethylene material manufactured to maximize the strength of the filter.

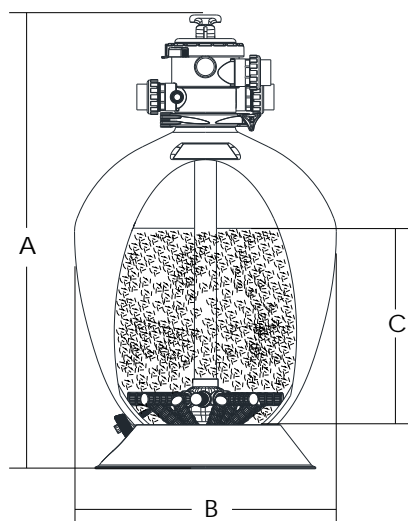


Fig 1. Volumetric filter

Product dimensions:

Model	A (mm)	B (mm)	C (mm)
T450	954	457	353
T500	1040	508	400
T600	1090	610	457
T700	1180	711	516
T600B	1142	610	457
T700B	1232	711	516

1.1. TECHNICAL FEATURES:

VOLUMETRIC FILTER						
Code	Model No.	Filtration area (m ²)	Valve connections	Max. working pressure (bar)	Max. Flow rate (m ³ /h)	Sand (kg)
88016003	T450	0.16	1.5" / 50 mm	4 bar	8	75
88016004	T500	0.2			10	95
88016046	T600	0.29			14.6	165
88016007	T700	0.39			19.5	200
88016047	T600B	0.29	2" / 63 mm		14.6	165
88016008	T700B	0.39			19.5	200

1.2. DOUBLE LAYERED FILTER:

Due to the double-layered lateral arms (fig. 2), the filtration bed is higher than other standard sand filters, offering a better quality of water and less frequency of backwash at the same conditions.



Fig 2. Double layered lateral arms

1.3. SPECIAL DRAIN CONNECTION:

Its special design allows to remove the water and also the sand from inside the filter through the connection drain (Fig. 3).

Removing the drain lid, only the water will come out from the filter. Unscrew the plastic filter with the cap of the lid for removing the sand (Fig. 4).



Fig 3. Filter drain



Fig 4. Filter drain components

1.4. MULTIPORT VALVE:

The filters incorporate a 6-ways multiport valve (Fig. 5) which covers all the necessary operations related with the filtration procedure: filtration, backwash, rinse, waste, recirculate and close (Fig. 6)



Fig 5. Multiport valve



Fig 6. Handle with all the possible positions

2. INSTALLATION:

It is recommended to install the filter as close as possible to the swimming pool and preferably below the surface of the water in the swimming pool and in such a way that the base lies completely stable upon a totally horizontal surface.

The place where the filter is installed should have enough ventilation and adequate drains so that, in case of an accident, the water can escape through the drain system, avoiding risk of damaging the installations.

Install the filter in a place with space enough to carry out the operation and maintenance services.

Sand should be loaded once the filter is installed into its exact location, following the instructions in the "SAND LOAD".

2.1. ASSEMBLY:

To assembly of the filter, proceed as follows:

- 1.- Some lateral arms could be not completely threaded. Check all the connections and thread them if necessary.
- 2.- Install the O´ring supplied in the plastic box together with this manual, between the valve multiport valve and the filter. (Make reference to 2.2 Assembly between Filter Tank and Valves)
- 3.- Move the valve and place it so that the connections are in the proper direction.
- 4.- Tight the clamp of the valve to the filter with the Star-Shaped Nut.
- 5.- Assembly the three connections of the selector valve. Each of these three outlets is clearly identified on the valve as follows.
 1. "PUMP": It is the connection of the pipe which comes from the filtration pump.
 2. "WASTE": it is the connection of the pipe which is going to the drain.
 3. "RETURN": it is the connection of the pipe going back to the pool.
- 6.- Assembly the manometer and the sight glass. Install their respective O´rings.

2.2. Assembly between Filter Tank and Valves:

- 1.- Preparation stage: apply lubricant or Vaseline on the assemble(Outer) surface of the valve and the inner surface of the Y shaped ring, as Fig. 7,8 and 9



Fig. 7



Fig. 8



Fig. 9

- 2.- Assembly Stage: Place the Y shaped Ring into the neck of the filter tank, insert the valve vertically into the filter tank, apply the force with hands equally, please note cannot add too much force on one side since that will easily break the Y shaped ring, Is special to Notice:the trumpet is with a downward exposure. as Fig. 10, 11 and 12

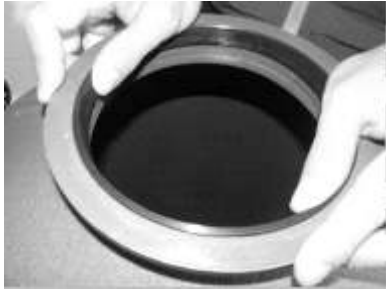


Fig. 10



Fig. 11



Fig. 12

3.- Assemble the Clamp Lock closely, as Fig. 13



Fig. 13

2.3. SAND LOAD:

In order to obtain maximum efficiency from your filter, it should be filled with silica sand or glass with a granulometry 0,5 - 0,8 mm.

The total amount of silica sand is indicated on the specifications label of the filter, as well as in this User Manual (see chapter MAIN FEATURES).

For loading the filter with sand, proceed as follows:

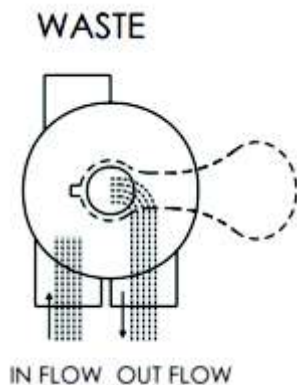
- 1.- Load up the filter with silica sand when it is already installed in its final position.
- 2.- Take off the multiport valve lid and the joint.
- 3.- Install the protector lid supplied in the plastic bag together with this manual. The protector lid matches perfectly with the neck of the filter and protects the central pipe of the filter from the silica sand.
- 4.- Fill the filter with water to half capacity.
- 5.- Slowly pour the required quantity of sand inside the filter.
- 6.- Remove the protector lid and install the multiport valve connected with the central pipe of the filter.
- 7.- Tight the clamp of the valve to the filter with the Star-Shaped Nut.

3. OPERATION PROCESS:

The multiport valve has a handle of 6 positions that selects any of the necessary operations to obtain the maximum efficiency from the filter.

IMPORTANT: When changing the position of the multiport valve, always switch off the pump before.

POSITION 1: FILTRATION



With the pump switched off, place the handle of the multiport valve in the "Filtration" position.

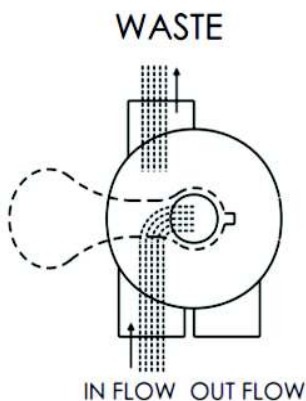
Switch on the pump.

During filtration, it is recommended to check the pressure gauge from the multiport valve. The silica sand forms thousands of channels while the water is descending through the filter, and retains the suspended solids (SS).

For time being, quantity of suspended solids retained in the sand increases and block the channels. This is why the pressure raises up inside the filter.

When the pressure gauge reaches 3.5 bars (50 PSI), the filter is saturated and it needs to proceed with the backwash.

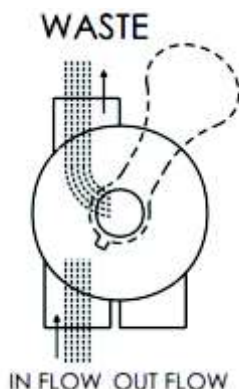
POSITION 2: BACKWASH



At this pressure the silica sand is unable to collect more impurities and must be washed as follows:

- 1.- Switch off the filtration pumps.
- 2.- Turn the multiport valve handle to the "BACKWASH" position.
- 3.- Switch on the pump and run it for around 2 minutes. The quality of the water wasted can be checked in the sight glass placed in the waste connection of the multiport valve.
- 4.- When this operation is completed, the dirt blocking the filter will have been removed.

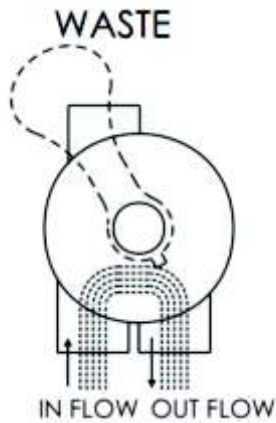
POSITION 3.- RINSE



After the carrying out the backwash operation on the filter, the water will be cloudy for a few seconds. Rinse prevents this water coming to the pool.

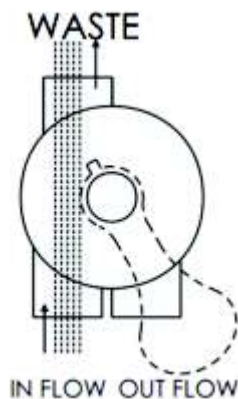
Rinse is recommended immediately after the backwash for 1 minute.

POSITION 4.- RECIRCULATE



In this position, the multiport valve allows the water from the pump to go directly to the swimming pool without passing through the inside of the filter.

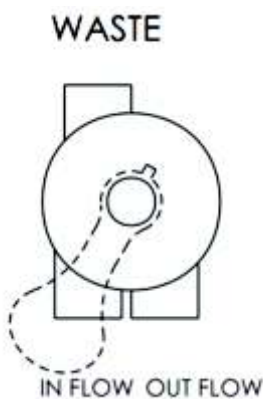
POSITION 5.- WASTE



If the swimming pool needs to be drained, the multiport valve must be in this position.

When draining, the main drain valve is fully open, for the pump to have sufficient suction. On the other hand, the skimmer valves and the bottom cleaner valves must be close in order to avoid air suction.

POSITION 6.- CLOSED



This position is for closing off the water from the filter to the pump and it is used when opening the pump strainer or for installation maintenance.

4. START-UP:

When the filter has been loaded, the sand must be washed for 4 minutes.

Proceed with the backwash as mentioned (OPERATION PROCESS).

When this has been done, the filter will be ready to operate.

IMPORTANT: The pump should be switched off when changing the position of the multiport valve.

5. MAINTENANCE:

Always replace the joints and pieces that may not be in good condition.

Backwash and rinse when is required according to the pressure gauge indications.

It's recommended to change the sand inside the filter approximately every 3 years.

6. WINTERIZING:

Before stop operating the filtration system for a long period of time, proceed with a backwash and a rinse as previously detailed.

Remove the water from the filter by using the drain connection.

Take off the multiport valve to ventilate the filter in the period of inactivity.

Move the handle of the multiport valve to the position WINTER.

When you need to start up the filter again after a period of inactivity, follow the instructions detailed in "START UP".

7. WARRANTY POLICY:

Emaux manufactures its products with the highest standard of workmanship, using the best materials available through state of the art process.

Emaux proudly warrants its products as follows:

EXTENDED WARRANTY FOR SPECIFIC PRODUCTS (OFFERED FROM DATE OF INVOICE).	
Product	Warranty Period
Filters & Filter Systems	2 years
Pumps	1 year
Underwater Lights	1 year (bulbs 90 days)
Ladders	1 year
Control devices	1 year
Heat Pumps & Heat Exchanger	1 year
Salt Chlorinators & UV System	1 year (2 years for cell material)
Pool Fittings	1 year
Cleaning Equipment & All other	1 year

7.1.- EXCEPTIONS THAT MAY RESULT IN DENIAL OF A WARRANTY CLAIM:

1.- Damage caused by careless handling, improper repackaging or shipping.

2.- Damage due to misapplication, misuse, abuse or failure to operate and install the equipment as specified in this manual.

3.- Damage caused by a misuse, abuse or failure to operate and install the equipment out of the scope of a professional level demanded in similar equipment or installation type.

4.- Damage due to unauthorized product modifications or failure to use Emaux original replacement parts.

- 5.- Damaged caused by negligence or failure to properly maintain products as specified in this manual.
- 6.- Damage caused by failure to maintain water chemistry in conformity with the standards of the swimming pool industry for any length of time.
- 7.- Damage caused by water freezing inside the product.
- 8.- Accident damage, fire or other circumstances outside the control of Emaux.
- 9.- Items had been repaired or altered in any way by any person that is not authorized by Emaux.
- 10.- Wear & tear parts.

7.2.- CLAIM PROCESS:

Summary of Emaux Claim Process in 3 steps:

- a) Claim: Customer contacts Emaux salesperson and provides completed details of the claim which includes:
 - a. Information about the failed product such as the part number(s) and serial number(s).
 - b. Description of the complaint/failure.
 - c. Pictures
- b) Once the complaint is received, the product quality incident will then be reviewed by Emaux's Quality Department following the "Emaux Warranty Policy".
- c) Conclusion: After the investigation is completed, Emaux will inform the distributor accordingly.

7.3.- WARRANTY OBLIGATION:

Emaux warrants any of above items from workmanship and/or material(s).

Should a defect become evident during the term of warranty, Emaux will, at its option, repair or replace such item or part at its own cost and expense. Customer will need to follow the warranty claim procedures from Emaux in order to obtain the benefit on this warranty.

Emaux is not, however, responsible under this warranty for any cost of shipping or transportation of the equipment or parts thereof "to" or "from" our technical operations. Emaux is not able to liable for any loss of time, inconvenience, incidental expenses such as labor cost, phone calls, legal cost or material cost incurred in connection with the replacement or removal of the equipment, or any other consequential or incidental damage on persons or assets. Emaux will be not responsible for any business profit loss operation stop due to the non-conformity product equipment. No indemnity or damages can be claimed on any account whatever.

7.4.- WARRANTY OR REPRESENTATIONS BY OTHERS:

No dealer or other person has authority to make any warranty or representation concerning Emaux or its products.

Accordingly, Emaux is not responsible for any such warranty or representation.

8. REPLACEMENT PARTS

Item	Part No.	Description	Qty
1	1901533	6 Way 1.5" Top Mount Valve (Black)	1
1	1902533	6 Way 2" Top Mount Valve (Black)	1
2	117043348	Maximum 100PSI Indication, Stainless Steel Casing	1
2	E190109	Drain Plug Fitting with O-ring	1
3	E190102	1.5" union set (Black) with O-ring	3
3	E190112	1.5" union set (White) with O-ring	3
3	E190201	2" union set (Black) with O-ring	3
3	E190204	2" union set (White) with O-ring	3
4	112432658	M6 Nut	1
5	E010117	Clamp Kit	1
6	4101110748	Star-Shaped Nut	1
7	112192897	M6×110mm Screws	1
8	111000016	O-Ring	1
9	4111180142	Filter Tank for T450	1
9	4111180143	Filter Tank for T500	1
9	4111184965	Filter Tank for T600/T600B	1
9	4111180145	Filter Tank for T700/T700B	1
10	E010118	Lateral Assembly with Center Pipe for T450	1
10	E010119	Lateral Assembly with Center Pipe for T500	1
10	E010120	Lateral Assembly with Center Pipe for T600	1
10	E010121	Lateral Assembly with Center Pipe for T700	1
10	E010122	Lateral Assembly with Center Pipe for T600B	1
10	E010123	Lateral Assembly with Center Pipe for T700B	1
11	4107210652	Laterals (115mm) for T450/T500/T600/T700	8
11	4107215074	Laterals (148mm) for T600B/T700B	8
12	4107210654	Laterals (126mm) for T450/T500/T600/T700/T600B/T700B	8
13	E010024	Water Drain Set	1
14	4104025079	Filter Base T450/T500	1
14	4104025080	Filter Base T600/T700/T600B/T700B	1
15	4104090588	Nut for Filter Base	1

NOTE: T450 / T500 / T600 / T700 should have 8pcs of lateral (115mm) and 8pcs of lateral (126mm)

T600B / T700B should have 8pcs of lateral (148mm) and 8pcs of lateral (126mm)

