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# TR

Automatic Sand Filter



Worldwide Distributors / Agents



**FILTRATION SYSTEM**

**FILAD**  **FILAD Filtration Industry Co., Ltd.**



# APPLICATION

Need long term, high volume and effective method to remove different suspended solids in water, and consider equipment cost with most economic benefits like :

**Eco-friendly use** reduce pollution and waste processing.

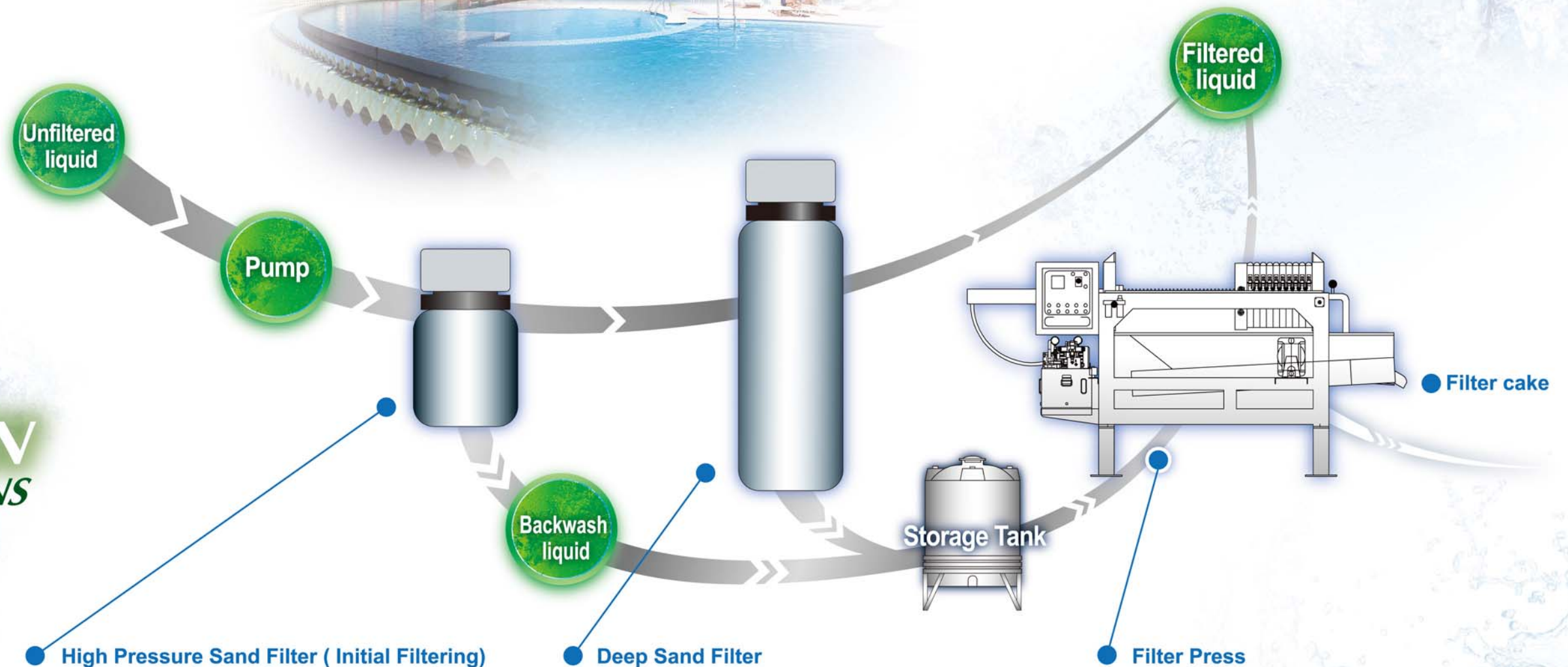
**Quick filtering** groundwater / cleaning / process

**Circulated filtering** reclaimed water recycling, industrial waste water, swimming pool, sauna, pool landscape, cooling water, aquaculture water, SPA recycled water, process water recycling.

## Filtering Process

With the improvement of technique, systematic filtering process of sand filter (fully automatic cleaning function) can flawlessly solve blocking problem as a result of industrial liquid containing high solids.

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### High Pressure Sand Filter ( Initial Filtering)

Generally it is used at the front before deep sand filter and has the bigger filtration area because of the short and stout tank design. This initial filtering can deal with the liquid with more and bigger solids, which will protect the deep sand filter from the clogging with impurities.

(Normally, the average filtration precision can achieve 50 Micron)

### Deep Sand Filter

The main function is filtering of small impurities. It has excellent effect for the liquid with less solid impurities, but it's easy to clog when the liquid contains lots of solid or fiber. Therefore, the high pressure sand filter is necessary for the initial filtering, which will keep the normal operation.

(Generally, the average filtration precision can achieve 10 Micron)

### Filter Press

It's mainly applied to solid-liquid separation rather than filtration. Due to the sand filter needs high volume of cleaning fluid during usage, it will cause much wastage over a long period of time. If sand filter and filter press can be combined and used with systematic design, it will achieve over 98% of liquid recycle and have the filter cake with 50%~70% moisture content. That highly reduces subsequent processing cost.



# TR Automatic Sand Filter

## Automatic High-Pressure Sand Filter

The one piece high-density fiber filter barrel is seamless, corrosion-resistant, anti-UV, anti-carbonation and non-polluting. Barrel body is externally wound with FRP material, which can improve the overall resistance to stress. Even when withstanding the maximum working pressure of 75PSI, the barrels are still guaranteed to maintain the normal operating pressure at 35PSI.

Automatic-controlled valves are easy to operate, and it can be set to backwash or rinse, which can thus make the filter recycled and re-used.



### Features

This product adopts multi-layered quartz sand filter with high hardness, and it can be reused; it can be set automatically backwash with five sections according to different water quality, which is used in universal liquid filtration.

### Applicable

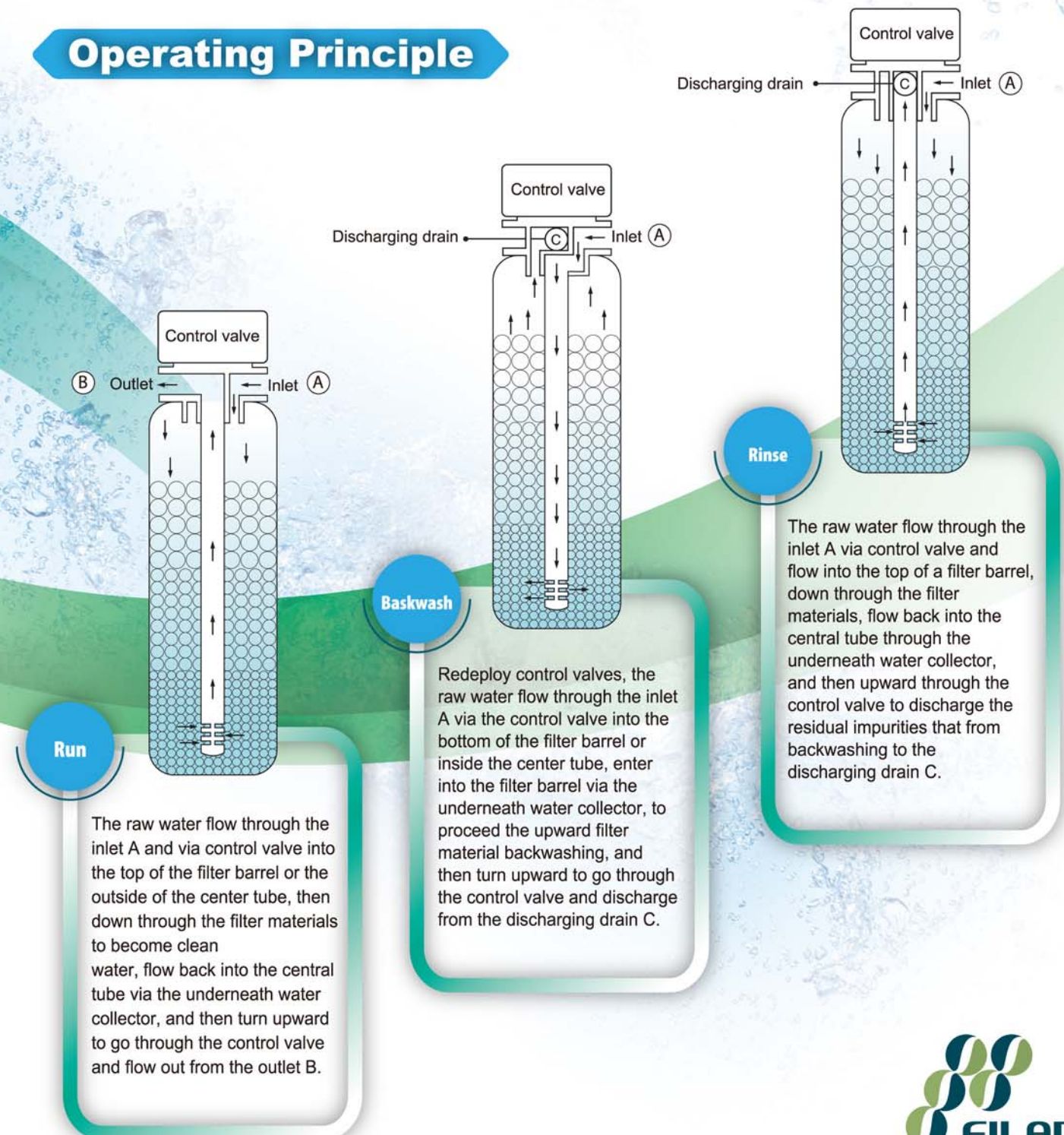
Impurities in wastewater, rainwater recycling, circulating cooling, reclaimed water recycling, groundwater, aquaculture water, desalination, process water recycling, supply water pre-filtering, dyeing, papermaking, and semiconductor.

Model	TR-16FS	TR-18FS	TR-22FS	TR-26FS	TR-30FS	TR-36FS	TR-48FS	TR-55FS	TR-60FS
Caliber (Inch)	1"	1½"	1½"	1½"	2"	2"	3"	3"	3"
Filter cross-section area(m²)	0.13	0.16	0.2	0.3	0.4	0.6	1.1	1.54	1.6
Barrel diameter(cm)	40	46	53	63	73	90	122	140	160
Barrel height(cm)	66	77	82	85	104	128	141	165	172
Water volume of back wash(L/Min)	60	180	180	260	380	500	800	1000	1200
Ref. flow (L/Hr)	4300	9000	12000	16000	23000	30000	50000	69000	75000

## Automatic Deep Sand Filter

It adopts imported high-hardness, not-easily-broken quartz sands; the raw water is input from the filter barrel entrance and become uniform distribution. Using the quartz sands of different sizes in the barrel, which results in precipitation, cohesion retention and adhere affection to remove small particles in water, can reduce impurities and turbidity to help the filtration. It can then achieve the function of cleaning water.

### Operating Principle





# Automatic Deep Sand Filter **TR**



## Automatic Stainless Steel Filter

This advanced equipment is mass production and one piece design with special top opening and the automatic backwash valve for filter recycling; its setting can be adjusted by the water quality. The space for equipment is small, and the strong circular base designed makes filter installation easier and more stable. Also the discharging drain in the bottom, it can discharge the filter material directly when it needs to be replaced. That will save the costs of replacement.

## FRP Sand Filter

This filter is durable, easy to operate, safe and suitable for many applications. The thickness of filtering layer is up to 90 cm. The filter material is compressed while in filtering, and the filtered liquid goes out from the inside filtering layer. That will remove the suspended solids in liquid. This one piece high-density fiber filter barrel is wound by FRP for better pressure resistance. The normal operating pressure is 35PSI and its maximum is 70PSI. The surface of the filter barrel is specially treated for UV resistance and oxidization resistance, the use time is guaranteed to more than 5 years. Multi-directional control valve is easy to operate; backwash and rinse are fully automatically controlled and the filter materials can be recycled and reused.



Control valve - top valve diameter  
1" (Ø25mm)  
1½" (Ø40mm)

Control valve - top valve diameter  
2" (Ø50mm)

Control valve - top valve diameter  
3" (Ø80mm)

### Features of Auto-controlled Valve

- Anti-humidity design for oceanic climate.
- Equipped with multiple functions, and capable to cover a wide range in manipulating.
- The material is acid and alkali resistant, finished with anti-carbonization both inside and outside, and suitable for indoor or outdoor.
- The product is of high durability, easy manipulation and safety and can be used in wide range.
- The recycling numbers and time of filter material is adjusted by different water quality.

### Features of Filter Barrel

- The liner is plated with PE material of high anti-erosion and durability.
- The product has been awarded NSF certificate, and is good for processing beverage, food and drinking water.
- It is lighter than iron bucket, easy to carry around.
- The range of temperature tolerance is from 0°C ~ 45°C.
- The liner plated materials, such as PVDF, ECTFE and PFA are available by special order for some specific liquids.

### Options of Customer Need

- Material of filter barrel can be customized.
- Filter materials can be recycled and reused.
- Providing the standard reference data, different water quality should be adjusted.
- Customer can select the size and specification of the control valve (top or side), manual control or automatic control, etc.

### Properties of Filter Barrel

1. It is integrated and uses polish and weld for both inside and outside. The material is SUS304 or SUS316 and pressure resistance.
2. The water collectors are radiated flute and set on top and bottom of the filter barrel. The material is SUS304 and acid/alkaline/corrosion resistance.
3. The filtering speed is 20GPM/m<sup>2</sup>; the set pressure of backwash is 1.5 times of 2.0 kgf/cm<sup>2</sup> or more.
4. Using the high-pressure filtering design, the filtering layer is fully stirred in backwash. The radiated water collector provides the average-pressure backwash.

Model	TR-040S	TR-050S	TR-060S	TR-070S	TR-080S	TR-100S	TR-120S	TR-140S	TR-160S
Caliber(Inch)	1"	1½"	1½"	1½"	2"	2"	3"	3"	3"
Filter capacity(L)	100	150	250	300	500	800	1200	1500	1875
Barrel diameter (cm)	40	50	60	70	80	100	120	140	160
Barrel height (cm)	150	150	150	150	180	180	180	180	180
Ref. flow (L/Hr)	4000	6000	9000	12000	20000	32000	48000	60000	75000

Model	TR-048F	TR-064F	TR-080F	TR-100F	TR-125F	TR-200F	TR-300F	TR-400F	TR-500F	TR-800F	TR-1000F	TR-1200F
Caliber(Inch)	1"	1"	1"	1"	1"	1½"	1½"	1½"	2"	2"	3"	3"
Filter capacity(L)	48	64	80	100	125	200	300	400	500	800	1000	1200
Barrel diameter (cm)	25	30	33	36	40	50	60	60	76	92	106	122
Barrel height (cm)	137	132	137	165	165	157	180	180	182	182	182	182
Ref. flow (L/Hr)	1920	2560	3200	4000	5000	8000	12000	16000	20000	32000	40000	48000