

**WATERCO**

water, the liquid of life

[www.waterco.com](http://www.waterco.com)

# MICRON

## COMMERCIAL FIBREGLASS FILTERS

Proven Strength and Durability



Setting new global benchmarks in durability, versatility, reliability and longevity, Waterco's Micron fibreglass filters are the preferred choice for commercial and industrial operations that demand superior water quality.

## Micron Fibreglass Filters

Weighing two-thirds less than its steel counterpart - making it easier to ship and install - with a material that is resistant to both mechanical and chemical influences, Waterco's Micron commercial fibreglass filter range can be adapted to a wide range of applications including large public swimming pools, aquatic parks, hotel and resort pools, aquaculture, cooling towers, drinking water systems, food and beverage processing, industrial processes, water features, zoos, and aquariums.



Manufactured from the highest grade of non-co applications. Available in top mount, side mount meet customer specifications.

### Resort World - Singapore



12 Micron MD6500 Commercial Fibreglass Filters and 11 Micron M5000 Commercial Fibreglass Filters purify over 15 million litres of water at Asia's premier destination resort, Universal Studios on Sentosa Island in Singapore. The Micron M5000 filters are used for the water theme park (9,900m<sup>3</sup> volume of water), while the Micron MD6500 filters are installed to service three different attractions,

### South Australia Country Water Quality Improvement Program - South Australia, Australia



This was a multi-staged project to deliver high quality filtered drinking water to the state's rural and remote communities. Waterco was instrumental in this initiative, installing 8 Micron SMDD2200 Commercial Fibreglass Filters and 17 Micron SMDD2500 Commercial Fibreglass Filters filled with granular activated carbon to remove unwanted taste and odours during final filtration stages.

### Desalination plant - Faw region in Basrah, Iraq



Like numerous Iraqi governorates, the Al Faw region in Basra experiences severe shortages of drinking and irrigation water. In order to supply potable water to its growing population, millions of dollars are being invested into sophisticated desalination and filtration technologies. Waterco was commissioned to supply 40 Micron SMD2000 Commercial Fibreglass Filters in four water desalination plants, which each has an output of 100m<sup>3</sup>/hr. The combined pre-filtration flow rate is approximately 1000 - 1100 m<sup>3</sup>/hr.

### Mablethorpe Seal Sanctuary - United Kingdom



Micron Fibreglass Filters have shown themselves to be very effective in catering for sea animals such as seals and various other wildlife parks and zoos all over the world, which made them an obvious choice for the Mablethorpe Seal Sanctuary. Two Micron SMDD 1050 Fibreglass Filters were installed with glass media.

The Micron SMDD 1050 filter improves the filtration efficiency over standard high-rate filters by providing enhanced in-depth filtration, a superior lateral under drain design and increased dirt capacity.

### Seamless one-piece vessel

Waterco's Micron Commercial Fibreglass Filters are made from continuous strands of high quality fibreglass filament wound under controlled tension to create a seamless, impervious vessel. This produces a filter that is free from welds or seams, or special tank linings that typically corrode or electrolyse. Waterco's revolutionary winding technology further strengthens the fibreglass structure so it can withstand a working pressure of up to 1,000 kPa (150psi).



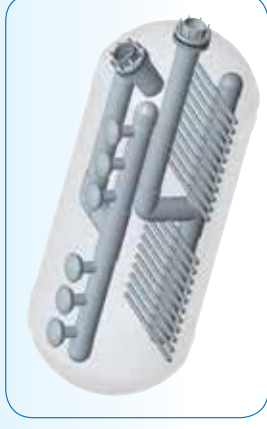
### Strict quality control

Waterco's quality control procedures ensure that the structural requisites of the product are achieved at every stage of production. This results in 100% compliance of the end product with the specifications.



### Proprietary construction

The design and manufacturing process of the fibreglass vessel, utilising the latest filament winding machines, incorporation of non-metallic fittings plus reinforced manhole openings with proprietary methods, is unique to Waterco.



### High corrosion resistance

Fibreglass vessels are rapidly replacing steel tanks in numerous applications. Firstly, they have a superior mechanical and chemical resistance to steel. Also, they do not rust or corrode and are able to withstand damage from many types of water treatment chemicals. Furthermore, these vessels are ideal for seawater applications, such as pre-filtration for desalination systems.



### Low maintenance

Once installed there are virtually no maintenance or repairs required. Steel vessels require the anti-corrosive coating to be maintained periodically and certified welders to make repairs to the lining with expensive epoxy coating.



### 1/3 the weight of steel

Fibreglass vessels weigh only 1/3 the weight of steel vessels while maintaining the same level of strength. Their weight makes them easier to ship to the job site, quicker to install, and reduces structural requirements.



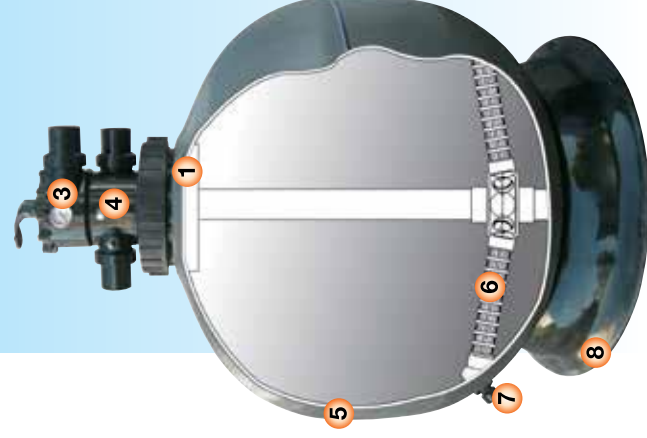
## Micron fibreglass filters

Waterco's advanced manufacturing capabilities allow us to incorporate sight glasses and large manholes for easy access to pressure fibreglass filters.



Micron Side Mount Filters

- 1 Inflow diffuser for even distribution of water flow across the filter bed.
  - 2 Elliptical positive sealing manways.
  - 3 Pressure gauge.
  - 4 Six position Multiport valve with sight glass and quick connect half unions.
- Filtration area 0.87m<sup>2</sup> to 10.0m<sup>2</sup>, 9 to 107 Ft<sup>2</sup>
  - Pressure rated up to 1,000 kPa (150 psi)
  - 1 1/2", 2", and 3" Water drain w/screen
  - Up to 4" Media drain.



Micron Top Mount Filters  
\*Optional manual drain

- 5 UV and corrosion resistant fibreglass wound tank.
  - 6 Hydraulically balanced laterals to maximise water flow and filtration.
  - 7 Manual drain\*.
  - 8 Large filter base for stable floor mounting.
- Maximum working temperature of 50°C (122°F)
  - S.H. 40 / 80 / equivalent PVC fittings, Polypropylene laterals
  - Option of inlet/outlet port connection: quick union up to 4" or flanged port up to 10".

## Optional manholes and sight glasses

Waterco's advanced manufacturing capabilities allow us to incorporate sight glasses and large manholes for easy access to pressure fibreglass filters.



## Micron fibreglass filter construction



**Inner shell** is constructed from fibreglass reinforced isothallic polyester approved by NSF.

Resin is of reasonable heat distortion temperature. Option of Vinyl-ester coating is available upon request for ozone applications up to 2ppm.



**Fibreglass layer** is constructed from 18-ounce combination of high tensile strength chopped strand mat and woven mat, which provides superior multi-directional strength.

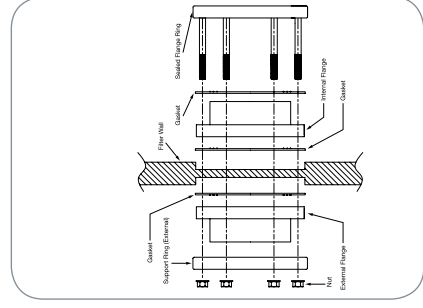


**Filament winding**  
Inner shell is filament wound using a four-axis machine. The winding angle for non-geodesic calculation was generated by software. (circumferential) winding provides strength to the filter tank. Fibreglass roving is impregnated into ortho-phthalic Polyester resin process.



### Patented port boring

Inlet/outlet ports are bored using a digital controlled boring process for absolute precision. The patented boring process creates perfectly flat parallel internal and external surfaces, perfect



### Triple seal with no metal contact

Waterco's unique design does not allow any water contact with its metal flange rings. Three gaskets are incorporated to further guarantee water-tight sealing. Additional lamination reinforcement is



**PVC flange** with specialised glass reinforced corrosion-resistant backing ring up to 10" in diameter.



**Inlet/outlet ports PVC quick connect union**, plumbing and servicing.

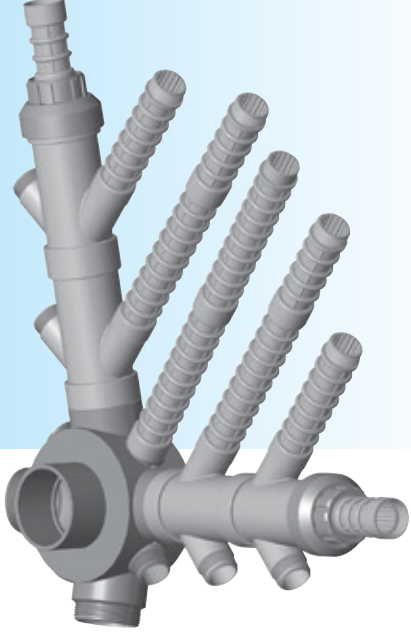
## Micron fibreglass filter components



### Internal plumbing & laterals

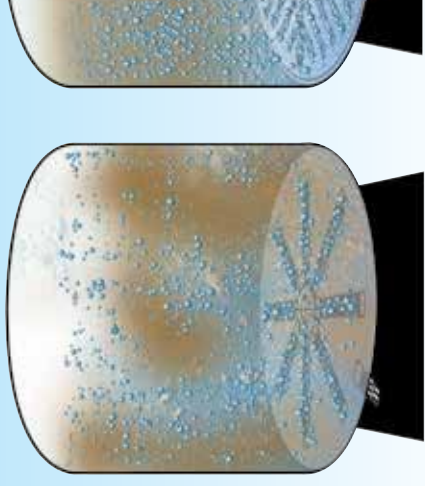
Fibreglass filter vessels are shipped complete - no field installation of internal plumbing is required. All internal plumbing is structurally supported to eliminate potential transit damage.

Waterco laterals and internal plumbing are highly corrosion and chemical resistant. Laterals are constructed from Polypropylene and all internal plumbing constructed from PVC and Polypropylene.



### Hydraulically balanced laterals

Micron vertical commercial filters are equipped with "Fish tail" or "Fish-bone" hydraulically balanced laterals, to improve its filtration and backwashing hydraulic efficiency.



Conventional laterals are not suitable for commercial filters as "dead legs" laterals, which compromises water flow through the filter bed. Waterco's unique "fish tail" lateral configuration eliminates this problem, providing effective coverage of the filter bed and uniform flow.



## Micron fibreglass filter components



### Nozzle plate

Micron SPDD filters are fitted with a plate and nozzle system, which ensures uniform flow for both filtering and backwashing. This ensures maximum performance through the media bed.

The nozzle plate system also allows the introduction of pressurised air directly into the bottom of the filter media. Uniform introduction of air and water through the nozzle plate provides vigorous agitation and filter media expansion required for an effective air/water backwash leading to reduced backwashing times and reduced volumes of water. This saves up to 25% of backwash water.

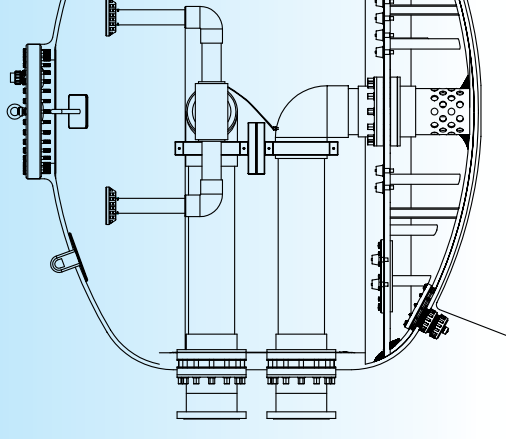


### Patented nozzle plate filter

Waterco has developed a new method of fabricating a nozzle plate filter, which practically eliminates failure rates experienced in most other nozzle plate filters. This process has been granted a patent in Australia, with patent pending in other parts of the world.

Nozzle plate filters historically have a higher rate of failure, whether they are made of fibreglass, stainless steel or mild steel coated with anti-corrosive material. Nozzle plates are traditionally attached to the wall of the filter, separating the unfiltered water and filtered water of the tank. During filtration mode as well as backwashing mode, the plate has cyclic movement vertically flexing upwards and downwards, whereas the wall of the filter has cyclic movements horizontally flexing inwards and outwards.

That critical joint is the Achilles heel of most nozzle plate filters. Over time, with two different axes of expansion and contraction, the joint weakens and breaks.



### Flexible joint

Waterco's unique construction method eliminates the need for a separate chamber within the filter by creating a separate chamber within the filter housing. The nozzle plate is attached to the wall of the filter housing via a flexible joint, instead of traditionally attaching it to the filter housing. This removes the stress typically found in traditional nozzle plate filters, further enhancing the durability of the filter.

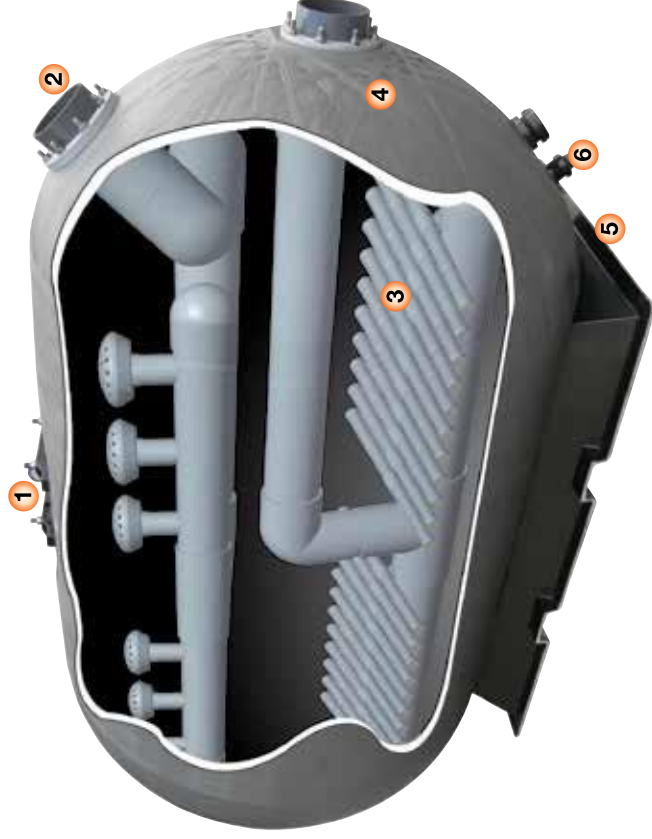
Waterco's Micron nozzle plate filters have been used in a number of commercial projects including the Jubail desalination plant in Saudi Arabia. An example of a Micron nozzle plate filter is shown at the world's largest integrated gas turbine cycle power plant, Shoaiba, in Saudi Arabia. Shoaiba is the world's third largest integrated gas turbine cycle power plant, Shoaiba is the world's third largest integrated gas turbine cycle power plant.



## Micron horizontal filters

The Micron horizontal filter is a space-saving high performer; its compact horizontal design allows installation with minimum waste of space. The shape of the Micron horizontal filter is

both attractive and functional. The spherical ends are designed to give uniform flow from both inlet and outlet collection assemblies. Micron horizontal filters are available with a 500mm (M) filter media bed and a 1200mm (MD) filter media bed.



- 1 Elliptical positive sealing manways.
- 2 Flanged port of up to 10".
- 3 Hydraulically balanced distribution and lateral system.
- 4 Fibreglass wound tank, UV and corrosion resistant.
- 5 Large stable filter base for stable floor mounting.
- 6 Manual drain.

## Waterco Commercial Purifiers



Hydron split-tank filters can be delivered and assembled on site in the plant room. They are assembled perfectly, using double O-rings and held together using bolt and nuts.



Purposed built for aquatic facilities, water treatment commercial swimming pools. Hydrostar performance corrosion resistant thermoplastic

## Hydraulically balanced lateral configuration

Conventional lateral systems result in uneven fluidisation of the filter media bed. The beginning of the lateral system experiences a strong flow of water, which gradually decreases along the length of the lateral piping. Backwash flow also decreases towards the end of each lateral, resulting in non-uniform lifting of the filter media bed.

Waterco's new lateral configuration provides a more natural flow of water through the filter, ensuring optimum water filtration and balanced fluidisation of the filter bed during backwashing. Its individual laterals are shortened while maintaining filter media bed coverage to reduce the friction head loss of each lateral and further improve the filter's hydraulic efficiency. This reduces backwash run times, saves valuable water, and produces flatter, more uniform filter media bed after backwashing.

## 10-year Warranty

Filter Tank	10 years (5 year full + 5 years pro rata)
Multipoint Valve & other components	1 year



# Waterco Limited

Established since 1981, Waterco is an Australian publicly listed company involved in the manufacture and distribution of swimming pool and spa equipment and chemicals, domestic water filters, softeners and purifiers, and commercial and industrial water treatment equipment.

Waterco's research and development team has created an innovative range of award-winning products. The company's advanced fibreglass winding and pioneering plastic moulding techniques have delivered premium quality products to over 40 countries via its branches operating in Australia, New Zealand, Malaysia, China, the United Kingdom, United States of America, Canada, Indonesia and Singapore.

## OFFICES - AUSTRALIA

**NSW - Sydney (Head Office)**  
Tel: +61 2 9898 8600

**QLD - Brisbane**  
Tel: +61 7 3299 9900

**VIC/TAS - Melbourne**  
Tel: +61 3 9764 1211

**WA - Perth**  
Tel: +61 8 9273 1900

**SA/NT - Adelaide**  
Tel: +61 8 8244 6000

**ACT Distribution**  
Tel: +61 2 6280 6476

## OFFICES - OVERSEAS

**Waterco (Europe) Limited**  
Sittingbourne, Kent, UK  
Tel: +44 (0) 1795 521 733

**Waterco France**  
Saint Priest, France  
Tel: +33 4 72 79 33 30

**Waterco (USA) Inc**  
Augusta, Georgia, USA  
Tel: +1 706 793 7291

**Waterco Canada**  
Longueuil, Qc, Canada  
Tel: +1 450 748 1421

**Waterco (NZ) Limited**  
Auckland, New Zealand  
Tel: +64 9 525 7570

**Waterco (C) Limited**  
Guangzhou, China  
Tel: +86 20 3222 2180

**PT Waterco Indonesia**  
Jakarta, Indonesia  
Tel: +62 21 4585 1481

**Waterco Singapore Intl Pte Ltd**  
Nehsons Building, Singapore  
Tel: +65 6344 2378

**Waterco (Far East) Sdn Bhd**  
Selangor, Malaysia  
Tel: +60 3 6145 6000

Distributed by:

**WATERCO**  
water, the liquid of life



In the interest of providing better quality and value we are constantly improving and updating our products. Consequently, pictures and information on our brochures may sometimes vary slightly from models available.

ZZB1061 06/15