

# MICRON W & WD SERIES FILTERS

## Installation and Operating Manual



### **⚠ WARNING**

This equipment must be installed and serviced by a qualified technician. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.



### **Notice to Installer**

This manual contains important information about the installation, operation and safe use of this product. Once the product has been installed **this manual must be given to the owner/ operator of this equipment.**

## DESCRIPTION

Ideal for water treatment applications, the Micron W & WD Filters provide an effective means to remove sediment from incoming water before direct use or storage in a tank.

The Micron W Filter's unique feature is its user friendly Multiport Valve (MPV), which controls and facilitates all the operational functions needed for the filter.

*The Micron W Filter can easily be applied for Carbon and Mixed Bed Filtration. Please consult a Waterco Stockist for more information.*

## WATER FILTRATION

Water flows from the source (eg. water mains, bore etc), through the Multiport Valve (MPV) and is directed downward to the top of the filter bed.

As water flows through the filter bed, debris is trapped and clean water flows through the laterals and up the central tube. The clean water then flows back through the MPV and is channeled to the outlet.

*NOTE: A sediment filter removes dirt, debris and suspended solids. It does not sanitise the water or remove dissolved material.*

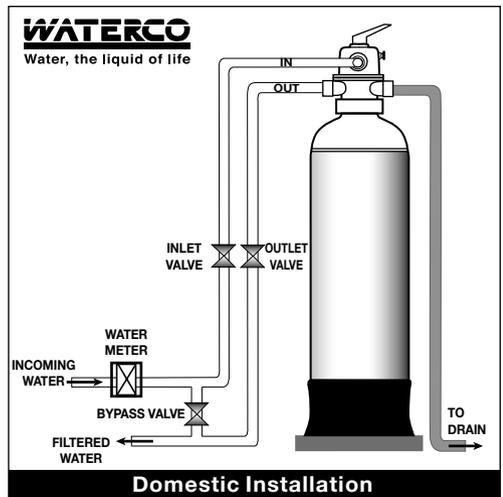
## POSITIONING

- For household use, the filter should preferably be sited within the household compound and immediately after the water meter.
- The filter unit should sit on a level concrete surface or a precast concrete slab of suitable strength.
- The filter unit should be located near a drain, to minimise piping for waste and backwash.
- Where additional backwash water supply is required or desired, further plumbing arrangement will be needed. Backwashing can be assisted by a current water tank storage system or with a pump activated auxiliary water storage tank.

## INSTALLATION

- Be sure to comply with the local plumbing codes. The filter may be plumbed into a drinking water system and would, therefore be subject to whichever local regulations that may apply.
- Be sure that all provisions for wastewater disposal meet local, state or national codes. Do not discharge water where it will cause flooding or damage.

- Take special care with the backwash waste line. If there is not an adequate air gap between the waste pipe outlet and the drain into which it discharges, a siphon may develop that will draw some of the drain waste back into the water filter. This may result in undesirable "cross connection" between a safe and an unsafe water supply.
- If the incoming water pressure is higher than 60% of the maximum operating pressure of the tank, a Pressure Regulating Valve (PRV) must be installed upstream of the filter inlet. The PRV should be set to 90% of the maximum operating pressure of the tank.
- If the incoming water pressure is less than 150kPa/ 22psi, adequate backwashing cannot be achieved. In such cases, a booster pump should be incorporated.



### NOTE:

- All piping should be a minimum of:-
  - W250-300 - 20mm (3/4")
  - W400 - 25mm (1")
  - W500 and above - 40mm (1 1/2")
- For an optimum backwash, minimise back pressure by keeping pipe work to the drain as short as possible.
- A by-pass piping arrangement should be incorporated, which allows the entire filter unit to be easily isolated for servicing and maintenance, while ensuring continuous water supply into the household.

## INITIAL PREPARATION

### Filling the Unit :-

- 1) Before pouring the filter media into the filter tank, do a visual check of the laterals. Look for broken or loose laterals. Replace if necessary.
- 2) To eliminate stress on the laterals, half fill the tank with water.
- 3) Carefully pour in the filter media via the perforated holes of the plastic locator, which is firmly placed on the top opening of the filter. Be careful not to pour filter media into the centre pipe. Remove the plastic locator once completed.
- 4) Wash all the filter media and debris away from the threads of the filter tank.
- 5) Thread the MPV into the filter tank and tighten the pipe joints at various ports. **Hand tighten only.**

Make sure that the correct grade of Sand/ ZeoPlus and quantity is used.

Media Filter	Sand (kg)	ZeoPlus (kg)	Media Filter	Sand (kg)	ZeoPlus (kg)
W250	55	40	WD300	110	85
W300 MKII	80	60	WD350	145	110
W350	90	70	WD400	190	145
W400	120	90	WD500	295	225
W500	180	135	WD600	425	320
W600	270	205	WD700	585	440
W700	360	270	WD900	985	745

\* 16/ 30 Sand and ZeoPlus can be acquired from Waterco.

### CAUTION:

Do not put filter into use before the filter media is thoroughly cleaned. For new filters, **the filter media in the filter must be thoroughly backwashed** a few times before putting it into service.

## BACKWASHING

As filtration proceeds, the void areas in the medium become filled with debris filtered from the water. The pressure will start to rise and the flow of water will start diminishing. The filter will eventually become so clogged with debris that it will be necessary to perform a backwash.

### Function of Backwash

The function of backwashing is to separate the deposited particles from filter media grains and flush them from the filter bed. Backwashing is achieved by reversing the flow of water through the filter bed at a fairly high rate. This high rate expands the filter bed and the water collects the debris taking it to waste.

### Backwashing Instructions :-

- 1) Close Inlet Stop Valve.  
Close Outlet Valve.
- 2) Release the system's pressure by loosening Pressure Release Valve to some extent until the Pressure Gauge needle drops to zero <0>.
- 3) Retighten Pressure Release Valve.
- 4) Depress and turn Handle 180 to "Backwash" mode.

*Initial filter media backwash procedure should be repeated for at least 3 times to ensure all fine debris in the filter media are washed out to waste.*

- 5) Open Inlet Stop Valve fully. Dirty water will flow out through drain pipe.
- 6) When the flushed water appears clean, close inlet stop valve, depress handle and turn it to "Rinse" mode. Open inlet stop valve and let the water run till clear. It should not take more than 5 minutes.
- 7) Close inlet stop valve, depress handle and turn back to "Filter" mode and open the Outlet Stop Valve. Your filter is ready to work again.

*NOTE: Where pumps are used, switch them on and off, instead of closing or opening Inlet Stop Valve.*

### Conditions for backwash :-

Time for backwashing is determined by the following conditions:

- The flow rate through the filter bed decreases until it is insufficient to meet the demand.
- The removal efficiency of the filter bed decreases to the point where the effluent quality deteriorates and is no longer acceptable.
- If a pump is installed, backwash the unit if the pressure rises by 50kPa (7.2 psi) above start up pressure. If connected to water mains, the pressure rise is not an accurate indicator as mains pressure tends to fluctuate. It is best to rely on the flow rate.

*Waterco recommends that you backwash the filter at least once every 2 week in a domestic installation.*

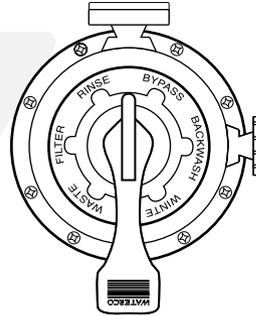
### Importance of Backwashing

Without regular backwashing, the filter will become clogged with debris. This will reduce the performance of the filter. To keep the filter operating at it's optimum performance, backwash regularly as described above.

## MULTIPOINT VALVE

The flow of water through a granular media filter is controlled by the Multiport Valve (MPV), which comes completely assembled and ready for operation.

The handle on top of the MPV can be moved to any of the slotted positions.



Valve Position	Function
<b>FILTER</b>	Normal filtration.
<b>RINSE</b>	Used after backwash to flush out remaining dirt.
<b>BY-PASS</b>	By-passes filter by circulating water to outlet.
<b>BACKWASH</b>	Cleans the filter media by reversing the flow.
<b>WINTERIZE</b>	Prevents rotor gasket sticking in freezing conditions.
<b>WASTE</b>	By-passes filter and sends water to waste.

### CAUTION:

- Do not adjust the handle position unless the inlet stop valve is closed or the pump is switched off.
- Do not apply excessive force to the handle. If the handle is difficult to depress, relieve the system's pressure first.

## GENERAL MAINTENANCE

- Wash outside of the filter with a mild detergent and water. Rinse off with a hose. Do not use solvents to clean the filter. Solvents will damage the plastic components of the filter.
- Inspect the filter bed at least once a year. Remove any foreign material which has not been backwashed out of the system.

### OFFICES - AUSTRALIA

NSW - Sydney  
(HEAD OFFICE)  
Tel : +61 2 9898 8686

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

WA - Perth  
Tel : +61 8 9273 1900

QLD - Brisbane  
Tel : +61 7 3299 9900

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

ACT Distributor  
Tel : +61 2 6280 6476

### OFFICES - OVERSEAS

Waterco (USA) Inc  
Phoenix, Arizona, USA  
Tel : +1 623 434 4703

Waterco USA  
Augusta, USA  
Tel : +1 706 793 7291

Waterco Canada  
Quebec, Canada  
Tel : +1 450 796 1421

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

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

Waterco (GZ) Limited  
Guangzhou, China  
Tel : +8620 3222 2180

Waterco (Far East) Limited  
Selangor, Malaysia  
Tel : +60 3 6145 6000

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

# WATERCO

Waterco Limited ABN 62 002 070 733

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