

PRODUCT DATA SHEET



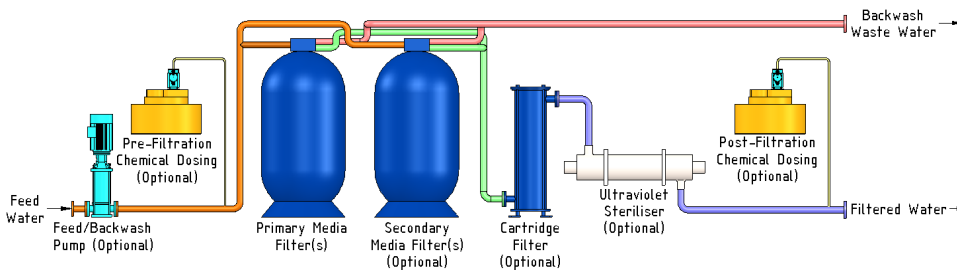
Multimedia Filtration (MMF)

water | wastewater | sewage

OVERVIEW

MAK Water's Multimedia Filtration (MMF) plants are designed to treat ground water, surface water, tertiary treated effluent, storm water or wastewater with <30 mg/L of total suspended solids. Standard filtration media includes sand media for suspended solids removal, granular activated carbon (GAC) for removal of organics, colour, odour or chlorine and DMI-65 greensand for dissolved iron and manganese. Additional filtration media, such as calcite for hardness correction and various ion exchange resins, are available on request.

Additional pre-filtration and post-filtration treatment steps may be added as required to suit feed water conditions and/or treated water quality requirements. The MAK Water MMF plants are available as skid mounted or containerised systems.



ADDITIONAL FLOW RATES AND CUSTOMISED SOLUTIONS ARE AVAILABLE. JUST ASK US.

STANDARD SPECIFICATIONS

Parameter	Units	MMF-0050	MMF-0150	MMF-0250	MMF-0500	MMF-1000	MMF-2500	MMF-5000
Filtrate flow rate*1	m ³ /day	50	150	250	500	1,000	2,500	5,000
Feed/filtrate water flow	m ³ /hr	2.1	6.4	10.6	21.3	42.6	106.4	212.8
Backwash water flow	m ³ /hr	1.5~3 x feed water flow (varies according to configuration and feed water quality)						
Power consumption	Feed/backwash pump*2, *3	1.1	2.2	3	5.5	11	30	55
	Air conditioned containers*2	1.9 kW per 20' container / 3.8 kW per 40' container (includes internal lighting)						
Power supply	-	AC 415V, 3 Phase 50 Hz (AC 240V, 1 Phase 50 Hz available for small plants)						
Recovery rate	%	90~98% (varies according to media selection and feed water quality)						
Filtration velocity	Sand Media	20 (design value can be adjusted to suit feed water quality)						
	DMI-65 media	10 (design value can be adjusted to suit feed water quality)						
Empty bed contact time	GAC media	10 (design value can be adjusted to suit feed water quality)						
UV dose rate*2	mJ/cm ²	Typical >40 @ 90% UVT						
Feed/backwash water inlet pressure	Without pump	300~600 (pressurised feed/backwash water by client)						
	With pump	≥20 (flooded suction)						
Pressure drop	Sand media	50~200						
	DMI-65 media	50~200						
	GAC media	50~200						
	Cartridge filter*2	50~200						
Ambient temperature (min/max)	Skid mounted	5~30						
	Containerised	-5~40						
	Containerised with insulation	-15~50						

Parameter	Units	Sand media		DMI-65 media		GAC media	
		Feed water	Filtrate	Feed water	Filtrate	Feed water	Filtrate
Temperature	°C	5~36		5~36		5~36	
Total suspended solids (TSS)	mg/L	<30	<5**4	<5	<5**4	<5	<5**4
Turbidity	NTU	<15	<5**4	<5	<5**4	<5	<5**4
Filtration degree	µm	5		-		-	
Dissolved iron & manganese	mg/L	-	-	<10	<0.1	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	<10	<0.1
Colour	HCU	-	-	-	-	Up to 98% reduction	
Trihalomethanes	µg/L	-	-	-	-	<1,000	<250**5

*1Based on operating for 23.5 hours per day with 0.5 hours downtime for backwashing, **2Optional equipment, **3Pump size may vary according to feed water quality and plant configuration, **4Nominal, can be improved with optional 1 micron cartridge filter, **5Dependent on competing organics

STANDARD INCLUSIONS + OPTIONS

✓ = Standard Supply o = Optional Supply - = Not Applicable

Equipment	MMF-0050	MMF-0150	MMF-0250	MMF-0500	MMF-1000	MMF-2500	MMF-5000
Skid mounted plant / equipment	✓	✓	✓	✓	✓	✓	✓
uPVC / HDPE inlet and outlet pipe work / manifolds, manual isolation and sampling valves	✓	✓	✓	✓	✓	✓	✓
Auto-backwashing FRP filter vessel(s)	✓	✓	✓	✓	✓	✓	✓
Feed / backwash pump with electrical controls	o	o	o	o	o	o	o
Chemical dosing system(s)*1	o	o	o	o	o	o	o
PVC cartridge filter(s) (1µm)	o	o	o	o	o	o	o
UV steriliser	o	o	o	o	o	o	o
Containerised with air conditioning, overhead lighting and GPO's for maintenance	Standard supply	o	o	o	o	o	o
	With non-slip floor coating	o	o	o	o	o	o
	With non-slip floor coating and insulation	o	o	o	o	o	o
PLC control system with touch screen HMI	o	o	o	o	o	o	o
Instrumentation	Standard package	✓	✓	✓	✓	✓	✓
	Premium package with ClearAccess™ remote monitoring*2	o	o	o	o	o	o

Instrumentation and Controls	Sand media instrument package		DMI-65 media instrument package		GAC media instrument package	
	Standard	Premium	Standard	Premium	Standard	Premium
Pressure gauges on inlet/outlet manifolds	✓	✓	✓	✓	✓	✓
Raw water and filtrate tank float level switches	✓	-	✓	-	✓	-
Raw water and filtrate tank level transmitters	-	✓	-	✓	-	✓
Pressure switch (feed/backwash pump discharge)	✓	✓	✓	✓	✓	✓
Chemical dosing tank float level switches	✓	✓	✓	✓	✓	✓
Pressure transmitters on inlet/outlet manifolds	-	✓	-	✓	-	✓
Flow transmitter (treated water)	-	✓	-	✓	-	✓
Turbidity analyser (treated water)	-	✓	-	✓	-	-
ClearAccess™ remote monitoring and control capabilities	-	✓	-	✓	-	✓
pH transmitter (with optional acid or caustic dosing)	✓	✓	✓	✓	✓	✓
ORP transmitter (with optional de-chlorination/SMBS dosing)	✓	✓	✓	✓	✓	✓
ORP transmitter (with DMI-65 media and hypo dosing)	-	-	✓	✓	-	-
UV intensity sensor/monitor (with optional UV steriliser)	-	✓	-	✓	-	✓

*1DMI-65 media requires flow paced hypochlorite dosing system for iron and manganese removal, *2Requires PLC control system

MODEL SELECTION

- 0050 Capacity – 50 m³/day
- 0150 Capacity – 150 m³/day
- 0250 Capacity – 250 m³/day
- 0500 Capacity – 500 m³/day
- 1000 Capacity – 1,000 m³/day
- 2500 Capacity – 2,500 m³/day
- 5000 Capacity – 5,000 m³/day
- XXXX Capacity – specify m³/day
- XX Assembly - skid mounted
- CX Assembly - containerised - standard
- CF Assembly - containerised - with floor coatings
- CP Assembly - containerised - with floor coatings & insulation
- X Feed/backwash pump - without
- F Feed/backwash pump - with
- X Pre-filtration chemical dosing – without
- C Pre-filtration chemical dosing – with (specify)
 - S Primary filtration media – sand/glass
 - D Primary filtration media – DMI-65 green sand
 - G Primary filtration media – granular activated carbon
 - C Primary filtration media – custom (specify)
- X Secondary filtration media – without
- G Secondary filtration media – granular activated carbon
- C Secondary filtration media – custom (specify)
- X Cartridge filter – without
- R Cartridge filter – with
- X UV steriliser – without
- U UV steriliser – with
- X Post-filtration chemical dosing – without
- C Post-filtration chemical dosing – with (specify)
- X PLC & HMI - without
- L PLC & HMI - with
- X Standard instrument package
- P Premium instrumentation package
- C Custom instrumentation (specify)
- X Specifications – standard
- C Specifications – custom



NEED A QUOTE?
 COMPLETE THIS TABLE
 AND EMAIL TO...
sales@makwater.com.au

Disclaimer: MAK Water is continuously updating and improving its products and services, so please contact us for more detailed information or to confirm specifications. MAK Water takes no responsibility for any errors resulting from the use of information contained within this document.

MMF _____