AMF² MICROFIBER FILTERS

Leaflet F-06-01-UK

FLUXA

Fluxa Filtri S.p.A.

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Innovative self-cleaning microfiber water filters for treatment as fine as 2 micron.

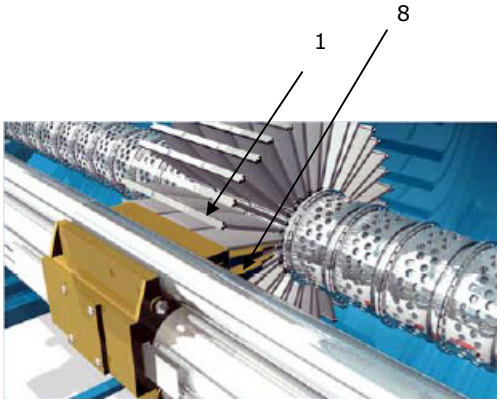
- TSS, NTU & SDI reduction for potable and waste water applications.
- Effective removal of Giardia cysts and Cryptosporidium.
- Cartridge performance without cartridge replacement.
- Outperforms traditional sand media systems.
- Pre-filtration for R.O. and other sub micron systems.
- Environmentally friendly -no chemical treatment required.

HOW THE AMF^2 FILTERS WORK

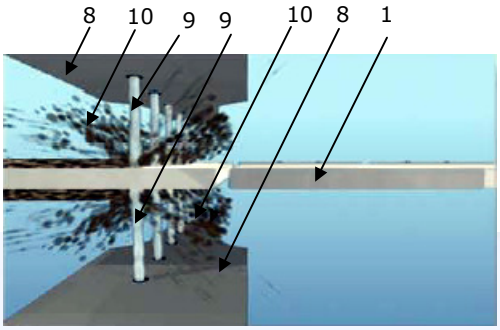
The AMF^2 filters remove dirt particles as water flows through multi-layered microfiber cassettes (1). These are attached to collector pipes which allow the processed water to flow from the filter via the outlets (2). Dirt particles that accumulate on and in-between the microfiber layers create a pressure differential. At a preset pressure differential value or time interval, the control unit activates the self-cleaning cycle, described as follows:

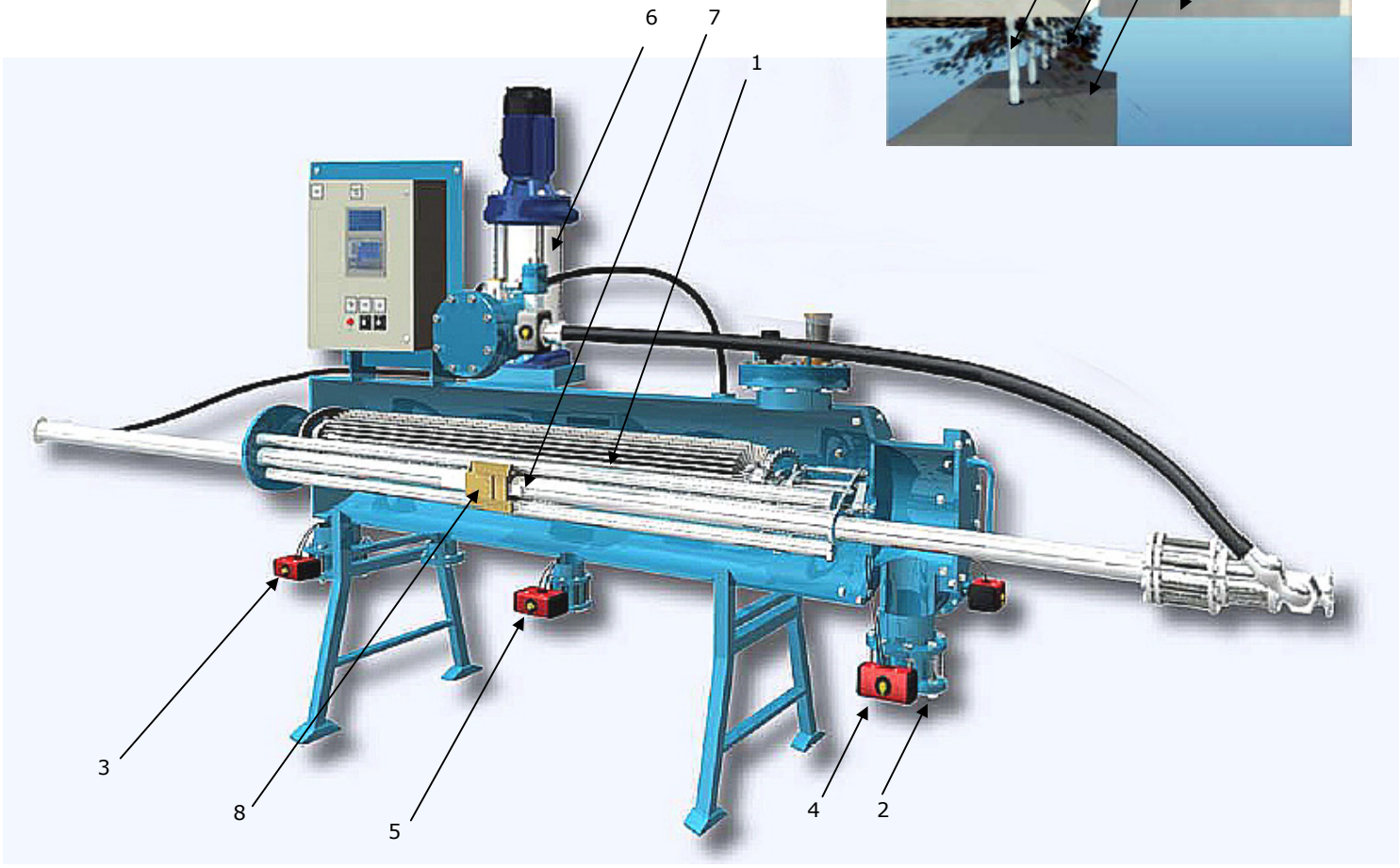
The inlet (3) and outlet (4) valves close and the drain (5) valve opens. After the filter vessel empties, the booster pump (6) delivers pressurized water to the shuttle pipe (7) on which the flush nozzles are mounted (8). These nozzles straddle the cassettes and spray both sides of a cassette with high powered jet streams (9) that penetrate the microfiber layers and dislodge the debris (10). When these jet streams hit the plastic cassette support, they reflect outward, carrying the debris off the cassettes and out the drain.

This process ensures 100% effective cleaning. The piston assembly shuttles the spray nozzles across a single row of cassettes on each stroke. When the nozzles reach the end of a row, the turn mechanism forces the filter package to index to the next row of cassettes. The piston then strokes in the opposite direction, cleaning the cassettes as the nozzles traverse them.



After cleaning all 35 rows of cassettes, the filter is clean. The drain valve closes and the inlet valve re-opens, filling the filter vessel. After the vessel is full, a "filter to waste" valve opens. This eliminates any residual contaminant that may have entered the collector pipes during the flush process.
After this, the outlet valve opens and the filter is once again on-line.





TECHNICAL SPECIFICATIONS

General data

Filter type	AMF^2-93k	AMF^2-370k	
Recommended flow rate [m^3/h]	15-80	60-320	Depending on water quality and application.
Filter area [cm^2]	92,500	370,000	
Filtration element [cassette units]	910	3640	
Inlet/Outlet diameter [mm]	100 (4”)	4 x 100 (4”)	Flange standards as required.
Maximum working pressure [bar]	10	10	
Working temperature range [°C]	4-40	4-40	
Weight (empty) [kg]	650	2150	
Weight (full) [kg]	1050	3350	
Volume [liter]	400	1200	
Filtration degree [micron]	20, 10, 7, 3 and 2		

Flushing data

Flushing flow rate [m^3/h]	6	20	at 9 bar
Approx. Flushing duration [min.]	10	10	Including drainage and filling time.
Discharge water per cycle [m^3]	1.1 – 1.5	3.5 – 5	
Maximum Booster pump power requirements [KW]	3	11	Depending on suction pressure availability.

Utilities

Compressed air [bar]	6-8	Dry and lubricated
Power	230-480 volt; 50/60 Hz	Power consumption depends on booster pump characteristics.
Control voltage	24V AC (0.5 Kw)	

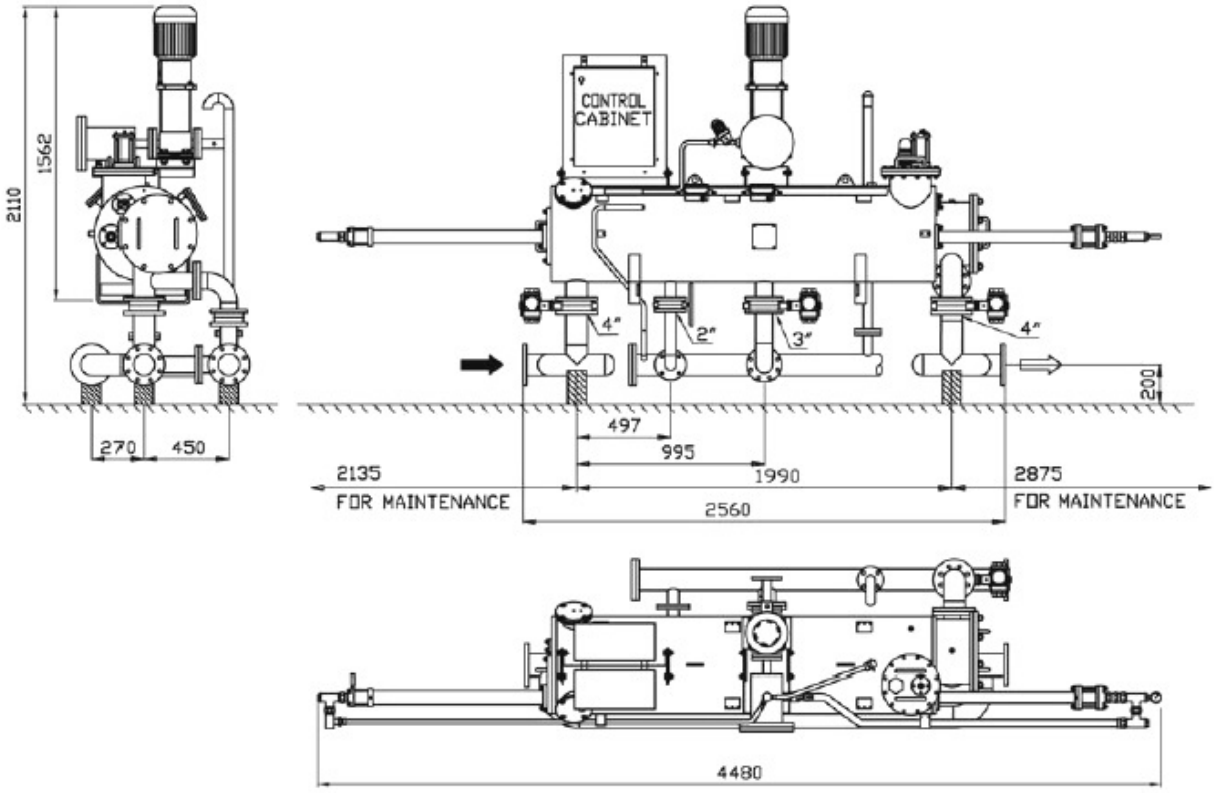
Construction materials*

Filter housing and covers	Epoxy coated carbon steel
Cassette	Polyester thread on Noryl® molded base
Cassette package	PVC, St/St, PTFE, Cassettes
Piston	Brass, Bronze, HMWPE, St/St, Nylon, PTFE
Seals	Nitrile Rubber (NBR)
Pressure hoses	Rubber
Bolts, nuts, washers	External Galvanized, Internal St/St
Pneumatic valves	Cast Iron, EPDM, Brass, St/St
Solenoid valves	Aluminum (pneumatic control of valves), Brass (hydraulic control of pistons)

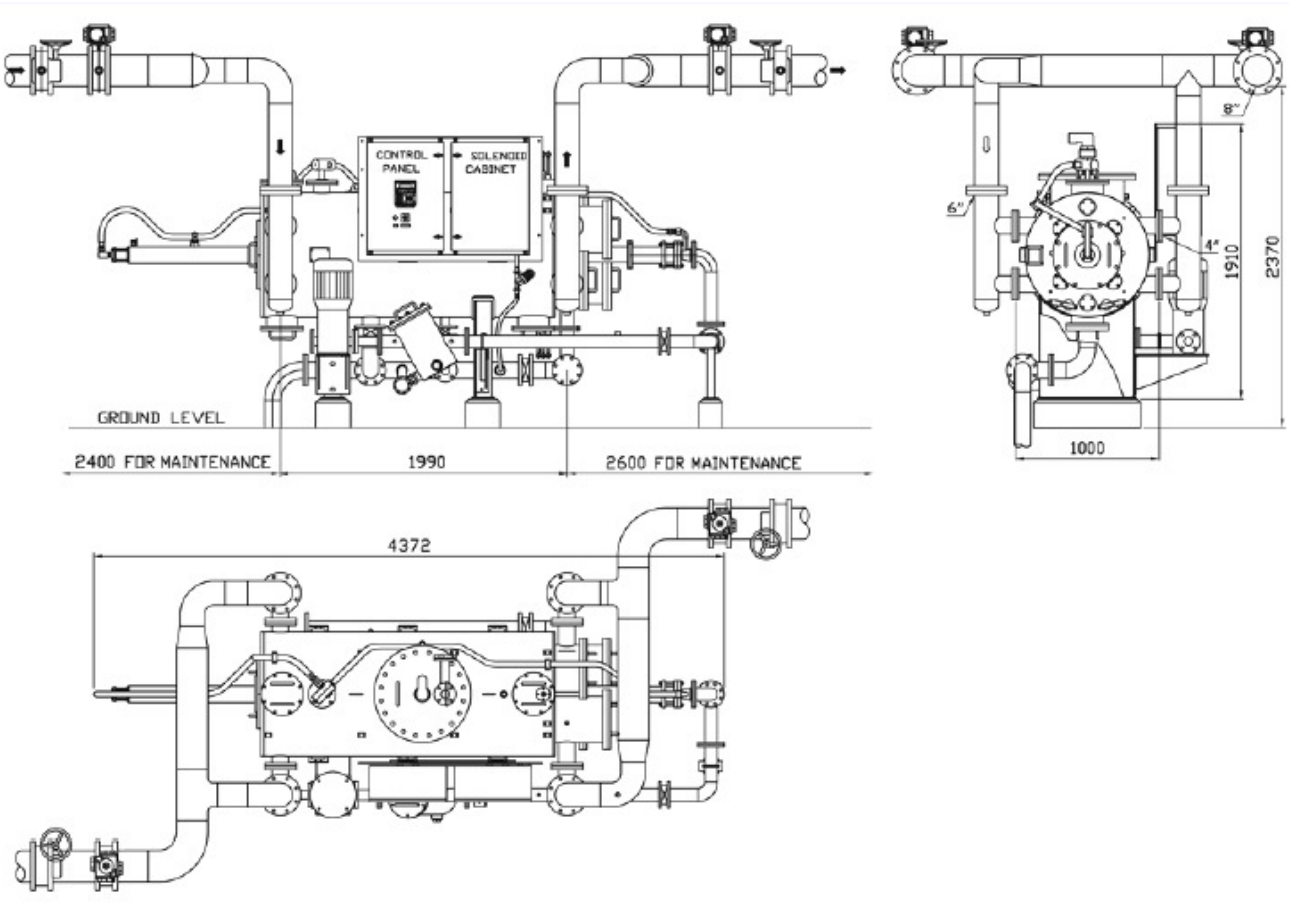
*Amiad offers a variety of construction materials. Consult manufacturer for specifications.

SUGGESTED INSTALLATIONS

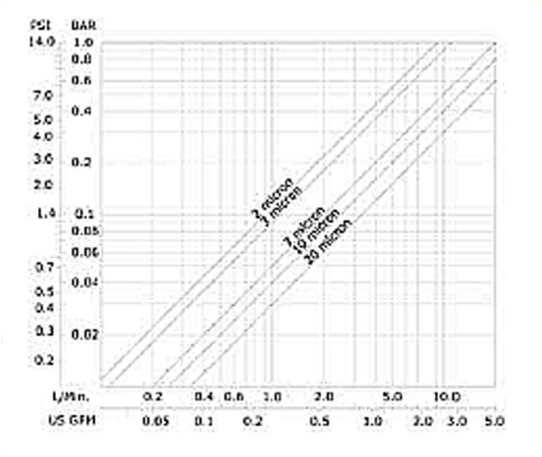
AMF^2 – 93K



AMF^2 – 370K



Pressure loss graph, Single Microfiber Cassette



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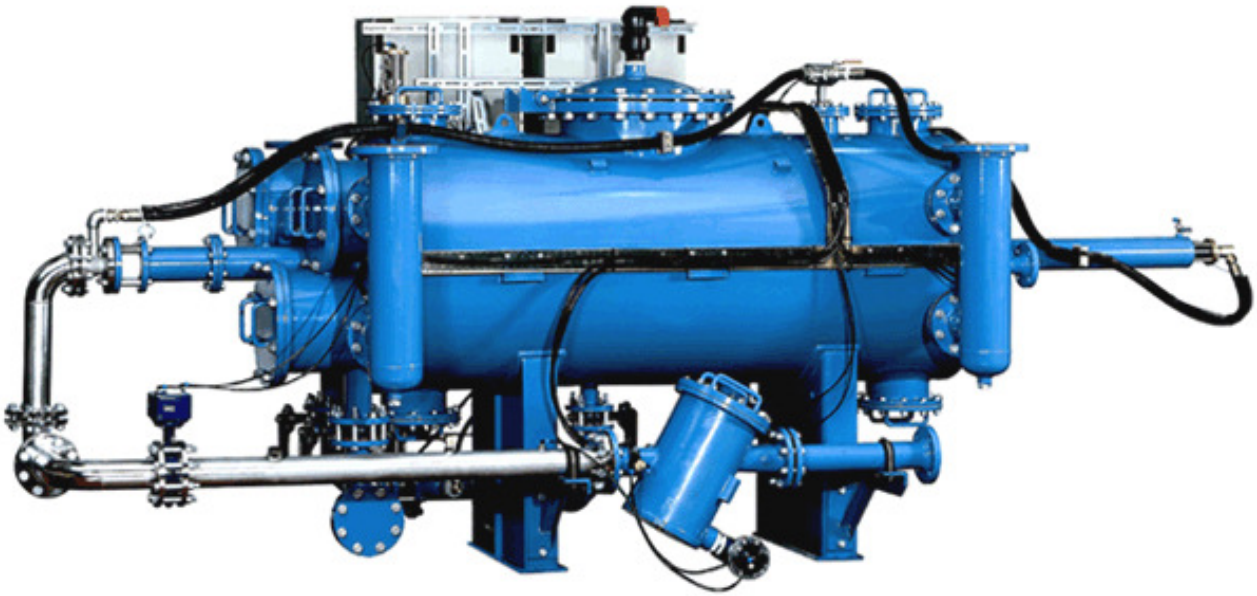


SELECTED WORLDWIDE APPLICATIONS

Surface water used for drinking water. 120 m^3/h 3µ.
Mindanao – Philippines

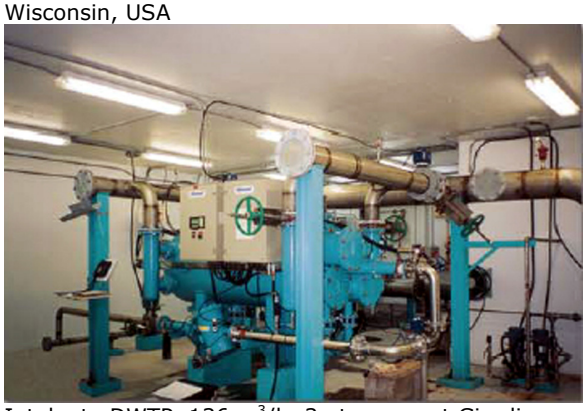
Prefiltration to RO system, demineralized water.
Steel Mill, Ukraine

Paper mill manufacturer. Reduce TSS from 12 mg/l to 3 mg/l. 40 m^3/h, 3µ. Germany

Test unit. Pilot objectives are to reduce TSS & NTU to meet "California Regulations" in effluent tertiary treatment

Vegetable canning operation. 170 m^3/h, 3µ.
Wisconsin, USA

A two stage system at a WTP to provide 4 log removal of cryptosporidium at a flow of 21 Ml/day. United Kingdom



Intake to DWTP, 136 m^3/h, 3µ to prevent Giardia.
Deer Lake, Canada

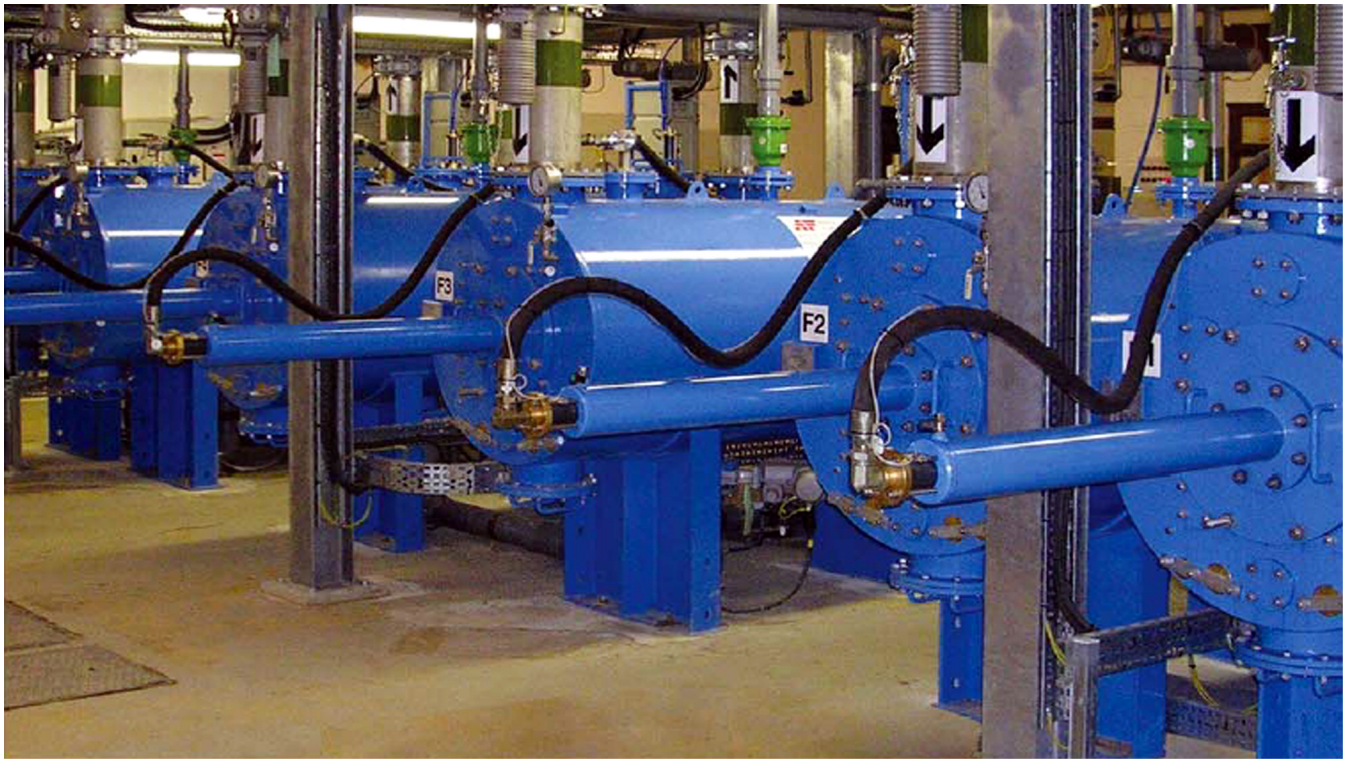
WWTP – Tertiary Discharge Compliance. 60 m^3/h, 10µ
Harbor Island – Beaufort, SC. USA

River water for industrial purposes. TSS removal from 2.3 mg/l to 3 mg/l. 28 m^3/h. Korea

Removal of carbon particles and fine fibers for reuse of wastewater. 170 m^3/h. Abekawa Paper mill. Japan

Backwash water from sand filters at a WTP to remove cryptosporidium, enabling 10 Ml/day to be reclaimed drinking purposes. United Kingdom

Pre-filtration for RO with 2 lines of 200 m^3/h at 3µ. 4 filter units for 100% security. Raw city water with quality with SDI <2. Petrochemical industry. France



Providing protection from cryptosporidium at a WTP to supply 40 Ml/day of drinking water. United Kingdom