



MULTIMEDIA FILTRATION SYSTEMS

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General Overview

Multimedia filtration systems are designed to remove suspended solids, turbidity, and particulate matter from water using multiple layers of graded filtration media.

Unlike single-media filters, multimedia filters provide:

- Higher filtration efficiency
- Greater solids loading capacity
- Longer filtration cycles
- Lower pressure drop development



Systems are available as skid-mounted or standalone vertical / horizontal pressure vessels.

For each vertical / horizontal sand filter design we use our own Excel program to calculate required area, filtration velocity, backwash flow rate, backwash blower capacity and required minerals, quartz and resin.



UIS = WCUI

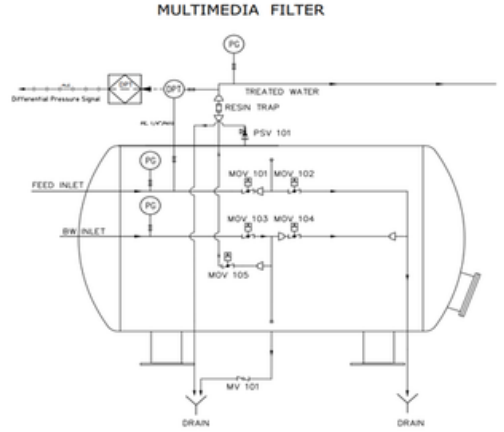


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DESIGN PARAMETERS

All system designs are based on raw water analysis and the required effluent quality. Through this engineering approach, the following benefits are provided:

- Optimized Performance
- Reliable Water Quality
- Lower Costs
- Longer Lifespan



· Parameter	· Typical Range
· Filtration Velocity	· 8 – 15 m ³ /m ² .h
· Turbidity Removal	· < 5 NTU (depending on feed)
· Vessel Diameter	· 600 – 3400 mm
· Design Pressure	· 4 – 10 bar
· Media Bed Depth	· 800 – 1200 mm



SYSTEM COMPONENTS

Pressure Vessel

- ST37 Carbon steel epoxy coated
- FRP vessel
- Stainless steel (special applications)
- Manholes and inspection ports

Internal Distribution System

- Top distributor for uniform inlet flow
- Bottom lateral system for even collection
- Optimized nozzle layout
- Uniform distribution prevents channeling and uneven media fouling.

Filtration Media

Typical configuration:

- Anthracite, Activated Carbon
- Silica sand Minerals
- Garnet / Quartz

Media selection is customized based on:

- Raw water characteristics
- Particle size distribution
- Required turbidity level
- Backwash water availability

Valve & Piping System

Available configurations:

- Manual valve
- Automatic multiport valve
- Electrical / Pneumatic valve
- PLC-controlled automatic backwash

Instrumentation:

- Inlet & outlet pressure gauges
- Differential pressure monitoring
- Flow meter (optional)
- Turbidity meter (optional)
- Automatic backwash control panel

BACKWASH DESIGN PHILOSOPHY

A multimedia filter is only as good as its backwash system.

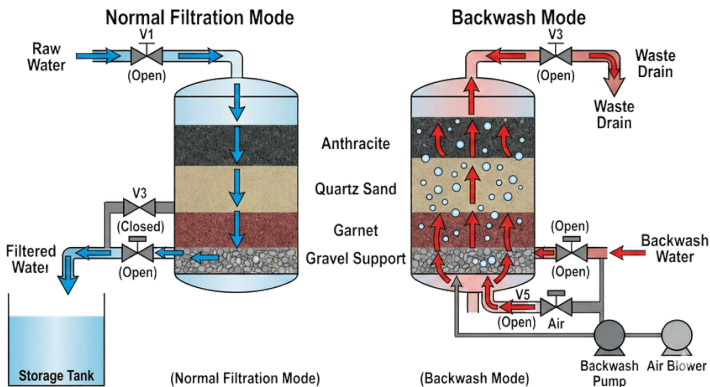
Proper design includes:

- Adequate backwash flow rate (bed expansion 20–40%)
- Uniform upward distribution
- Air scour (optional)
- Backwash duration optimization

Poor backwash design leads to:

- Mudball formation
- Media mixing
- Reduced filtration performance

We design backwash hydraulics carefully – not approximately.





WHY CHOOSE US?



QUICK
FEEDBACK



BEST
COMPETITIVE
PRICING



CONTINUOUS
TECHNICAL
SERVICE
SUPPORT



WESTERN
EUROPE
EQUIPMENT

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We Design Based on Real Hydraulic Calculations

- Filtration velocity optimization
- Media depth calculation
- Backwash expansion analysis
- Pressure drop estimation

We do not oversize vessels unnecessarily – and we do not undersize them.



Engineered Internal Distribution

Channeling is the silent killer of filter performance.

We ensure:

- Uniform inlet distribution
- Correct nozzle spacing
- Balanced hydraulic profile

Performance comes from internal design, not only vessel size.



Process-Oriented Engineering

We understand where the filter stands in the process:

- RO pretreatment protection
- Turbidity compliance
- TSS reduction before reuse

A multimedia filter is not an isolated tank – It is part of a system.





Reliable Operation

- Long filtration cycles
- Stable pressure drop behavior
- Efficient media cleaning
- Low maintenance requirements

Designed for continuous industrial operation.



Custom Solutions

- Skid-mounted compact units
- Containerized filtration systems
- High-flow industrial batteries
- ATEX applications
- Seawater prefiltration designs

We build according to project requirements – not catalog limitations.



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SERVICES TO:



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*We're excited to
work with you*


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TÜRK PATENT ve MARKA KURUMU

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Prof. Dr. Habip ASAN
Türk Patent ve Marka
Kurumu Başkanı

**TÜRK
PATENT**
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