

# Automatic Disc Filter

# HIGH EFFICIENCY SELECTIVE FILTER FOR SUSPENDED SOLIDS

## Design Standards

Inlet water pressure: Max. 8.0 bar, Min.:2.0 bar

Operation temperature:  $\leq 50^{\circ}\text{C}$

PH: 4-14

## Materials of construction:

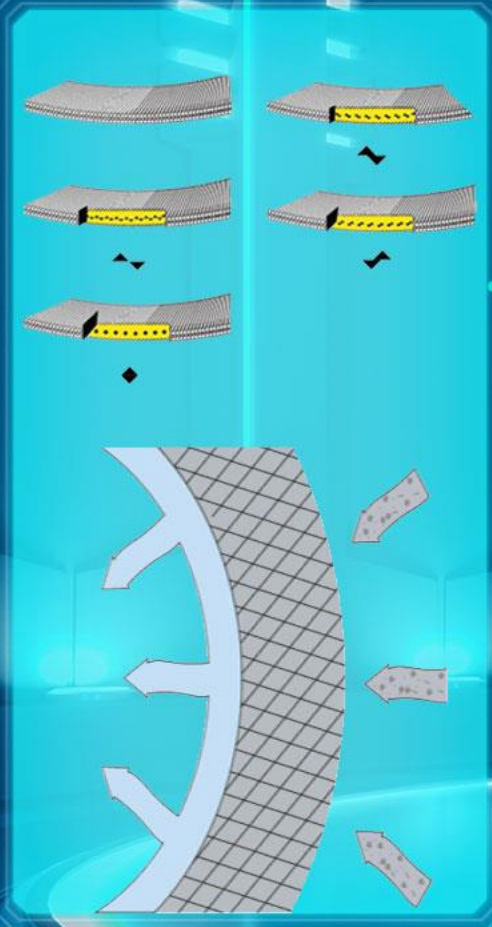
Filter unit housing: Glass fiber reinforced polyamide ( PA\*)

Discs: polypropylene (PP)

Piping: HDPE\*/SS304/Carbon steel

Sealing element: NBR\*/EPDM





Each disc has grooves in different directions on both sides, and the grooves on the adjacent surface form many intersections by compression.

The Intersection forms a large number of cavities and irregular passage, the solid particles are intercepted when water flows through.



# 5µm 10µm

Discs							
Mesh	75	110	150	288	625	1250	2500
Micron	200	130	100	50	20	10	5

# Disc Filter Structure

Discs



Cartridge



Unit



System



# DISC FILTER STRUCTURE

## Inlet pipe

Material:  
HDPE, SS304, Carbon steel

## Drain pipe

Material:  
HDPE, SS304, Carbon steel

## JK backwash valve

## Outlet pipe

Material:  
HDPE, SS304, carbon steel

05/31



## Disc filter unit



## Digital Stager controller

(built-in differential pressure start)



## COUPLING

## Bracket

Material: Carbon steel



## Operating Status

Water inlet pressure drives the diaphragm device to compress the disc pack to form a dense filter cartridge. The suspended solids are intercepted by filter cartridge. The filtered water passes through check valve in the center of filter cartridge to the lower water outlet.



## Backwashing process

1、 By the action of the backwash valve, the water inlet is automatically switched to the drain, and the backwash water passes through four pipes with nozzles to push up the filter pressure cap and diaphragm device, loosen the disc pack, and water spray out along the tangent line. The discs are rotated, and the trapped suspended solids are clean away thoroughly.

2、 The red float inside the transparent cover makes it easy to observe and judge the condition of the inner filter cartridge from the outside.

3、 The top air intake & exhaust valve will open automatically, air enters the filter cavity, which helps to improve the spray cleaning effect.





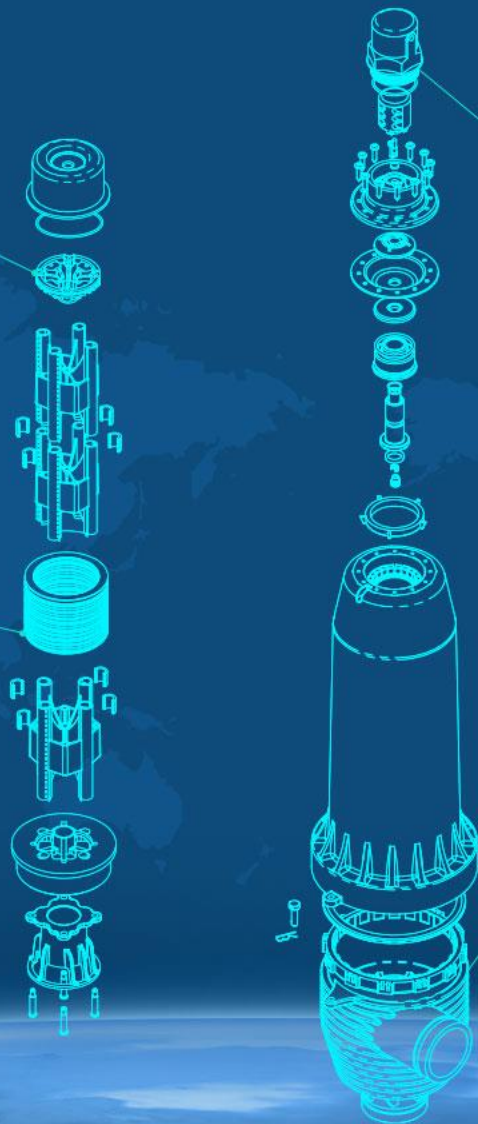
## Disc filter operating principle video



The only Non-Spring Disc filter



Unique 5 $\mu$ m, 10 $\mu$ m filtration precision



Each unit has an independent Air intake & exhaust valve to ensure the best backwash effect.

Centrifugal tangential water inlet improves filtering effect.

## Air intake & exhaust valve

Each unit has its own large-flux air intake & exhaust valve, greatly improves the backwashing effect; it performs as an indicator of operation process, water saving 40%.



## Air buoyancy check valve technology

Adopt plastic check valve design, no metal or rubber parts in contact with water, avoid rubber aging and metal corrosion and other safety risks, especially suitable for brackish water and sea water filtration.



## Low backwash pressure

Adopt diaphragm hydraulic technology, compressing discs making backwash pressure as low as 1.2bar, energy saving 20%.

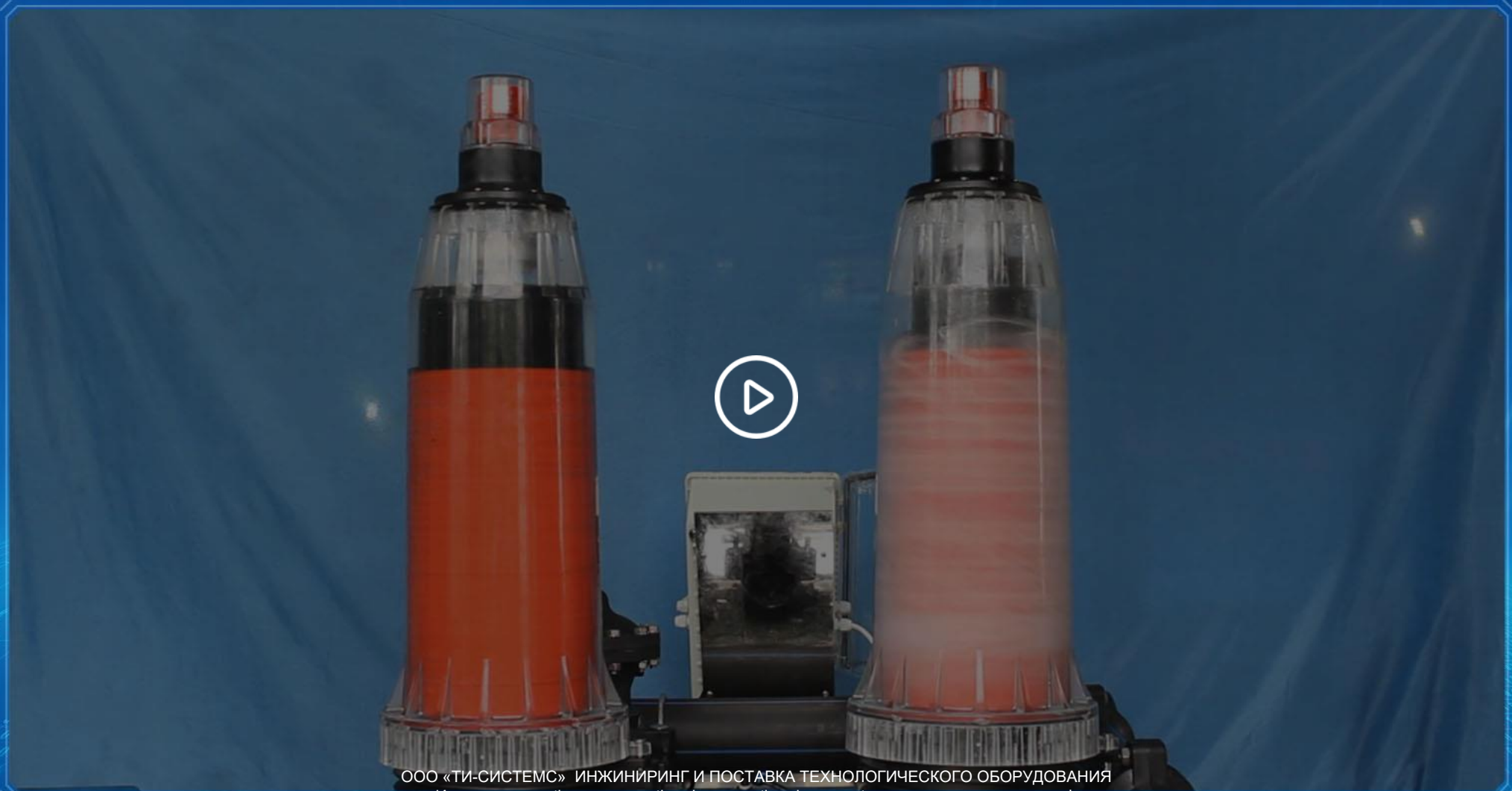


## Self-locking sealing technology

The filter adopts self-locking buckle with a specially designed sealing ring, which is quick to install and easy to maintain, the sealing effect is safe and reliable.



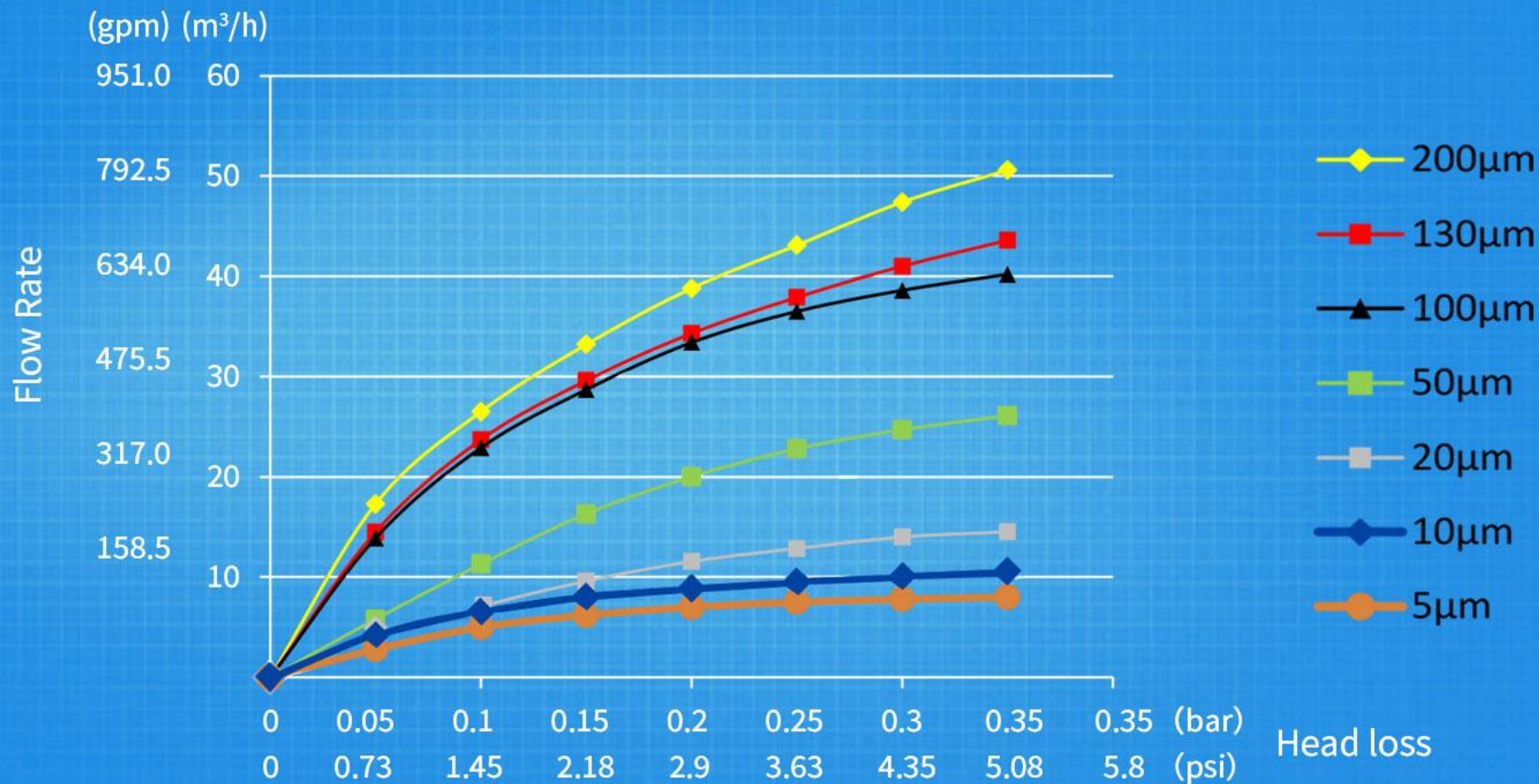
## Backwash Video



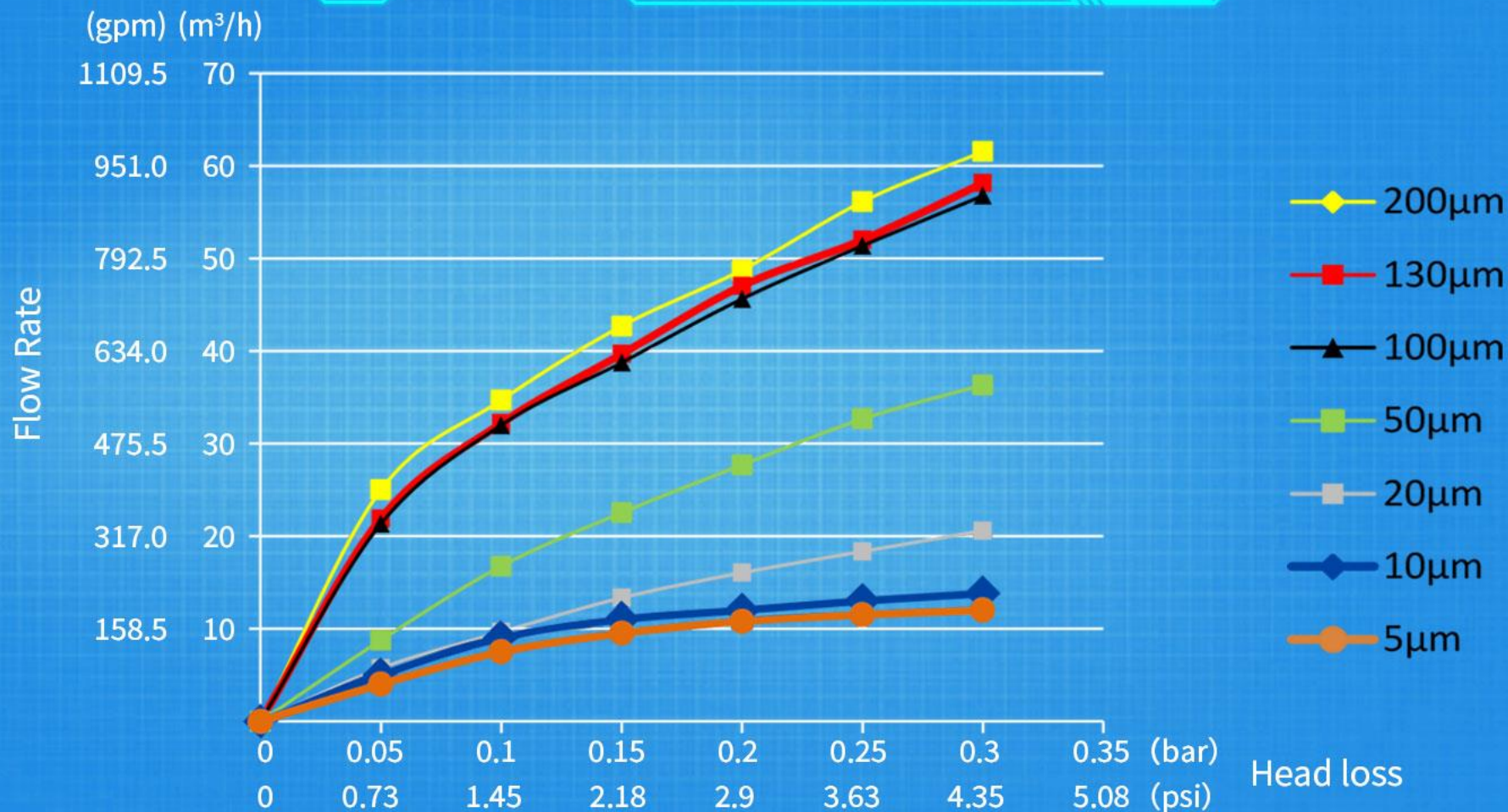
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Filtration method comparison				
	JKmatic disc filter	Media filter	Screen filter	Other disc filter
Filtration methods	Surface filtration + in-depth filtration	in-depth filtration	Surface filtration	Surface filtration + in-depth filtration
Self consumption rate	0.3-0.5%	5-8%	1-3%	1-2%
Corrosion resistant	Very good	Very good	Poor	Poor
Cleaning effect	Clean thoroughly	Poor	Poor	Clean thoroughly
Backwash pressure	1.2bar	Greater than 2bar	Greater than 2bar	Greater than 2.8bar
Footprint (i.e. 250/m <sup>2</sup> )	2.5m <sup>2</sup>	48.0m <sup>2</sup>	2m <sup>2</sup>	2.5m <sup>2</sup>

# 2inch filter unit



## 3inch filter unit



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Responsibility Integrity Purpose Principle

## Raw water quality classification reference

Good water quality: urban tap water; well water drawn from stable aquifers.

Normal water quality: circulating cooling water; surface water treated by sedimentation; drainage treated by effective sedimentation and fully biological treatment.

Poor water quality: groundwater pumped from aquifers with poor water quality; drained water that has undergone effective sedimentation but with little or no biological treatment, surface water with microbial blooms.

Very poor water quality: well water pumped from very dirty or iron- and manganese-rich wells; flood-affected and unsettled surface water; unsettled and biologically treated drainage.



## Different precision applications

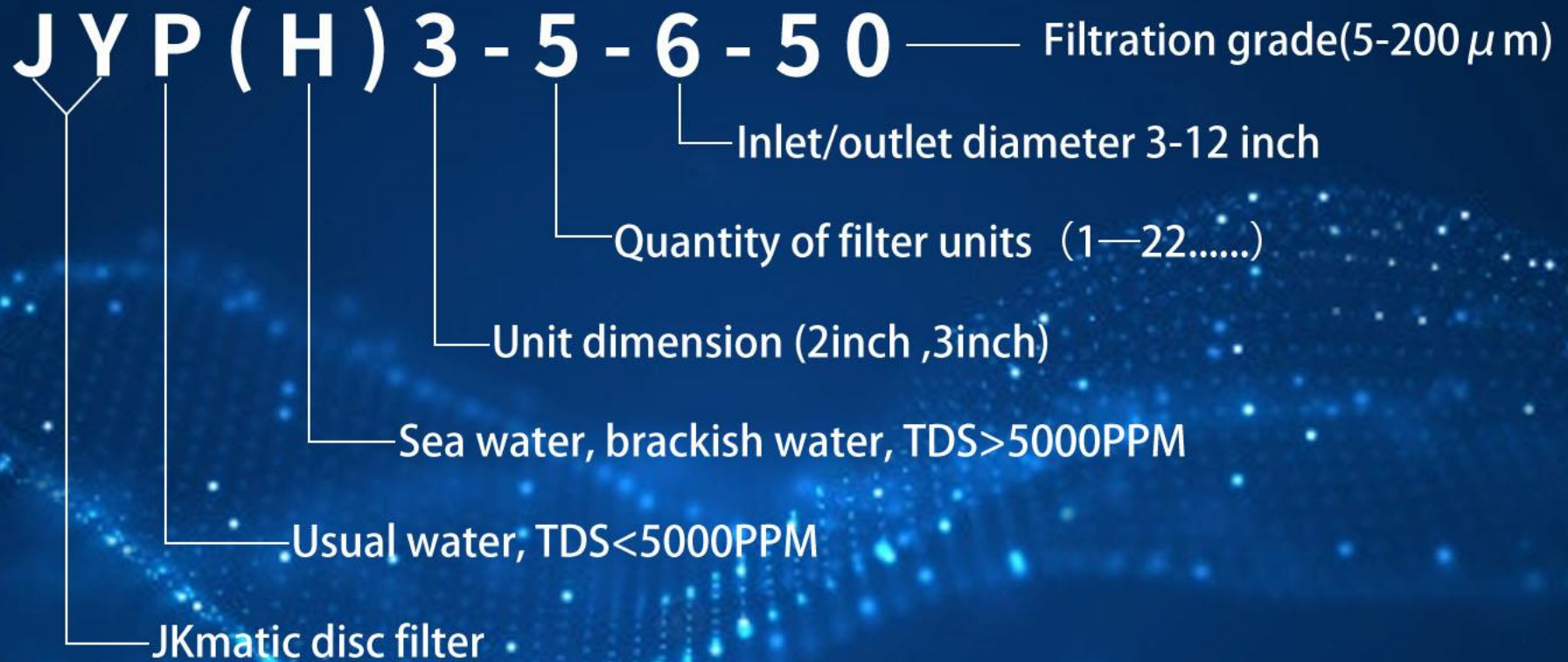
Filtration grade	Application areas
5-10µm	Pretreatment of fine filter and cartridge filter, Membrane protection
20-55µm	Protection of ion resin, activated carbon, filter element, filter bag
55-100µm	Pretreatment of cooling circulating water filtration and ultra filtration
100-130µm	Nozzle protection
130-200µm	Multimedia filter pretreatment
20-200µm	Industrial Feed water pretreatment

2"filter unit's filtration area=1200cm<sup>2</sup>;3"filter unit's filtration area=1660cm<sup>2</sup>

Company: T/H

Filtration grade \ Water quality	Good water quality		Normal water quality		Poor water quality		Very poor water quality	
	2"	3"	2"	3"	2"	3"	2"	3"
5μm	5.5	9	4.5	7	3	4.5	1.5	2.5
10μm	6.5	10	5.5	8	3.5	5.5	2	3
20μm	7	11	6	9	4	6	2.5	4
50μm	12	17	10	14	7	10	5	7
100μm	16	25	14	20	12	17	8	12
130μm	20	32	17	27	14	23	9	14
200μm	24	36	20	30	16	25	10	16

Note: The above data are based on the testing conditions in laboratory. Please select appropriate mode numbers and filtration grades according to the actual operation conditions or consult local distributors or sales representatives.



Pipe diameter	3" (DN80)	4" (DN100)	6" (DN150)	8" (DN200)	10" (DN250)	12" (DN300)
Recommended flow rate (m <sup>3</sup> /h)	≤35	36—60	60—160	160—300	300—450	450—600

# SERIES JYP-2 series



# SERIES JYP-3 series



# CEPIEC Double row series



## Disc filter installation and notes

- (1) Power AC: 220V50Hz/110V60Hz
- (2) Install manual valves at the inlet and outlet of the equipment
- (3) The water in the system needs to be drained during winter not in service
- (4) Protection from fully sun exposure
- (5) Applicable temperature 5-50°C
- (6) Fixed on 200mm concrete



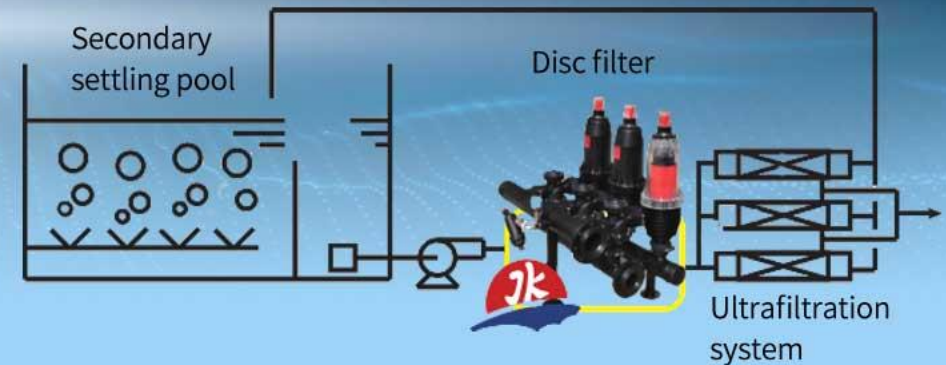
# Sea Water Desalination

A desalination project in the Philippines

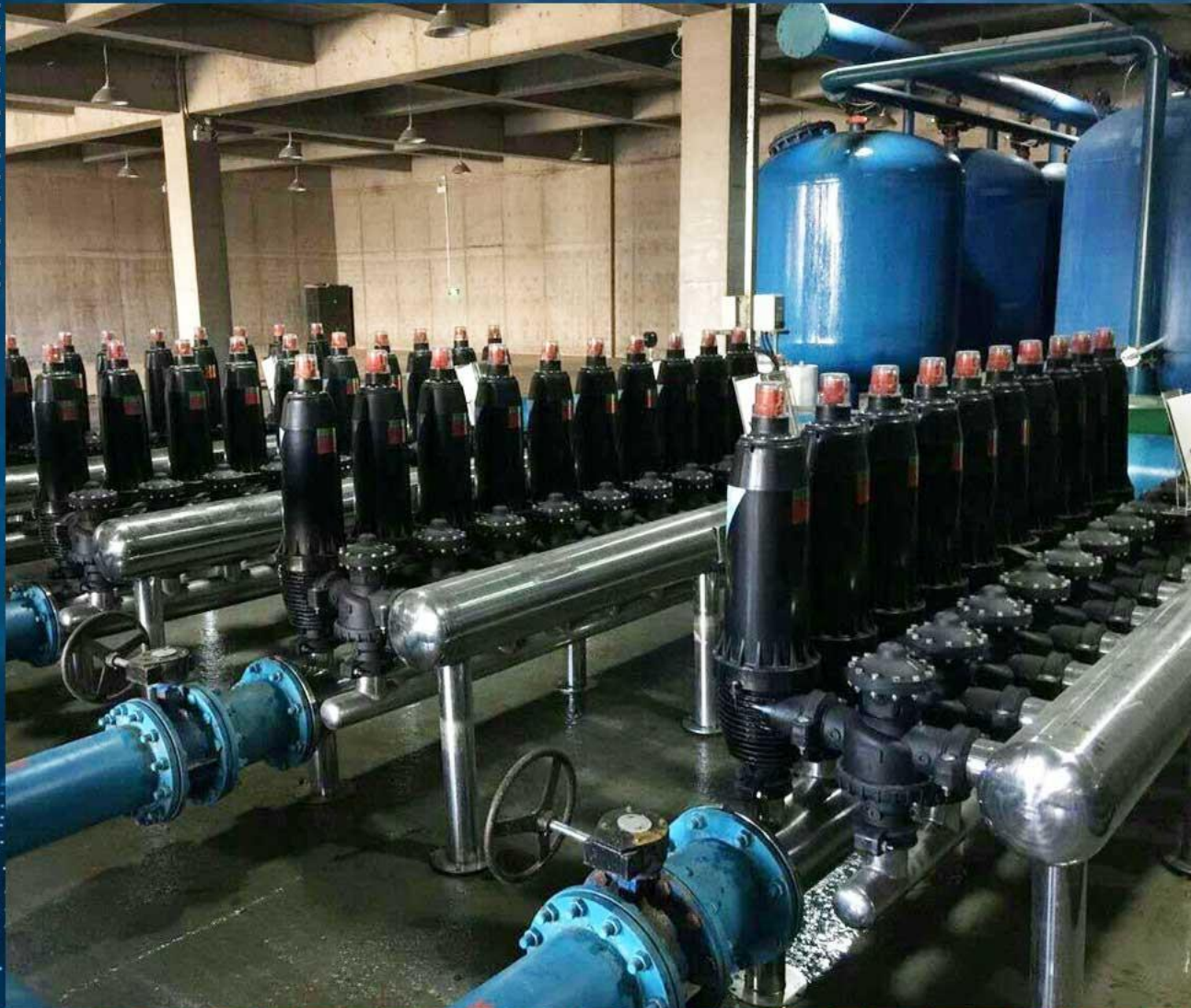
Filtration Grade: 100µm

Model: JYH3-22: JYH3-22(2 sets)

Flow Rate: 1000m<sup>3</sup>/h







# Multi-media Filter Pretreatment

Pharmaceutical company in Jilin

Filtration Grade: 100µm

Model: JYS3-10 (4 sets)

Flow Rate: 750m<sup>3</sup>/h





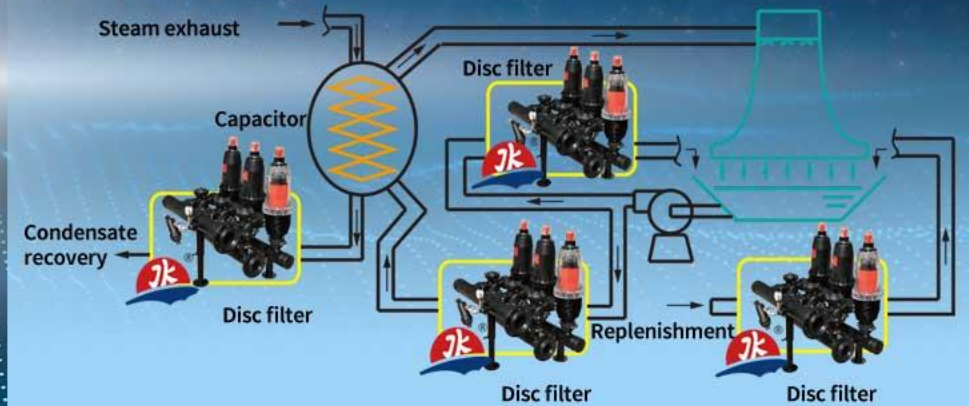
# Cooling Tower Side Filtration

Filtration Grade: 100µm

Model: JY3-10-8 (57 sets)

Flow Rate: 10000m<sup>3</sup>/h

Open cycle process





# Membrane Pretreatment

RO & Ultra filtration membrane protection

## Technology company in Nanchang

Filtration Grade: 100 $\mu$ m

Model: JYP2-4-4 (2 sets)

Flow Rate: 150m<sup>3</sup>/h





# Ionexchange Pretreatment

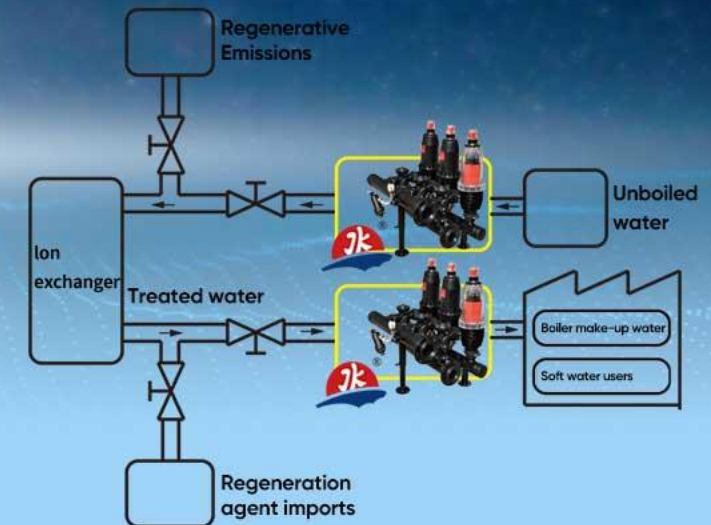
Ion exchange pretreatment, resin capture device.

## Heating company in Shaanxi

Filtration Grade: 50µm

Model: JY3-12-10 (2 sets)

Flow Rate: 300m<sup>3</sup>/h





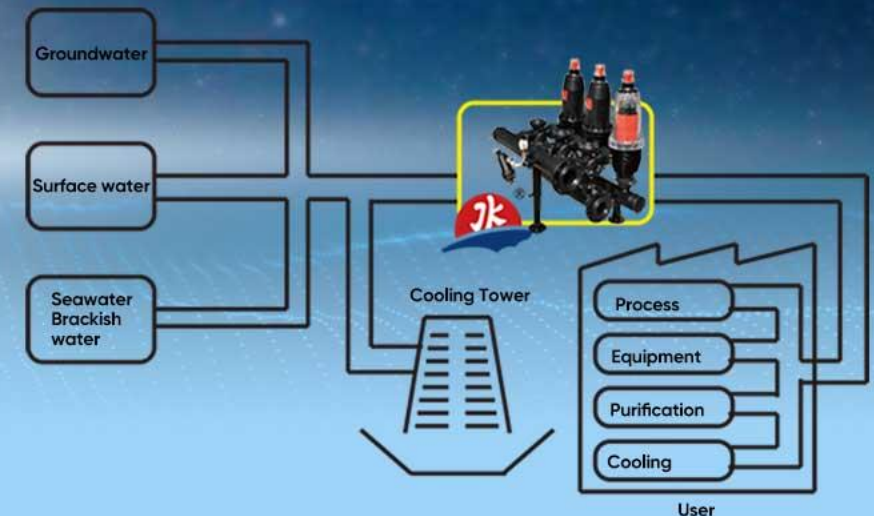
# Industrial use feed water pretreatment

A chemical project in the west of China

Filtration Grade: 100 $\mu$ m

Model: JYF3-10 ( 4 sets)

Flow Rate: 800m<sup>3</sup>/h





# Agricultural Irrigation

## A Irrigation Project in Ningxia

Filtration Grade: 100µm

Model: JYP3-6-8

Flow Rate: 240m<sup>3</sup>/h



# CLASSIC CASE

Flexible installation &  
Saving land occupation

## A water supply plant project in Erlianhot City

Filtration Grade: 100 $\mu$ m  
Model: JYP3-10 (10 sets)  
Flow Rate: 1000m<sup>3</sup>/h



# JY3-10

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- Desalination
- Membrane protection
- Cooling Tower
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- Printing & dyeing
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