

GP Module

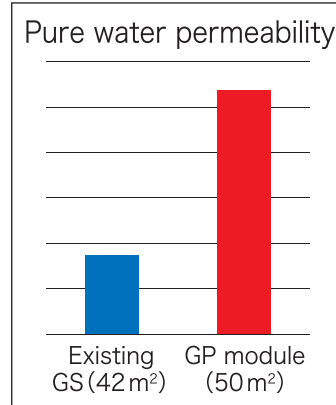
GP-0102(US02-125)



Compact design, high filtration performance
Applicable to higher turbidity water filtration
Applicable to sea water, and higher salinity water filtration

1 High permeability

- Kuraray has developed a hollow fiber membrane module with three times higher permeability compared to its existing products. The water permeability reaches the highest level in MF/UF membrane module. With its lower transmembrane pressure difference, power cost (power for pumps) can be reduced.



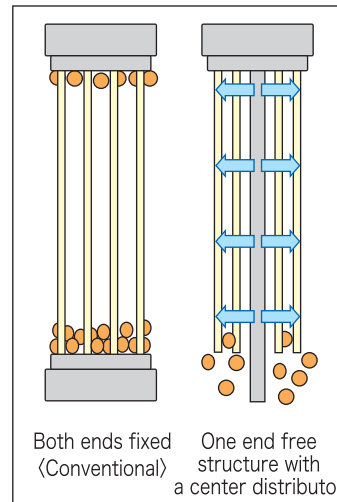
(compared to our company's products)

2 High strength, high chemical resistance

- Kuraray's own hydrophilic PVDF membrane enjoys excellent strength, which enables prolonged use of the GP module.
- PVC is used as a housing material, which enables to use GP module for sea water filtration.

3 Applicable to higher turbidity

- As the bottom end of hollow fibers is left free, suspended solids (SS) can be easily removed without accumulating between the fibers.
- By feeding air and water from the center distributor located at the center of the module, effective cleaning of the hollow fibers can be achieved



4 High water recovery

- The unique physical cleaning method (air backwashing) as well as the external pressure type filtration enables high water recovery with less wastewater generation*1

*1 Standard operating conditions: Recovery rate over 98%
 Flux: 125L/m²/h, Physical cleaning: every 30 min



Physical cleaning procedure

1		2		3		4	
	SS attaches to the membrane surface.		Attached SS is exfoliated with pressurized air		SS is scrubbed off with air bubbles.		Membrane surface is cleaned, and the performance recovers.

5 Small footprint, low cost

- The height of the housing is as low as 1.35 m, enabling compact system design.
- Reductions in space and system cost can be achieved because a tank and pumps for backwashing are not needed.



*Demonstration of physical cleaning.

Applications

- Bacteria, SS, Fe and Mn removal as well as drinking water production from surface and ground water
- Purification of process water for food manufacturing, precise cleaning and etc.
- Pretreatment for RO or NF, used for ultrapure water production
- Recovery and recycle of pure water from dicing, back grinding wastewater, and etc.
- SS removal from sea water, brackish water, high salinity wastewater, and chemicals

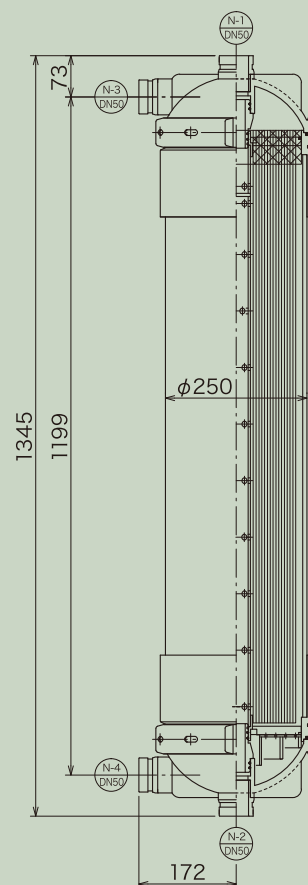
Model / Specifications

Product name		GP Module
Model		GP-0102 (US02-125)
Configuration		Single-unit type
Filtration type		External pressure type, dead-end filtration
Nominal pore size (μm)		0.02
Effective membrane surface area (m^2)		50
Standard design flow rate ($\text{m}^3/\text{h}/\text{module}$)		1-16
Dimensions (Diameter x Height: mm)		$\Phi 250 \times 1,345$
Holdup volume (L)		32
Weight (kg)		Empty: 40, Water filled: 72
Material	Hollow fiber	Hydrophilic PVDF*1
	Housing	PVC
	Potting	Polyurethane
	Air diffuser, Center distributor	PVC
	O-ring	EPDM
	Coupling	SUS304
Filling liquid		NaClO solution*2
Operating conditions	Maximum inlet pressure (MPa)	0.3
	Maximum air pressure (MPa)	0.19
	Maximum transmembrane pressure (MPa)	0.3
	Maximum temperature (deg. C)	40
pH range		1-11*3

*1 Polyvinylidene fluoride (PVDF) mixed with hydrophilic resin

*2 The effective chlorine concentration of NaClO solution is 25 mg/L.

*3 pH can exceed the above range during chemical cleaning.
Contact us for details.



List of nozzles

No.	Size	Name
N-1	Housing type pipe joint DN50	Air vent
N-2	Housing type pipe joint DN50	Raw water inlet
N-3	Housing type pipe joint DN50	Effluent outlet
N-4	Housing type pipe joint DN50	Drain outlet

Notes

- 1) Specifications and the type of the module may be changed without prior notice.
- 2) Application and basic data (in-house data) specified in this catalogue are standard examples.
These depend on the influent to be treated.

Manufacturer

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Distributor