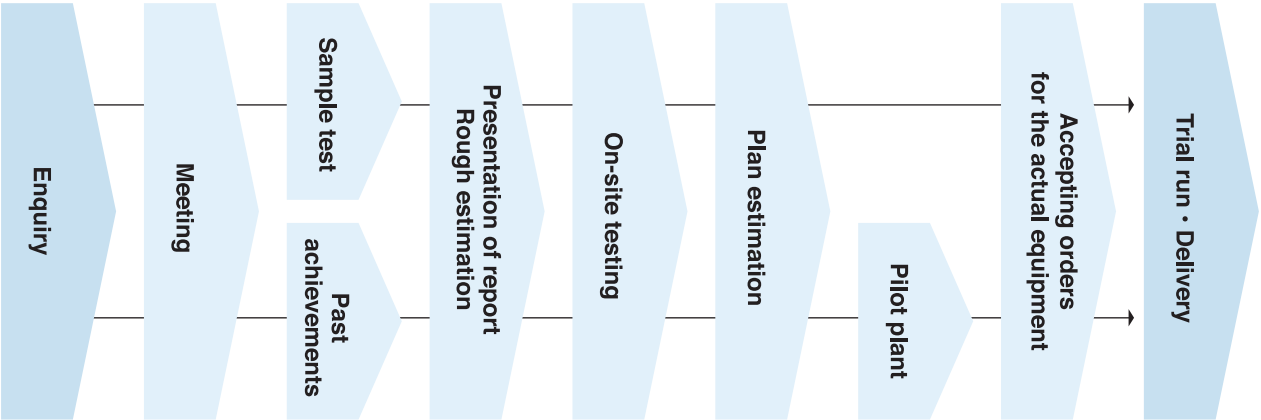


Process flow until delivery

From enquiries until trial runs and delivery, our business and technology staff will provide consistent support.



For those who are considering installation, please have a consultation first



*The picture is the actual machine (standard)

A Sample test

At our company, to provide accurate estimations and filtration conditions, we will have the filtration sent and conducted.

B Demonstration

Our company staff will conduct a filtration demonstration with a demo machine. By having the actual device affirmed, we can have the characteristics of the filter understood.

C Lending of demo unit

We conduct the lending of the demo unit to our customers. By actually using it, it is possible to experience the excellent back-washing which is the characteristic of MS Filter.

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Caution regarding safety

To use this product safely, please read the "instruction manual" or other materials corresponding to it first, and use it accurately.

The specifications, standards and design mentioned in this catalogue may change without notice due to improvement of product.

SHIBATA

Filter products catalogue

MS FILTER
ELEMENT & EQUIPMENTS

Uniform slits

Materialising advanced back-washing characteristics

From food industry to medical and chemistry fields

A precise filter with various uses

Micro Slit MS Filter Element

Realising superior back-flushing regeneration by accurate and uniform slits

MS filter element is a filtration filter born from a special winding wire technology. By spiral-winding stainless wires with a set interval, it forms precise and uniform slits, realising **high-density filtration** and **superior back-washing regeneration**.

Material

Stainless steel 316L is generally used
Durability withstanding up to 450°C of high temperature

Corrosion-resistant Heat-resistant Pressure-resistant

Spiral-winding stainless wires form precise and uniform slits

Slit

Slit width is 1µm~200µm (*nominal)
Corresponds accordingly to applied uses

Function

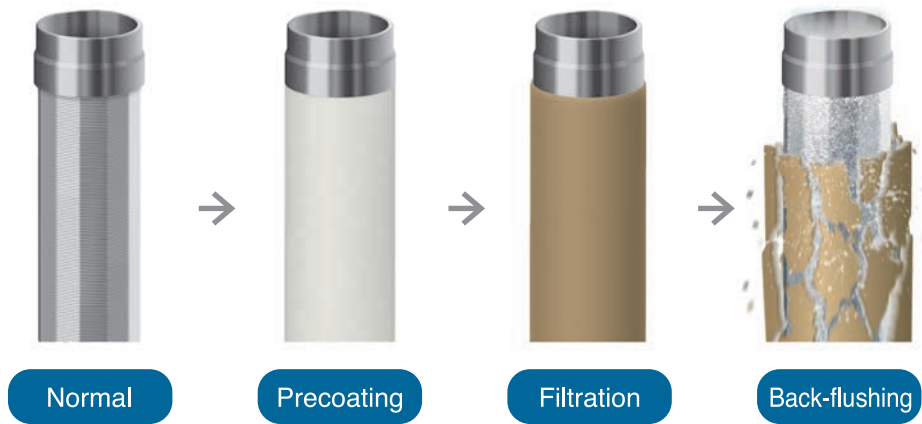
Homogeneous precoating Superior back-washing regeneration characteristic



Optimised Filter aid filtration (Diatomite filtration)

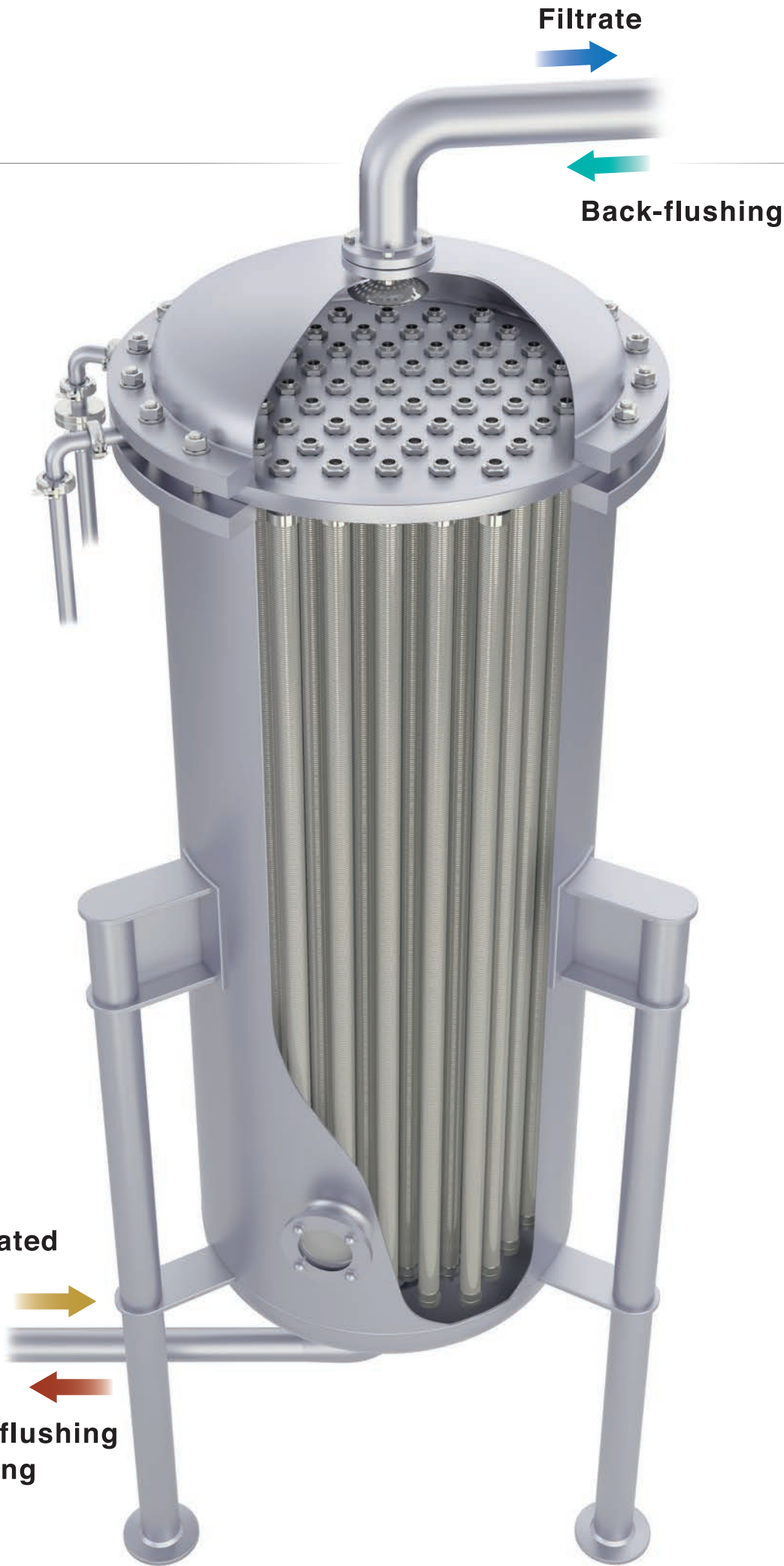
By accurate slits, filter aid can be adhered (precoating) uniformly. Superior in back-washing regeneration characteristic, without disassembled cleaning, it is possible for long-term continuous operation.

Image from the precoating of filter aid to back-flushing



Untreated liquid

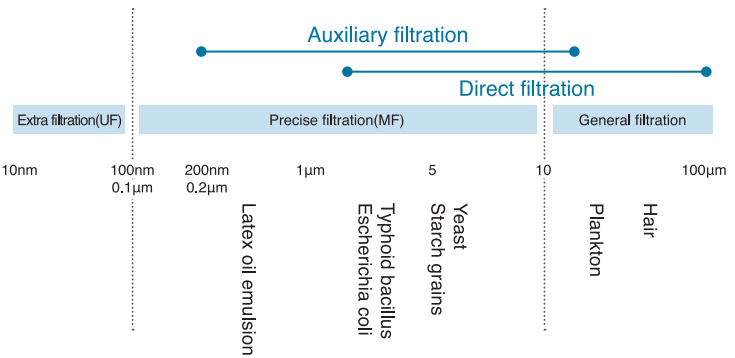
Back-flushing draining



MS filter element

MS filter element application range

Not only direct filtration, by using filter aids, precise filtration is possible.



Filter element arrangement example (n=61 filter elements, N=5)

The filter is comprised of a unit equipped with several MS filter elements at the tube plate and the housing which holds the unit. Each largeness is determined by the number of MS filter elements and the spaces in between each.

Calculation standards

$$D=P(2N-1)$$

$$n=3N(N-1)+1$$

D : Housing interior diameter
P : Element grappling pitch
n : Amount of units
N : Number of rows

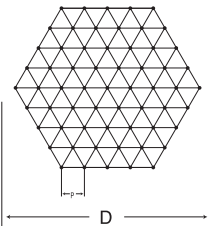
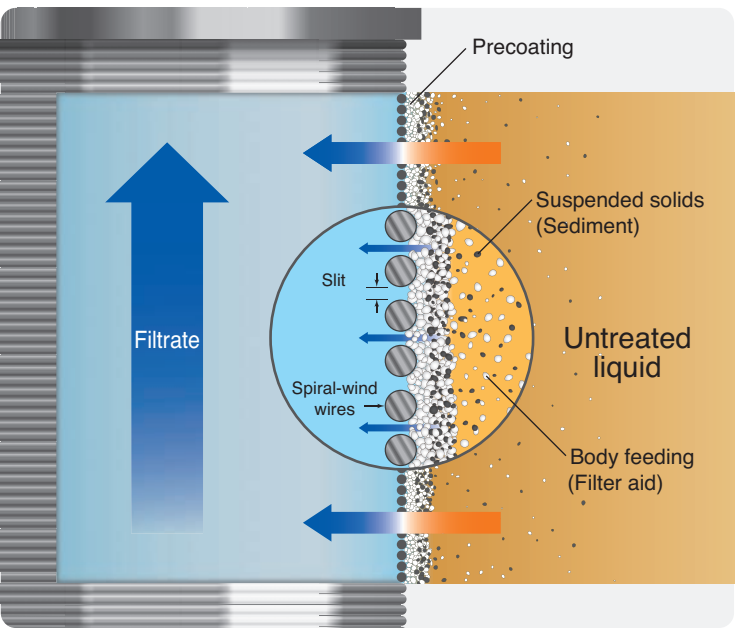


Image of filtration using filter aid



MS Filter unit outline



With just one switch, 「Fully automatic operation」
A trusted filter which continues operation in over a 100 places within the country.

Ms Filter has delivery results of up to 100 places from beer and soy sauce makers to medical care and chemical makers. The biggest advantage of the MS Filter which utilises “superior pre-coat capabilities and back-flushing capabilities”, constructing a fully automatic system, allowing various clients to use it.

Reduction of operator's duties

By the fully automatic sequence control, operation hours are greatly reduced, and filtration with great efficiency becomes possible.

Improvement of hygiene at production site

The filter which is the completely airtight type, during back-flushing, can drain the used filter aid without opening the filter unit, keeping the production site clean and hygienic.

From small unit to large unit

From small unit that can be placed upon tables, to large unit surpassing 50㎡, we can design various filter units and systems to meet the customer's needs.

Installation precedent

MS filters can resolve the problems that filters have been facing up until now and construct a new filtration system.

Minimizing Manpower

Food manufacturer

Reduction of manpower by automation, and further by stable filtration operation, gain the improvement of production efficiency.

Airtightness

Chemical manufacturer

The airtight filter which is superior in airtightness, can also deal with dangerous undiluted solutions.

Space conservation

Industrial manufacturer

As it is candle style, the installation area is small, allowing installation in corners or limited spaces.

Cleanliness

Clean and hygienic

Corresponding to CIP, SIP, the filter which is capable of keeping the interior of the filter hygienic, is superior in sanitary capabilities.

Custom

Beverages manufacturer

By plan proposals of equipment and programs according to the request of the client, contribute to the conservation of space, improvement of operation ability, reduction of manpower and improvement of production efficiency.

Improving production efficiency

Flavouring manufacturer

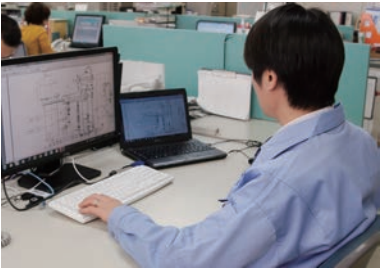
With superior back-flushing capabilities, the work of disassembled cleaning every time becomes unnecessary, the work and time for changing liquids become greatly reduced, and improves small-lot multi-production efficiency.

Example of applications

Field	Filtration target	Characteristics
Food 	• Beer • Wine • Sake • Vinegar • Soy sauce • Green Tea • Liquid sugar • Coffee • Black Tea	With abundant filtration achievements for items such as soy sauce and vinegar, we have recently begun using it for plastic bottle drinks and liquid sugars.
Chemistry & Medical 	• Refining of medical raw materials • Medicinal plants, etc. extraction process • Collection of fine powder of ABS resin and PET resin, etc. • Traditional Chinese medical essence • Filtration of paint, highly viscous saccharides, etc., and liquids of high temperature • Formation product, division and collection of finer particles such as catalysts, collection	By making use of the characteristic of the fully airtight type filter which excels in durability, from direct filtration to auxiliary filtration, we use it for every type of use applicable.
Others 	• Clean-up of boiler circulation water • Refining process of petroleum • Division of activated charcoal used for bleaching and absorption. • The circulation use of polishing agents and lubricant	Making use of precise slit capabilities, towards the needs from the client, we use it with various usage methods.

Consistent correspondence from element manufacture and facility design until automatic control

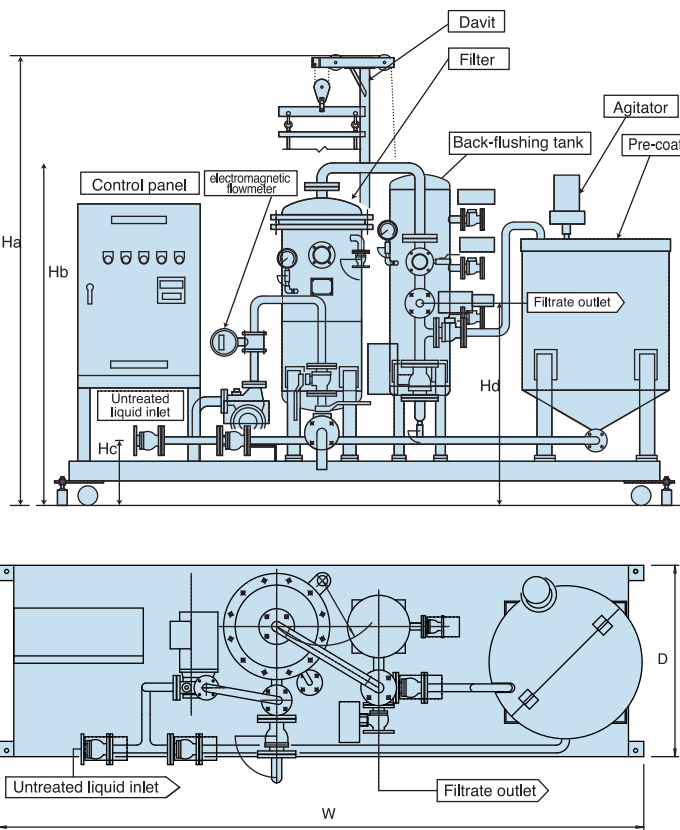
From manufacturing and design until automatic control by sequence programming, our company provides consistent correspondence. Also, with many years of experience, from the selection of filter aids until the advice for filtration process, we would like to answer to the various needs of our customers.



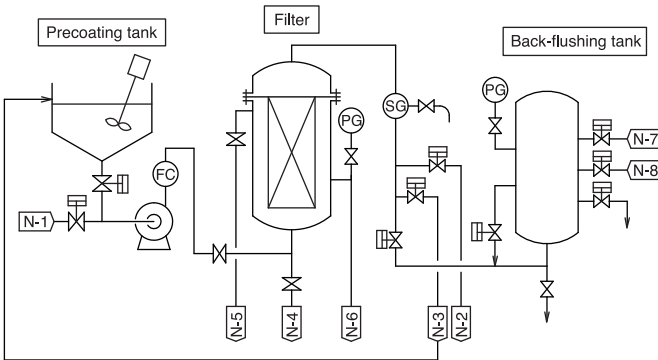
Long term after sales support and partnership

The filter of our company excels in durability, and through long-terms, you can use it with peace of mind. Also, even after installation of the facility, our company's staff with affirm the usage condition periodically and support long-term operation.

MS filter automatic unit specification



- From standard unit to custom unit, we are able to propose various filtration units to meet the customer's needs and applications. Designs can be followed the installation space and necessary standards.
- Line-up example
- Tabletop small unit
 - Small size standard unit
 - Custom made unit
 - Manual operation unit /Semi-automatic unit /Fully automatic unit
 - Filter with dehydration mechanism (Shuroka)
 - Specialized unit (Collecting residual liquid type)



Summary of specifications								
Measurement Model	Number of filter media/ Filter area ※Nominal	Maximum aid amount / Pitch	W(mm)	D(mm)	Ha(mm)	Hb(mm)	Hc(mm)	Hd(mm)
F250-12LS/BF200	12本/0.78㎡	4kg/55mm	2800	1200	2700	1950	300	950
F300-19LS/BF250	19本/1.2㎡	7kg/57mm	2800	1200	2700	1950	300	950
F400-31LS/BF300	31本/2.0㎡	11kg/57mm	3100	1250	2850	2050	300	1000
F500-55LS/BF400	55本/3.6㎡	17kg/55mm	3300	1350	2900	2150	350	1050
F600-85LS/BF500	85本/5.5㎡	27kg/55mm	3500	1400	3000	2250	350	1050
F500-55L/BF400	55本/7.2㎡	34kg/55mm	3300	1350	4300	2950	350	1050
F600-85L/BF500	55本/11.1㎡	54kg/55mm	3500	1400	4300	3050	350	1050

W: Frame width D: Frame depth Ha: Height including davit Hb: Filter height Hc: Untreated liquid entry height Hd: Filtrate outlet height
※Model Housing [F] [500] - [37] [L] ※Corresponding range: *Nominal filtration area 50㎡ (Actual: Nominal filtration area 40㎡)

Interior diameter Amount Type
D n S/L

Dehydrator

Original dehydrator optimised for MS filter

The dehydrator created by our own company is designed as a drum-type vacuum filter which aims to divide solids and liquids of the slurry emitted by the filter. By unifying the slurry collection tank and filter part, the installation space becomes smaller, and by making construction simpler, maintainability is improved. By separating the filter and dehydrator, the filter can immediately operate filtration after regeneration of back-washing. The slurry sent from the filter is received by the collection tank and is continuously divided to solids and liquids by the dehydrator. The automatic control panel is standard equipment, making long-time continuous disposal possible.



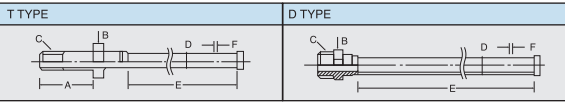
MS filter element specification



● S TYPE Suited to small type filtration equipment, able to have several installed even in tight spaces.

Connector model	Connector size			Filter media diameter D(mm)	Effective length E(mm)	Slit size F(μm)※Nominal	Filter area (㎡) ※Nominal	Material
	A(mm)	B(mm)	C(screw)					
T TYPE	(55)	φ25	M16×2	12(Hex.)	286 [03]	1 [01] 3 [03] 5 [05]	0.011	SUS316L
D TYPE		17(Hex.)	R3/8		586 [06]	10 [10] 20 [20] 30 [30]	0.022	or SUS304

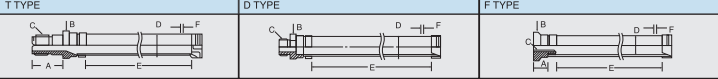
Model number example



● L TYPE Possessing same strength and precision as S type, it is suited for the large type filtration equipment.

Connector model	Connector size			Filter media diameter D(mm)	Effective length E(mm)	Slit size F(μm)※Nominal	Filter area (㎡) ※Nominal	Material
	A(mm)	B(mm)	C(screw)					
T TYPE	(55)	φ40	M24×2	30(Hex.)	330 [03] 683 [07] 1200 [12]	5 [05] 10 [10] 30 [30]	0.031	SUS316L
D TYPE		32(Hex.)	G1/2		1390 [14]	50 [50] 70 [70] 90 [90]	0.065 0.113 0.131	or SUS304

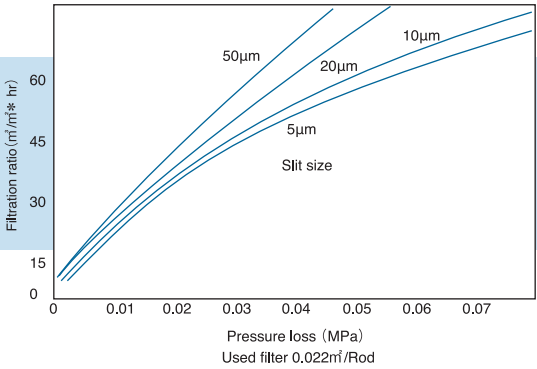
Model number example



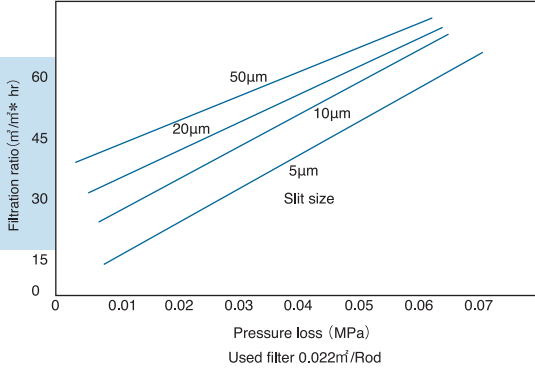
※The slit size is of nominal value

Special features of filtration

Special features of tap water filtration



Special features of filtration during precoating



PM filter element

Sintered porous metal filter covered a filtration area of 0.2~20micro

The PM filter is a seamless tubular filter made by sintering stainless steel powder. With abundant accomplishments and know-how accumulated with the MS filter, it greatly improves “filtration abilities”, covering a filtration area of 0.2~20 micro. In particular, with superior porosity, water conduction capabilities and accurate pore size distribution, in fields requiring more accurate filtration, this can be used continuously for long hours.

Precise filtration by accurate bore diameter

By fully automatic sequence control, unmanned operation can be implemented. It is possible for efficient filtration. Stabilisation of quality can be planned, and filtration can be done without worries.

Seamless · No binder

It is seamless and the entire filter material can be effectively utilised. As binders for combining stainless steel powder is not used at all during construction stage, liquids will not change in quality.

High back-flushing regeneration possible in a short time

Complete airtight type filters can, after back-washing, emit cakes through plumbing until the disposal area without contaminating the floor.

