



KOREA SLOT
Wedge wire screen & Tower internals



KOREA SLOT
Quality, Global standard



Principle,

Principles to be observed should be kept. Koreaslot's most important principle is the trust with customers and it is always observed in bearing the basic specifications in mind, in advance of production, and from the procedure of production to the time of delivery to the customer, and in the service after delivery. We would like to share with you the every moment whenever such principle being confirmed through the materialized custom-made such as efficient production system and delivery management, etc.

Jeddah South PPT – Project (Auto cleaning duplex strainer)

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Greeting

Dear valued customers, we are pleased to introduce our company Koreaslot Co., Ltd.

Koreaslot Co., Ltd. was established in 1994, we successfully localized the manufacturing Wedge wire screens and Metal filters that being relied on importing from the overseas in the past. Our products are used in various industrial fields such as petrochemical, chemical, food, iron, paper & pulp.

Koreaslot always accomplishes the continuous improvement of quality and reduction of the production cost, through the endless research and effort by cooperation of whole employees under the target of quality for customer satisfaction.

Koreaslot promises to support you the best solutions for supplying the products being produced with the sufficient communication with the customers.

Ki-chul, Choi / President & CEO

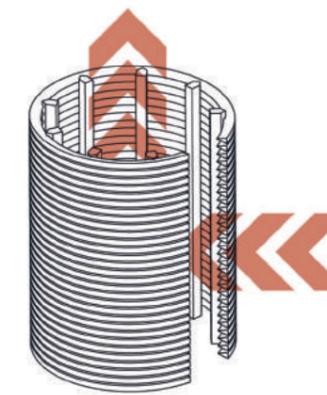
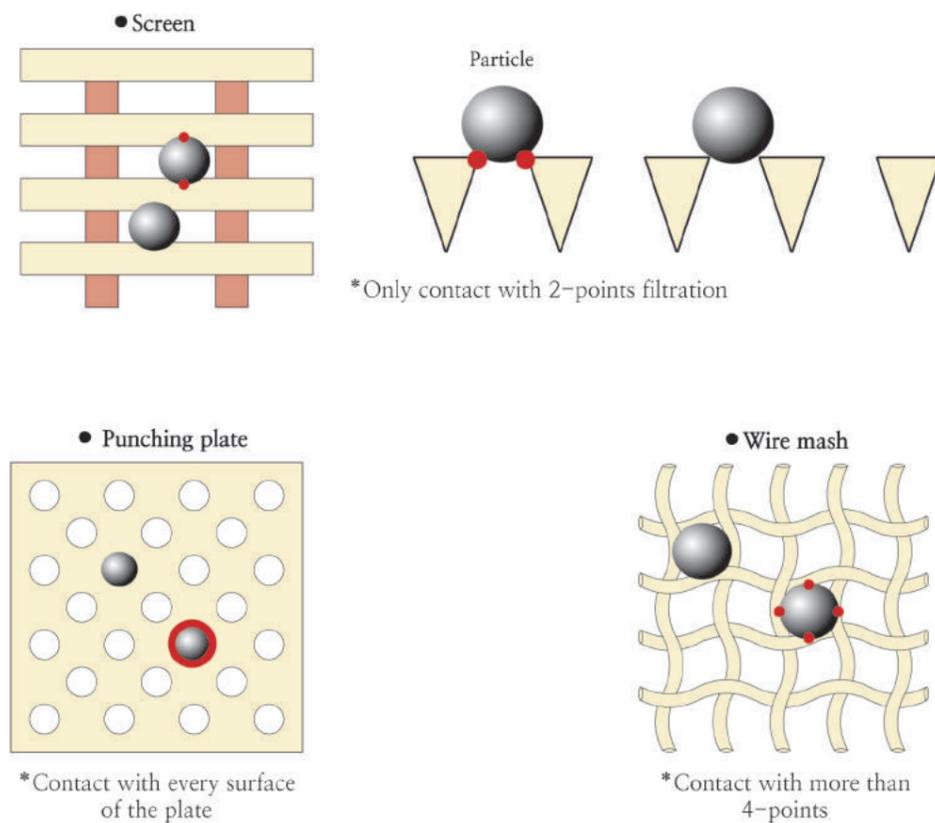


Company view

Basic specification

Screen's Structural Characteristics and Advantages

As shown in the picture, screen has only two points where particles contact the structure in comparison with punching plate. The punching plate has points on almost everywhere, and wire mesh has more than four points, which means screen has more processing capacity and strength limit with the stream of fluid per hour than other materials such as punching plate and wire mesh. It will serve durability, performance and improve product's quality.



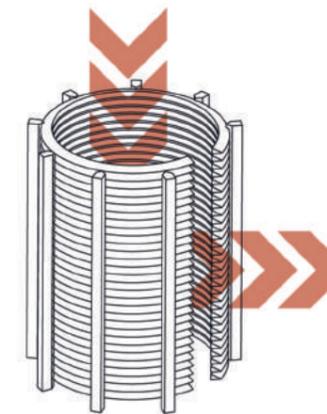
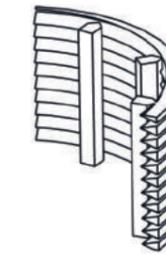
E. C. W screen

External Circumferential Wire

FLOW DIRECTION : OUTSIDE TO INSIDE

USE : FILTER CATRIDGES, CANDLE FILTERS, HEADER LATERALS, SIEVE SCREEN, NOZZLE, RESIN TRAPS

ADVANTAGE : HIGH-STRENGTH, BACK WASHING, CATALYTIC REGENERATION



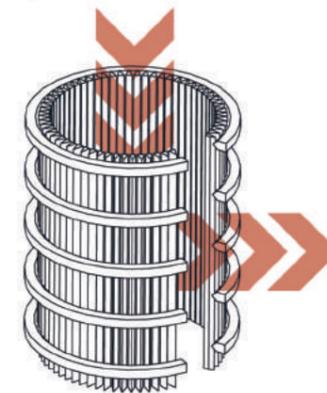
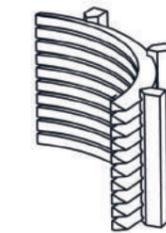
I. C. W

Internal Circumferential Wire

FLOW DIRECTION : INSIDE TO OUTSIDE

USE : SCREW PRESSES , DRUM SCREEN

ADVANTAGE : EASY CLEANING WITH BRUSH & SCRUBBER

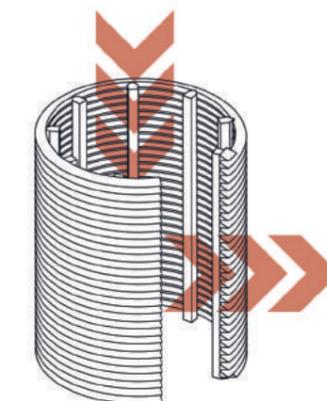


I. A. W

Internal Axial Wire

FLOW DIRECTION : INSIDE TO OUTSIDE
USE : TROMMEL SCREENS WITH INTERNAL FEED, SYSTEMS WITH AN INTERNAL ROTOR OR SCREW, DEWATERING SYSTEMS, BASKETS AND AUTOMATIC FILTERS

ADVANTAGE : EASY CLEANING WITH BLADES INSIDE



I. V. S

Inverted Screen

FLOW DIRECTION : INSIDE TO OUTSIDE
USE : AUTO STRAINER, TROMMEL SCREENS WITH INTERNAL FEED, SYSTEMS WITH AN INTERNAL ROTOR OR SCREW, DEWATERING SYSTEMS, BASKETS

ADVANTAGE : EASY CLEANING WITH BLADES INSIDE

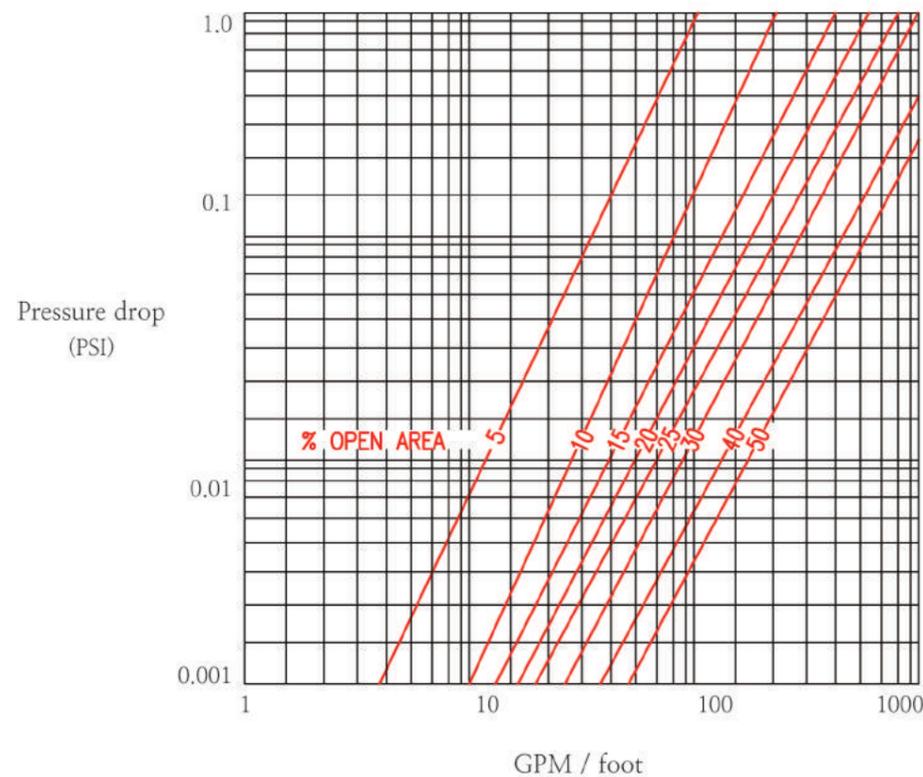


Basic Specification

Slot Tolerance Limit	0.05mm ~ 0.1mm	±0.03mm
	0.1mm ~ 1mm	±0.05mm
	Over 1mm	±0.1mm
Material	General Steel	304, 304L, 316, 316L, 321
	Special Steel	Monel, Duplex, Super duplex, Titanium, Nickel Alloy, etc
Available Specification of E. C. W Screen	Out diameter(O.D)	Ø25~812mm
	Max. length	6000mm
	Slot opening	0.05~10mm
Available Specification of Flat Screen	Width × Length = 2450mm × 2600mm, (96.5" × 102.3")	

Interrelation of the pressure according to the open area and flow

As shown in the graph, the flow rate per unit area which can pass through the screen is increasing in the wider open area, and accordingly the pressure on the screen is also lowered. Korea slot calculates the pressure forced to the structure scientifically through such experience and data, and designs and fabricates the filtering device allowing stable system operation.



Open area & Flow rate

The open area is the digitized opening area of screen per unit area of a square of one foot in length for a quantitative calculation of the flow passing through the surface of the cylindrical screen, the flow rate on the screen engineering refers the flow rate which the screen can process by calculating a specific constant and total available flow quantity using the total space of outer surface of screen, the respective calculation method is as follow.

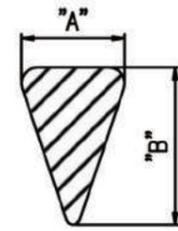
· Open area calculation

$$OAF(\%) = \frac{S}{W+S} \times 100 \quad (\text{OAF} = \text{open area factor, } W = \text{Wire width, } S = \text{Slot})$$

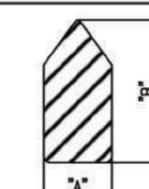
· Flow rate calculation

$$Flow\ rate = \frac{144Q}{\pi dL} \quad (Q = \text{Total service flow in GPM, } d = \text{Out dia inch, } L = \text{Length inch})$$

Wire specification

Shape	Item	Width "A"	Height "B"
	07W	0.76	1.8
	10W	1.0	2.0
	12W	1.2	2.5
	15W	1.5	2.5
	18W	1.8	4.5
	23W	2.3	3.5
	30WS	3.0	4.6
	30WL	3.0	6.5
	33W	3.3	6.35
	35W	3.5	8.0
	50W	5.0	8.0

Rod specification

Shape	Item	Width "A"	Height "B"
	15H	1.5	2.5
	23H	2.3	3.5
	30HS	3.0	6.3
	30HL	3.0	10.0
	R40	Ø4	
	R45	Ø4.5	

Petrochemical

Reputation,

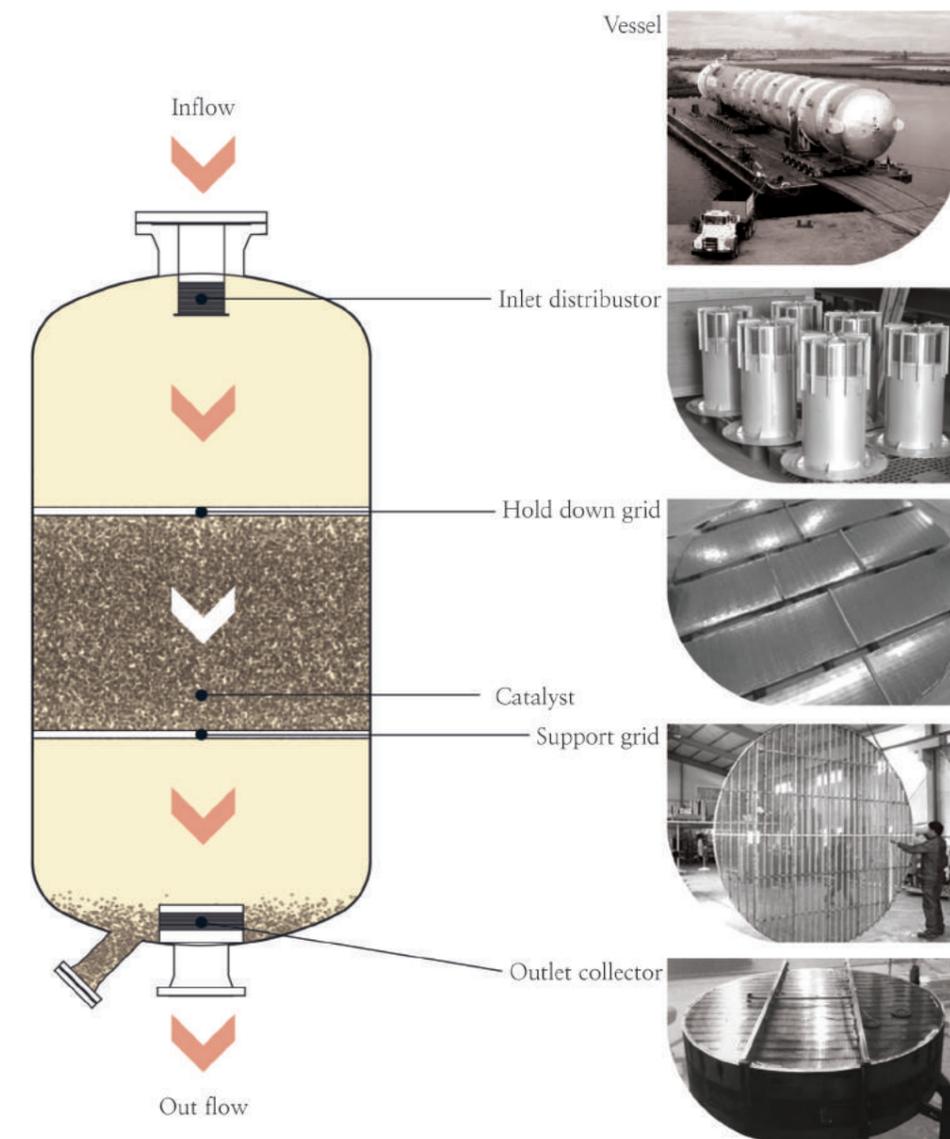
Reputation is not easy to build. Korea slot is recognized as the company that produces the best domestic Wedge wire screen and Metal filter products worthy of the name, fabricating the products for improvement of purifying and filtering function of various petrochemical industries and delivering them successfully and providing after service for several decades.

- Vessel internals
- Support grid
- Outlet collector
- Inlet distributor

Vessel internals

Petrochemical

KOREA SLOT PROVIDE APPROPRIATE DESIGN FOR THE PURPOSE OF REACTOR. WE CONSIDER THE ELEMENT SUCH AS INLET DISTRIBUTOR AND SUPPORT GRID AND OUTLET COLLECTOR FOR THE PROPER OPERATION OF THE VESSEL.

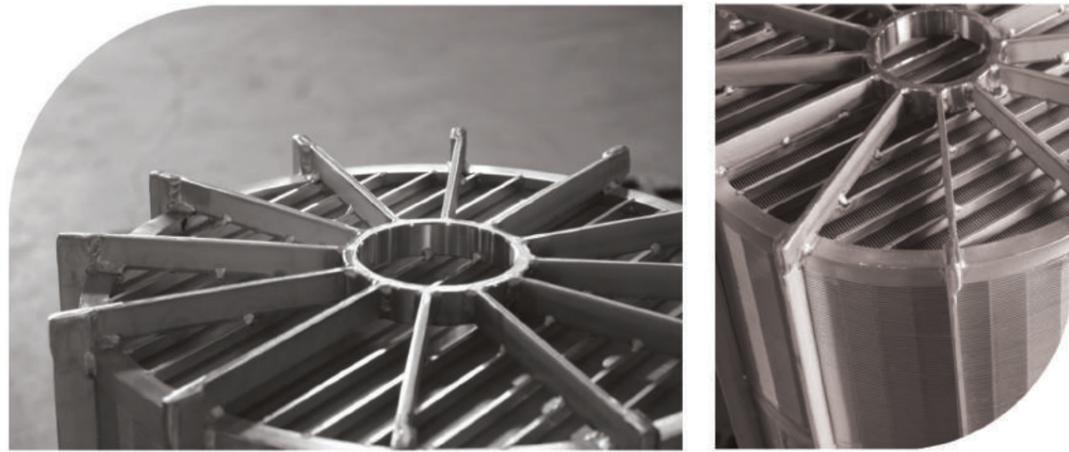


Inlet distributor

Petrochemical

The inlet distributor diffuses the flow of fluid, and filters the external materials flowing into the vessel with the fluid, and prevents the phenomenon for crystals to overflow when the fluid flows in the reverse direction.

Korea slot makes sure of the stability of vessel with the design suitable for the flow of fluid and easily being installed and considering the impact to the screen occurred in case of diffusing the fluid flowing downward.

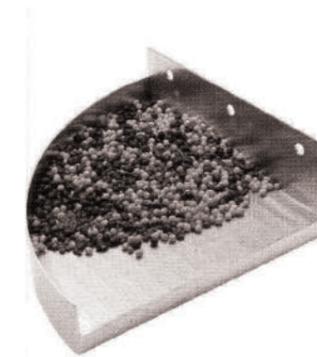


Support grid

Petrochemical

The support grid, as one of various components made up the inside of vessel, refers the product optimized to effectively hold the catalyst or resin, etc. in the manner like the sieve and allow the completed fluid to flow smoothly.

The basic media applied to the Support grid of Korea slot is made by welding Wedge wire and Support rod, and welding at each point of intersection at this time creates the very strong deformation strength of wire which prevents from widening the gap between wires or collapsing down of wires even if the high pressure applies in the upper part of grid, hence it can prevent the leakage of valuable catalysts.



In case of fabricating the Support grid with wire mesh, the flow of fluid becomes decreasing rapidly due to occurrence of phenomenon which the catalysts clog in the center of open square frame of net structure, but in case of Wedge wire, it can be operated continuously without maintenance because the reduction of flow due to clogging of crystals between the wires is minimized with the very smooth surface and structurally contact of two points only.

Korea slot is capable of designing and fabricating the most optimal Support grid as well as selecting the materials suitable for required strength and corrosion resistance, chemical resistance according to the design data of vessel.

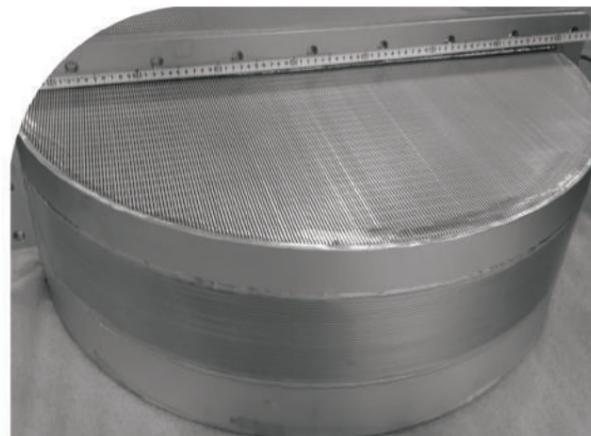
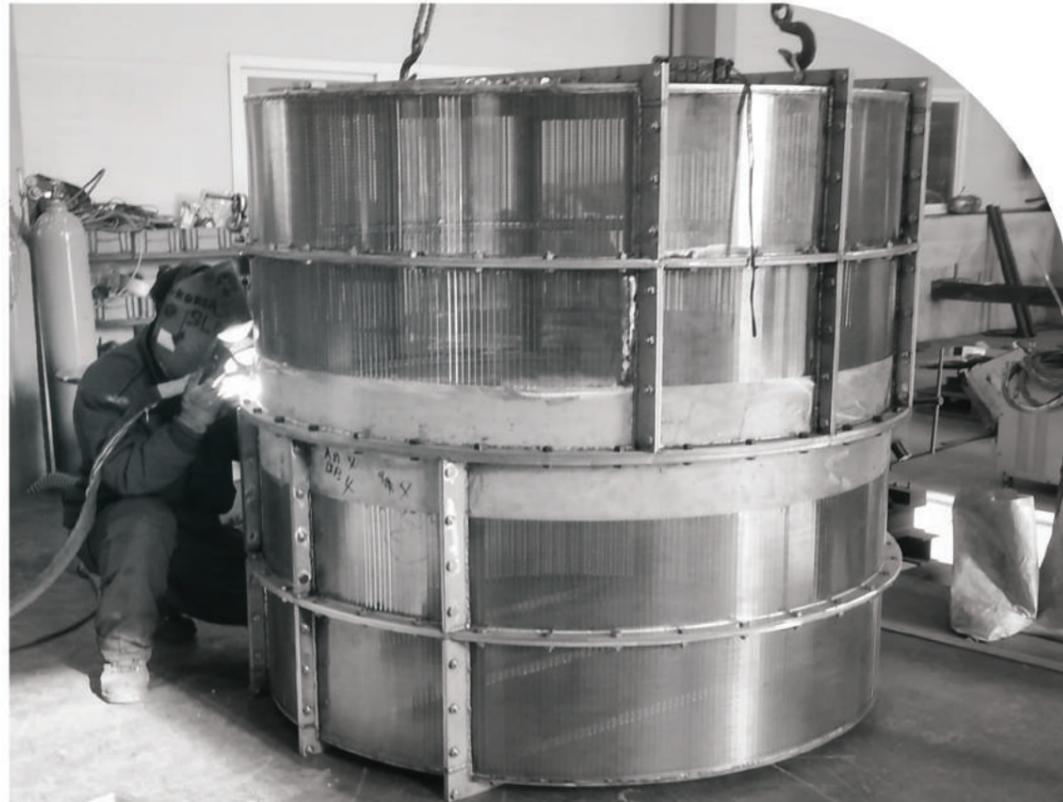


Outlet collector

Petrochemical

The outlet collector is the structure to be made for preventing the leakage of catalyst and for the fluid being discharged smoothly, which is installed in the lower part of vessel.

Koreaslot designs and fabricates the product at the most optimal conditions with consideration of the life of device and removal and reinstallation for easy maintenance after use as well as design data of vessel and characteristics of fluid.



Industrial

Versatile,

Wedge wire screen, with its unique characteristics, can design the products with various features and remarkable versatility and is useful in increasing the maturity of industrial products. Koreaslot, based on such high versatility, supplies the diverse and practical configuration of products for improvement of refining and filtering functions required by general industrial field, and Sieve screen, Scum drum screen, and the products applicable to multiple intercepting and collecting process.

■ Nozzle screen

■ Scum drum screen

■ Sieve screen

■ Other products

Nozzle screen

Industrial

Nozzle screen is mainly used where to collect the resin in the ion exchange process or to hold the catalyst of petrochemical process and to make fluid flowing smoothly, and is made good use for the case of reproduction of resin or removal of clogging phenomenon of structure with the excellent effectiveness of backwash by the special nature of Wedge wire. Korea slot fabricates much solidly by welding the cap and screen directly, which allows to use very safe as the nozzle is not destroyed even with the frequent backwashes.



Standard specification

Category	Nipple pipe size	
	20A (Ø27.2)	25A (Ø34)
	Type	Thread
Screen Diameter	OD 48.6mm	OD48.6mm
Screen Length	42mm	42mm
Overall Length	130mm	130mm
Max. Pitch	100~130	100~130
Capacity Limit (m ³ /hr)	0.9	0.9
Back washing pressure (1.5 times compared with Inlet)	1.5 times	1.5 times
Max. Collapse pressure(kg/cm ²)	330	330
Max. Blast pressure(kg/cm ²)	195	195



Scum drum screen

Industrial

Scum drum screen makes fluids overflow from the behind to the front to collect impurities on a scraper by using a rotating surface of E.C.W screen, and filtered fluids drop into the bottom with creating pressures which are used to clean the surface of the screen to operate the screen without additional cleaning works.

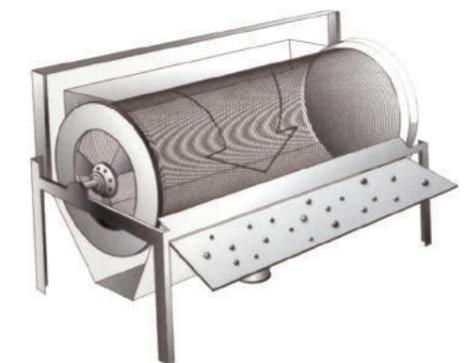
Capacity(m³/hr)

Item	KSD-800S		KSD-800M		KSD-800L		KSD-1200S		KSD-1600S		
Type	SS	MP	SS	MP	SS	MP	SS	MP	SS	PM	
Slot size	3.0	134	67	180	90	268	134	400	200	660	330
	4.0	160	80	210	105	317	159	480	240	780	390
	5.0	180	90	240	120	360	180	540	270	960	480

SS = Scum separation, MP = Mixing Pollutant

Specification(mm)

Item	KSD-800S	KSD-800M	KSD-800L	KSD-1200S	KSD-1600S
Screen Diameter	800Ø	800Ø	800Ø	1200Ø	1600Ø
Screen Length	900	1200	1800	1800	2200
Overall Length	1500	1500	1500	2100	2800
Overall Height	1400	1400	1400	2065	2750
Overall Width(W1)	1200	1500	2100	2100	2505
Power(kw)	0.75	1.5	1.5	1.5	2.2



Sieve Screen

Industrial

The sieve bend screen is being used in much variously in the fields such as sewage and food, paper, petrochemical, etc.

The sieve bend screen is fabricated giving the incline by bending the flat screen to the arc form, while the fluid overflow from the upper part passes through the sieve bend screen by manner of falling, the solids become accumulated down flowing forward along the surface of screen, and the fluid filtered flows out to backward of screen passing through the screen.

It is very simple process such as above and has the advantage not to require the extra power, therefore it can be used very effectively at the low cost when filtering out the impurities.

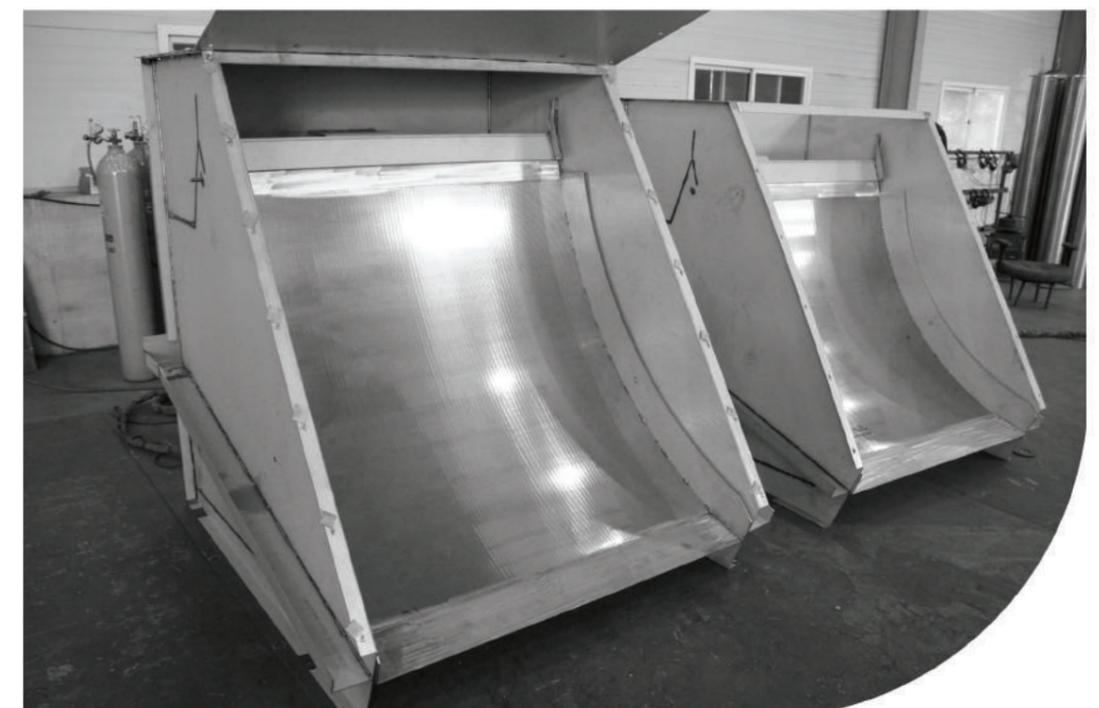
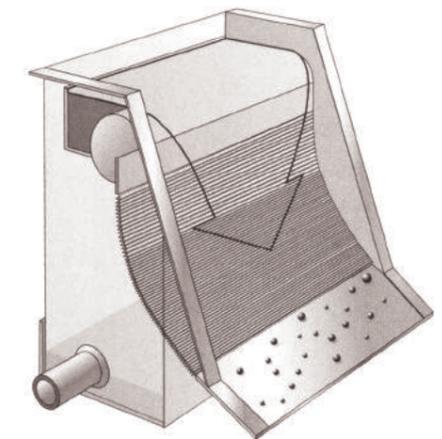
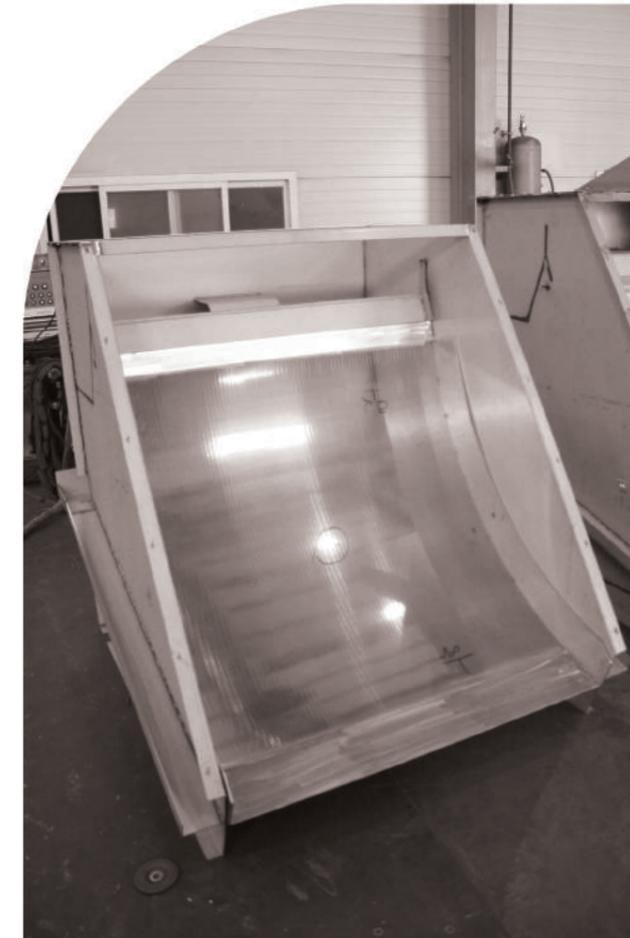


Specification(mm)

Item	KSS-50	KSS-65	KSS-80	KSS-100	KSS-150
Inlet	50A	65A	80A	100A	150A
Outlet	100A	125A	150A	200A	300A
Screen Width	300	600	900	1200	1828
Screen Height	900	900	900	1200	1200
Overall Width	380	680	980	1300	1928
Overall Height	1700	1700	1700	2150	2150
Diameter	920	920	920	1100	1100

Capacity

Use	Slot	Power(m ³ /hr)				
		KSS-50	KSS-65	KSS-80	KSS-100	KSS-150
Frozen vegetables	1.0	25	50	74	132	200
Livestock Industry	0.5	8	16	24	43	65
Leather Industry	1.0	15	30	44	79	120
Cleaning Bottle	0.5	11	23	33	59	90
Fishes Process	0.75	13.5	28	41	73	110
Fiber Dyeing	0.5	17.5	35	52	92	140



Other products

Industrial

Korea slot is willing to design and fabricate to meet the various conditions of filters which customer wants by combining a variety of materials.



Water treatment

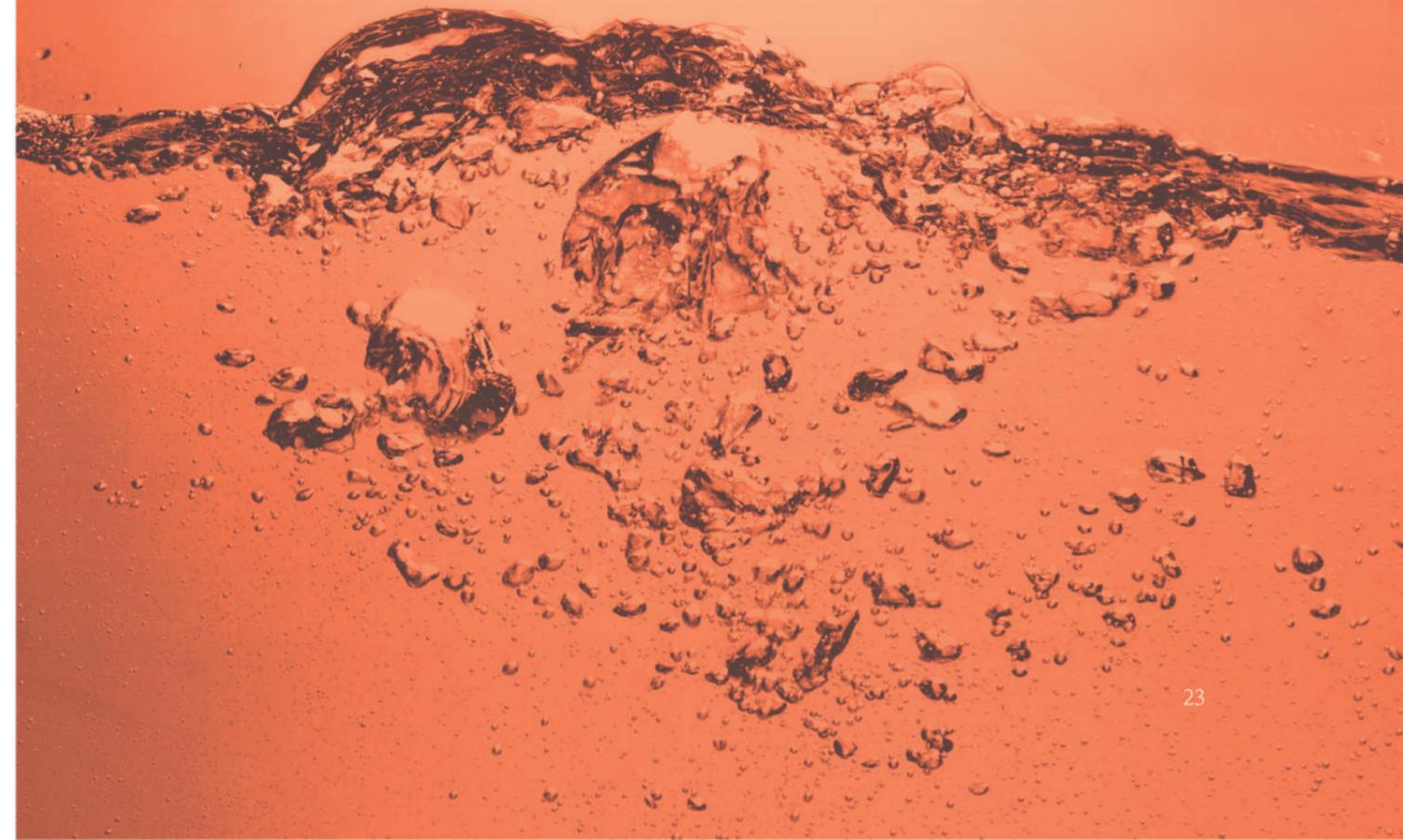
Integrated Design,

Use of Wedge wire screen in the water treatment field is very useful for designing the integrated Design. It was a difficult to control the polluted water of infiltration occurred at the nonpoint pollution source due to special natures of water treatment industry, however the products of Koreaslot are optimal for controlling and collecting it, and provide the outstanding alternatives for integrated and complex design of nature friendly plant applicable to whole processes of water treatment industry from the beginning point of contamination to the final step of recycling to water resource as well as the each step of water treatment. Besides, we provide the production and service by forming a product collection so that the customer can configure the overall management of water intake, purification, usage in the diverse water treatment field such as ion exchange device and water intake, etc.

■ Ion exchange

■ Water intake

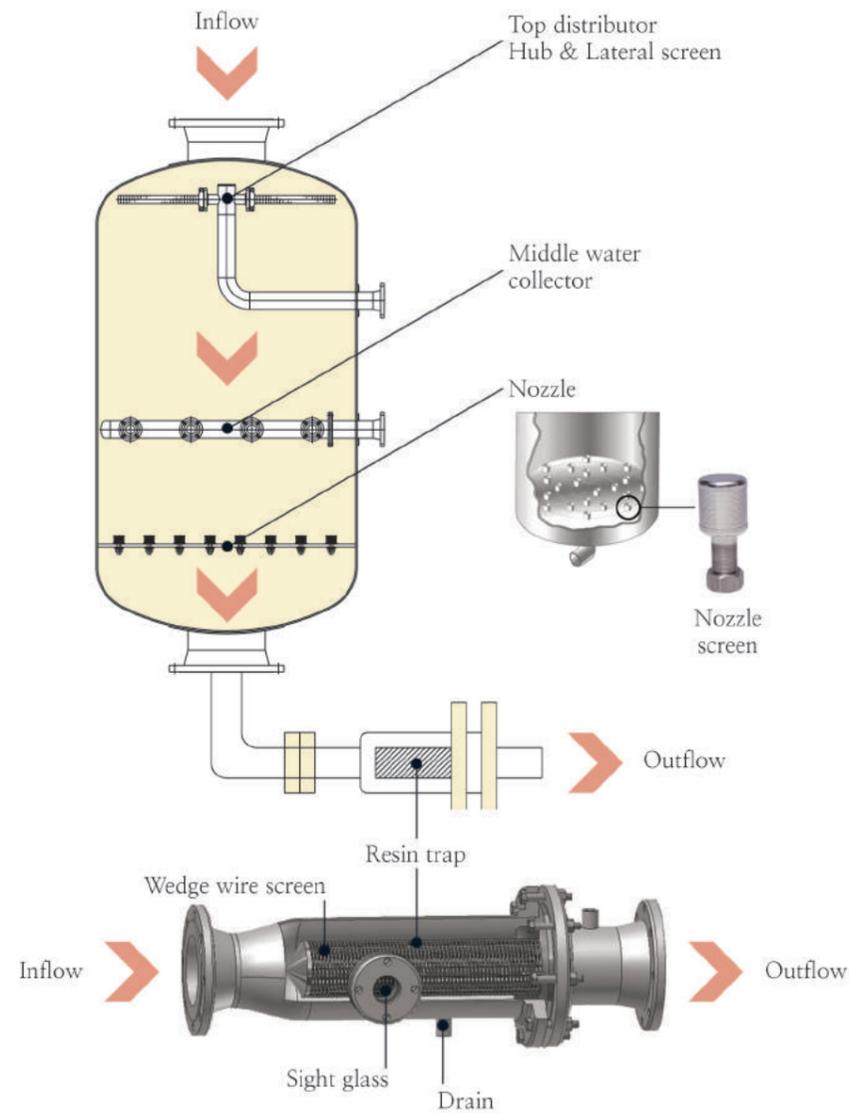
■ Well screen



Ion exchange

Water treatment

A screen applied in water ion exchange effectively collects both of positive and negative colophony when to make soft water, and also it make the responded water flow efficiently. Unlike the other filter structures explained in Support Grid, the screen has only two contacting points which help to minimize possibilities of blockages to maximize process capacities. Moreover, in case of regenerating colophony, it's very effective. Such functions are possibly applied in a distributor on the upper part of screen, also collectors of middle and bottom part.

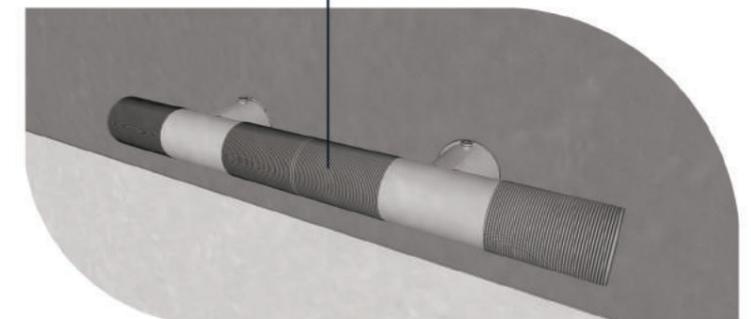
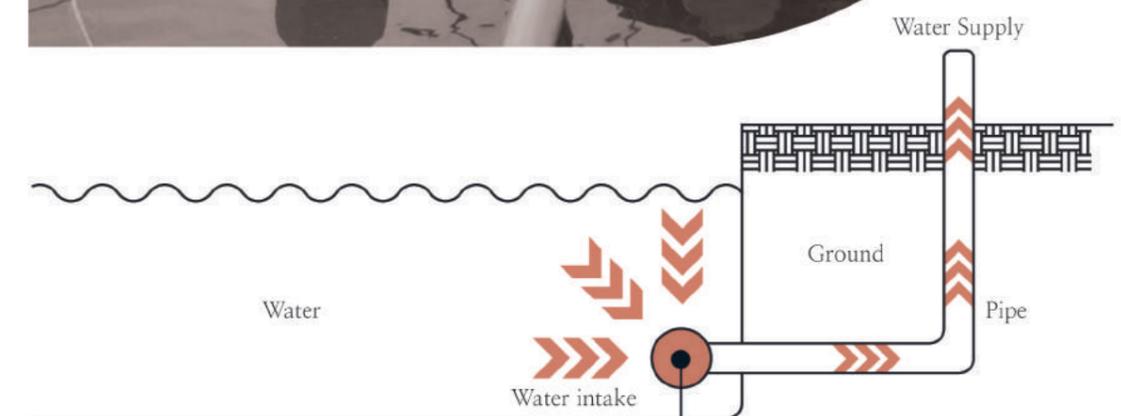


·Do not need to remove the assembled screen unit from the strainer body, When do cleaning or fixing

Water intake

Water treatment

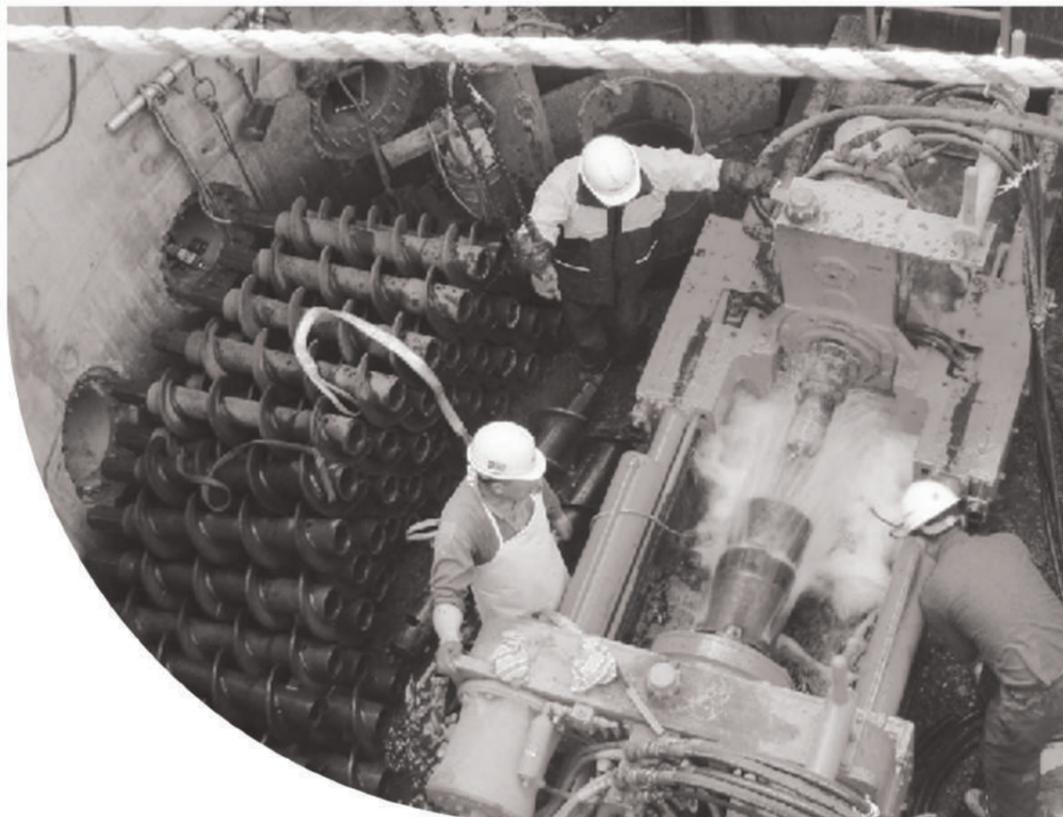
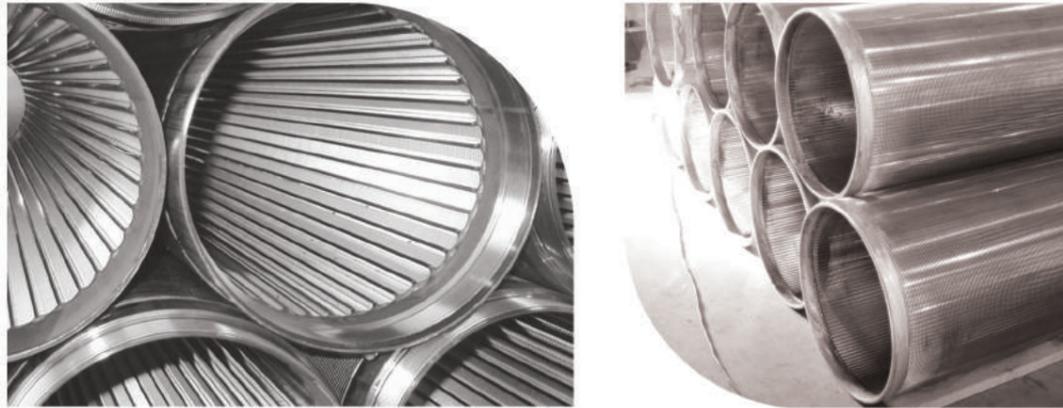
Korea slot's Water intake is a suitable structure to intake surface water including seawater with its big open area rate and strong corrosion resistance. Equally important, its screen's characteristics prevent blockage of foreign substances. Also, blockages caused by organism or inorganic substances in water are prevented by backwashing, therefore successive intakes are possible.



Well screen

Water treatment

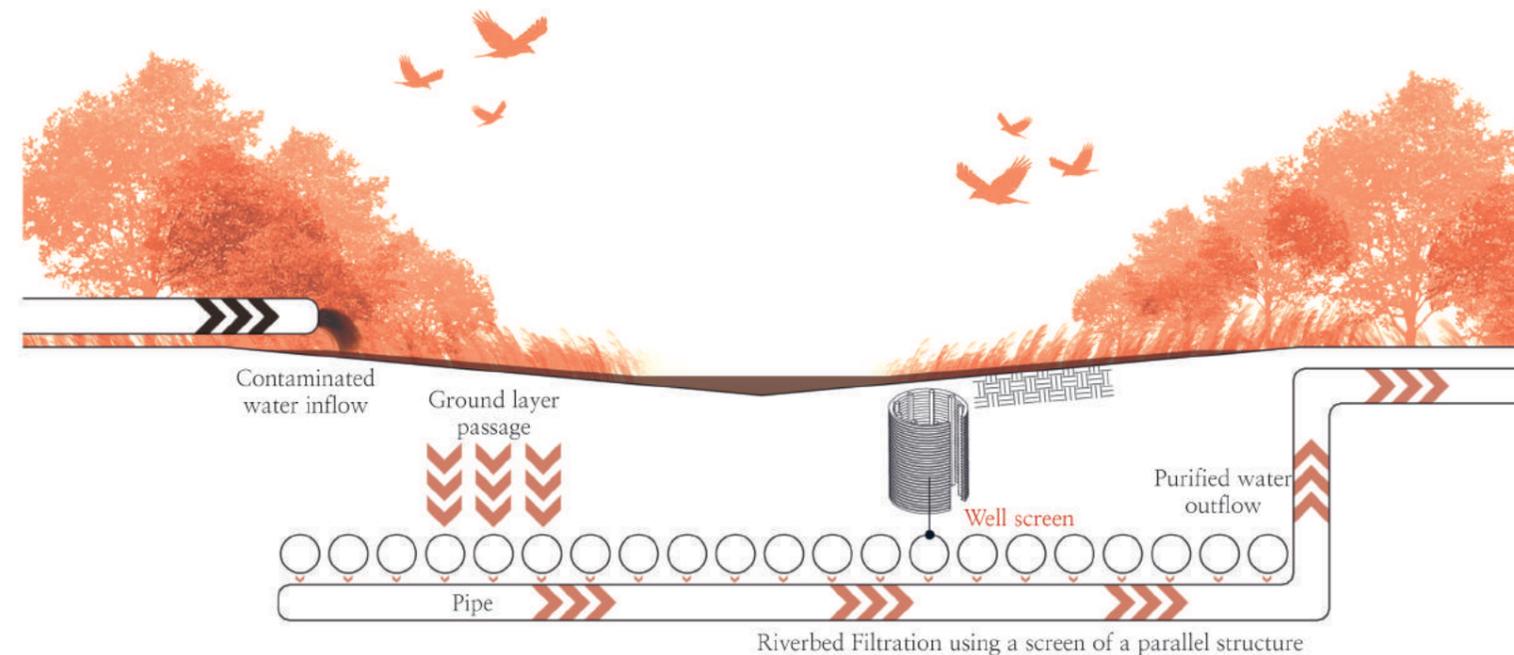
Koreaslot's well screen shows its true value in condition of utilizing it as a buried collecting pipe by excavating filtered river's catchment or the top of the ground. It has strong resistance to the earth pressure and corrosion, and it's conveniently installed in case of horizontal excavating construction. Also, higher open area rate collects a huge volume of water effortlessly, and efficient backwashing rate semi-permanently intake without extra maintenances.



Koreaslot supports the research and technology for development of vegetation and applied plant as well as fabricates the optimal screen for the riverbed filtration based on the accumulated Well screen technology of fabrication. Especially, we tried to be as an essential partner for the water treatment field with the diverse application field study and high efficiency and quality such as maximization of efficiency of the riverbed filtration and efficiency of water intake, cost saving, etc. by deploying the water intake of riverbed filtration and control of nonpoint pollution source and screen in the parallel structure.

Riverbed filtration & Water plant filtration (Remove Efficiency %)

Item	Bod	SS	Tn	Tp	number of colitis germs
Conventional Activated Sludge	92.05	96.44	51.34	53.31	99.33
MBR	99.4	99.8	76	81.7	99.9
Riverbed filtration	80	97	48	68	99
Riverbed filtration + Water plant filtration	95.7	97	85.7	89.7	99



Metal filter

■ Pleated filter

■ Tube filter

Specification of Wire Mesh

Absolute filter rating (μ /micron)	Nominal filter rating (μ /micron)	Wire cloth specification (warp & weft)
5 ~ 6	< 1	510 × 3600
6 ~ 7	< 1	450 × 2750
7 ~ 8	1	375 × 2300
8 ~ 9	2	325 × 2300
9 ~ 10	3	325 × 1900
11 ~ 12	4	250 × 1400
12 ~ 14	5	200 × 1400
16 ~ 18	10	165 × 1400
24 ~ 26	15	165 × 800
28 ~ 32	20	200 × 600
35 ~ 38	25	80 × 700
70 ~ 75	50	40 × 560
90 ~ 100	80	30 × 360
110 ~ 120	100	20 × 250

* Weft and Warp : In case of knitting, weft is a horizontal thread and warp is a vertical thread.

Use of media

Media	Properties and uses
Wire mesh	It is mostly made of materials with twilled duch weave shape to guarantee filter quality. There are various types such as tube, pleated and circular.
Sintered metal fiber	This material is produced by pressing and sintering metal fiber which is in condition of felt. These are used in many fields including pleated or tube type of filters
5-Layer sintered mesh plate	This material is made by pressing and sintering multilayer wire meshes in high temperature. It usually used in high pressure filtering and is easy to backwash.
Sintered metal powder	This material is made by pressing and sintering metal powders in high temperature which is mostly used in steam filtering.

* Sintering : Phenomenon of chemical bond between powders in case of heating them.

Professional technicians,

The custom-made orders of metal filter are almost the custom oriented fabrication due to the wide variety of requirements, specifications and materials. In this case, the product requires a delicate technique of skilled technicians with the appropriate mechanization process. The products of Korea slot has built the line up of various materials and we do our best to make the wide options available for fabricating the products as the customers want by grafting the optimal mechanization process and professional technique well experienced for several decades, and we provide the sensitive quality of only Koreaslot at the rigidity and quality customer can be satisfied fully.

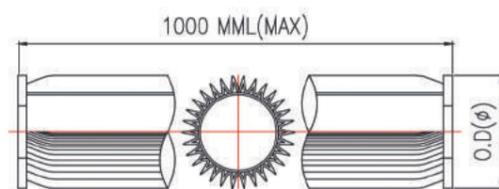
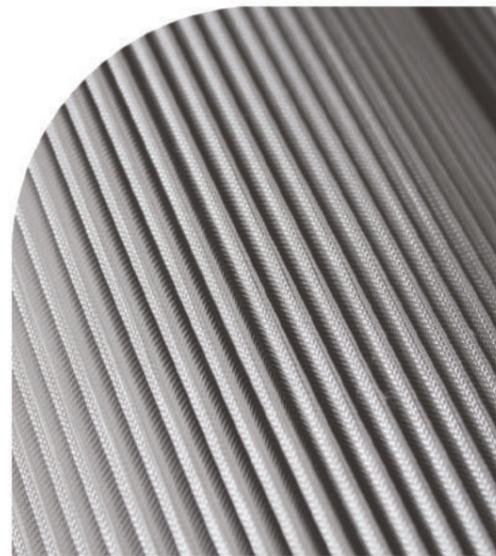
Pleated filter

Metal filter

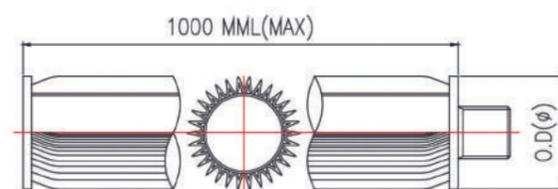
Pleated filters have as many pleats as possible as maximize filtering efficiencies per unit area which are usually made of sintered metal fiber or wire mesh.

Specification

Type	Out diameter (O. D., D(φ))	Number of pleating(N)	Thead D2	Filtering Surface Area		
				250L	500L	750L
A	42	31	M30 × P2.0	0.124m ²	0.248m ²	0.362m ²
B	44	32	M30 × P2.0	0.128m ²	0.256m ²	0.373m ²
C	50	35	M30 × P2.0	0.134m ²	0.274m ²	0.408m ²
D	63	44	M42 × P2.0	0.169m ²	0.345m ²	0.514m ²
E	65	44	M42 × P2.0	0.169m ²	0.345m ²	0.514m ²
F	114.3	68	-	0.276m ²	0.575m ²	0.87m ²



Double open type (D.O)



Single open type (S.O)

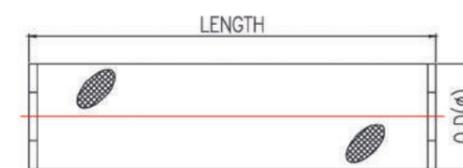
Tube filter

Metal filter

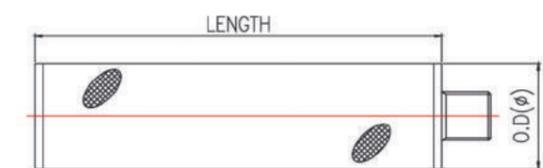
Tube filters are easier to produce than the other metal filters, and conveniently reusable after washing up. Also, they could be made of all materials used in metal filters which are cost efficient and applied to various fields.

Specification

O. D.	Ø25	Ø50	Ø63.5	Ø65	Ø70	Ø114.3
Length(mm)	250	500	750	1000	1000	1000



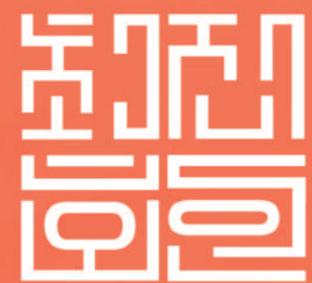
Double open type (D.O)



Single open type (S.O)



K O R E A S L O T
Wedge wire screen & Tower internals



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