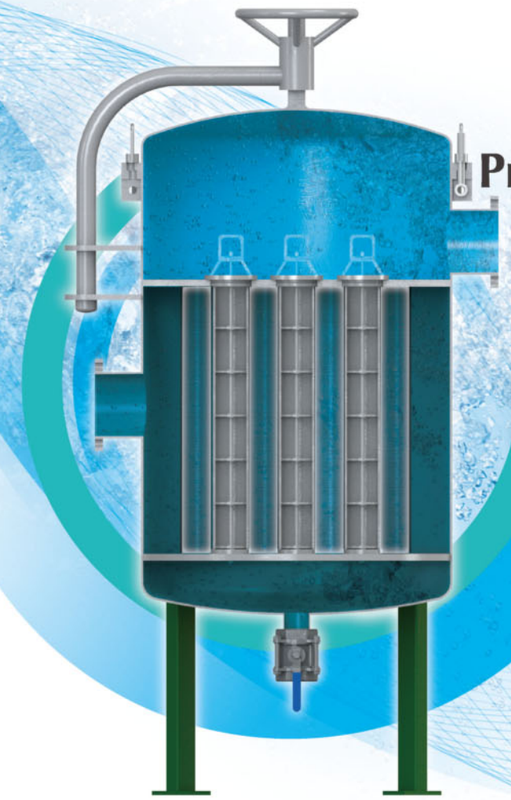


# Provide The Best FILTRATION SOLUTIONS

## STM SERIES MANUAL MULTIPLE FILTER

www.filad-filter.com

FILAD

INTERNATIONAL ACCREDITED COMPANY BS EN ISO 9001 : 2008 0046 UKAS

Reg No.QAIC/TW/118139

MEMBER Water Quality. ASSOCIATION

FILTRATION SYSTEM

FILAD FILAD Filtration Industry Co., Ltd.

FILAD FILTRATION SYSTEM

## The best choice for high economic efficiency

Economic efficiency is the basic objective pursued by modern plants. In our world where global resources at the present and in the future are increasingly shrinking, various industries are actively developing modern factories of high economic efficiency. A great deal of cooling water, processing water and sewage thus need to be constantly recycled, which evokes a higher demand for filtration technology. Facing various types of great-volume filtration needs, vigorous challenges are emerging in the future market regarding how to provide users with a greater number of choices, and save more money for those in need of filtration solutions.

The STM series provides the best and brand new choice for clients in need of great-capacity filtration solutions. Extension of service life and low maintenance frequency lead to the lowest operating costs, precise filtration, reliable continuous filtration, so as to create a perfect combination of economy and efficiency. It is the best choice for high economic efficiency for customers from diverse industrial horizons.

# STM SERIES MANUAL MULTIPLE FILTER

## Provide The Best FILTRATION SOLUTIONS

# APPLICATION

### Paper industry

**Water Filtration:** raw water, high- and low-pressure spray tube, water needle water, whitewater, seal water.
**Paint additive filtration:** coating liquid, liquid starch, sizing agents, calcium carbonate, latex.

### Textile, Dyeing & Finishing industry

Raw water, dyes, wastewater recovery.

### Chemical engineering

Cooling water circulation system, pre-protection device of heat exchanger, pre-filtering of filling, catalyst recovery, emulsions and dispersions, pipe scale removal, separation of benzene in the polymer, pre-filter protection device for pump.

### Power plant

**Thermal power:** Industrial cooling water, seal water, boiler feed water pre-filtration.
**Hydroelectric power:** Bearing cooling water, generator oil cooler, floating ring seal water.

### Water treatment

Well water, pipe scale or calcification, water reuse, raw water, floccule removal, ultra-filtration membrane pre-filter protection, RO membrane pre-filter protection, pre-filtration for membrane liquid purification.

### Metal processing (metallurgy)

cooling water circulation system, nozzle, pre-filtration for pump, cooling lubricant (cutting fluid, cleaning fluid), precious metal recovery, pre-treatment filter, cleaning anti-rust and hydraulic oil on filter.

### Paint and coating industry

(Paint industry and surface coating industry)

**Paints and enamels:** Clot suspension preparation, varnishes and enamel clots, solvents, impurities formed in the storage, packaging line and hybrid line filter, monomer purification.

### Food & Beverage industry

Beer membrane filtration, removal of oil impurities, pre-filtering of filling, syrup filtering, filtration of suspended solids and sediments in beverages.

### Automotive industry

Cooling lubricants (cutting fluids, cleaning fluid), pre-coating filtration, electrophoresis paint, bottom paint, varnishes, paint loop filters, parts cleaning fluid, filling compounds, lubricants, metal working fluid.

### Electronics industry

Recycling filtration for waste water from wafer grinding, pure water pre-filtering, pre-filtration for membrane filter, cooling water, chemical drug pulp, PCB ink, zinc solution sediments.

### Pharmaceutical industry

Recycling of active raw materials, catalysts, removal of activated carbon, medicinal syrups, plant extracts, pH value adjustment liquid, pre-filtration for crystal liquid, gelatin filtering.

### Petroleum industry

Oil field injection water, pipeline rinse water, pre-filtration for high-pressure pump.

### Other

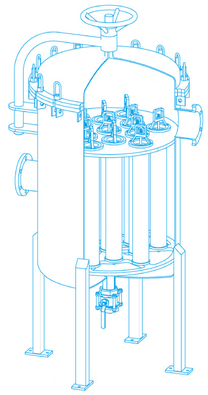
Mining industry, electroplating industry, steel industry, ink industry, refining industry, agricultural irrigation.

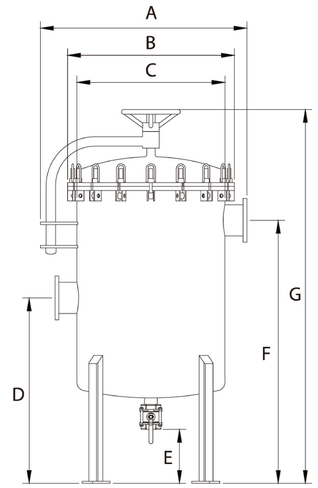
# STM SERIES
## MANUAL MULTIPLE FILTER

### Operating Principle

The filter is designed particularly for great-volume processing purpose. It is equipped with a metal screen of low wearing rate (wedge wire screen or multi-layered sintered metal mesh) as its filter media, and the standard diameter of filter inlet and outlet specifications may be up to 2" ~ 14". 7 to 25 screens can be used depending on filtering needs. The minimum filtration precision is 300μm and can be up to 10μm, offering a variety of filtration precision options. The filtering process begins, just after unfiltered liquid flows into the STM filter, by making liquid flow in centripetal directions through the screen. A sophisticated screen captures effectively solid impurities by trapping them on the screen surface and letting clean liquid flow out. Impurities not attached to the screen surface will then slowly sink to the bottom. When impurities stored in the bottom reach a certain amount, solid impurities can be discharged by opening the discharging valve. This smooth filtering action perfectly dismisses negative effects of impurities. Type A and B have different types of cover design, offering easy operation choices for clients. Due to the special design, clients are free from worrying about current which may otherwise move the screen and affect the filtration performance. It is easy to take out as well as put in, resulting in substantial reduction of required operating time for screen replacement and maintenance. Depending on different processing conditions, multiple STM filters can be connected in parallel to satisfy great-volume processing requirements; they can also be combined to have the continuous effect of Bypass filter type.

**Perfect** Coordination of *Economy & Efficiency*






| | STM-700A Caliber 2"~4" | STM-1000A STM-1300A Caliber 5"~6" | STM-1600A STM-1900A Caliber 8"~10" | STM-2200A STM-2500A Caliber 12"~14" |
|---|---|---|---|---|
| A | 860 | 1020 | 1100 | 1350 |
| B | 610 | 810 | 910 | 1110 |
| C | 510 | 710 | 810 | 1010 |
| D | 1000 | | | |
| E | 300 | | | |
| F | 1340 | 1370 | 1430 | 1470 |
| G | 1865 | 1935 | 2060 | 2170 |

(Unit : mm)

## TECHNICAL SPECIFICATIONS

Both Type A and Type B filters are available in STM series. There is no functional difference between these two models. Their major difference is the way to take out the filter.

### General Information

| Model (Large capacity models are available on demand) | | STM-700A STM-700B | STM-1000A STM-1000B | STM-1300A STM-1300B | STM-1600A STM-1600B | STM-1900A STM-1900B | STM-2200A | STM-2500A |
|---|---|---|---|---|---|---|---|---|
| Operating pressure | (Bar) | 0~15 (Pressure can be increased on customers' demand) | | | | | | |
| Inlet and outlet size | (Inch) | 2", 3", 4", 5", 6", 8", 10", 12", 14" | | | | | | |
| Maximum operating temperature | (˚C) | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Discharging tube | (Inch) | 2" | | | | 3" | | |

### Manufacturing materials

| | |
|---|---|
| Filter body | Carbon Steel /SUS 304 / SUS 316 |
| Screen | SUS 316L |
| Discharging valve | SUS 304 / SUS 316 |
| Gasket | PE/PP/VITON |

### Screens and Filtration Precision

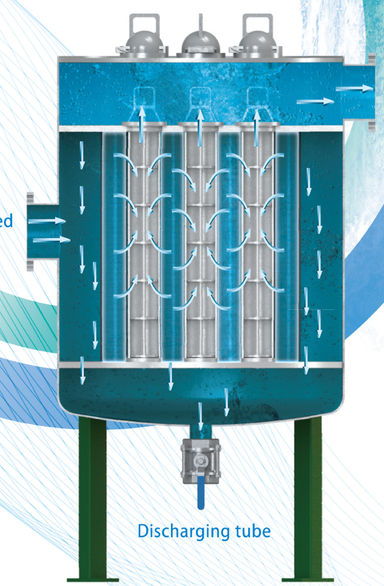
Screen : Ø85-600L (Unit : mm)

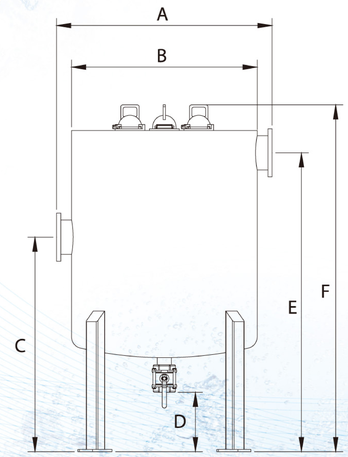
| Filtration precision (Micron) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|
| Wedge wire screen | | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Sintered metal mesh | ● | | | | | | | | | |

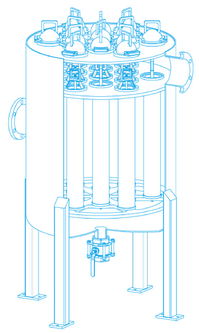
### Flow Table and Opening Area

| Filtration precision | (Micron) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| The processing amount | (L/min) | 36 | 88 | 176 | 256 | 336 | 410 | 480 | 560 | 600 | 860 |
| Filtration area | ($mm^2$) | 160,221 | | | | | | | | | |

* The above information shows reference data for a single screen, of which the flow volume is tested on the basis of the water velocity of 1M/Sec.



| | STM-700B Caliber 2"~4" | STM-1000B STM-1300B Caliber 5"~6" | STM-1600B STM-1900B Caliber 8"~10" |
|---|---|---|---|
| A | 700 | 920 | 1000 |
| B | 510 | 710 | 810 |
| C | 1000 | | |
| D | 300 | | |
| E | 1340 | 1370 | 1430 |
| F | 1600 | 1650 | 1750 |

(Unit : mm)

### ADVANTAGES & CHARACTERISTICS

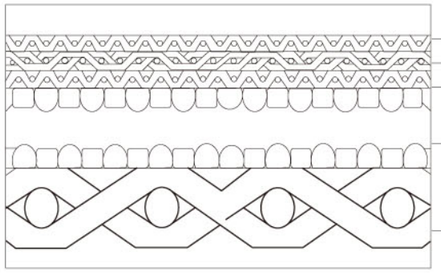
- Extended product life
- Large filtration area
- Low pressure drop
- User-friendly design, easy operation
- Low installation costs
- Low running costs
- Quick and easy cleaning and maintenance
- Low-frequency maintenance
- Modular design, permitting a variety of combinations and changes
- Great filtration precision and efficiency

# SINTERED METAL MESH

The multi-layered sintered metal mesh is composed of multi-layered metal woven wire mesh, specially laminated and compressed of vacuum sintering technology. All layers of wire mesh are intertwined to form a uniform and ideal structure with high mechanical strength and over all rigidity. Its mesh size, permeability and strength make the good precision and resistance of filtration, mechanical strength, wear resistance, heat resistance and processability. Its overall performance is significantly better than the sintered metal powder, ceramics, fiber, cloth, filter paper, and other types of filter material.

Currently, this series has been widely used for filtration and purification, gas-solid, liquid-solid and gas-liquid separation, etc., in fields such as aviation, aerospace, oil, chemical engineering, metallurgy, machinery, pharmaceutical, food, synthetic fiber, and environmental protection industries.

Sintered wire meshes are processed into disc and welded with flange. They are suitable for many filtration devices, such as pharmaceutical, chemical, food filtration devices and are able to replace traditional filtration cloth. It has a great number of advantages, such as good rigidity, high strength, extended replacement cycle, easy to clean, simple assembly and so on.



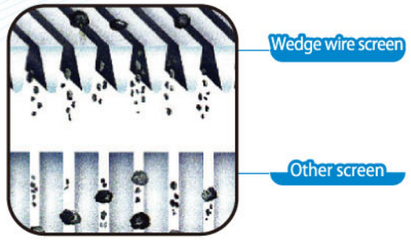
## Features

1) Its standard five-layered mesh structure is composed of a protective-layered mesh, a precision-control layered mesh, a dispersion-layered mesh and several enhanced-layered meshes.
2) The sintered five-layered mesh is characterized by its high mechanical strength and pressure resistance.
3) Its high precision allows a uniform surface filtration of granules of 2-200 μm.
4) Its heat resistance permits a continuous filtration under temperatures varying from -50 degrees to 550 degrees.
5) It has excellent upstream filter cleaning in the surface filtration structure.

## Main Purposes

1) Filtration for all kinds of high temperature substances, etching solution, and catalysts in petrochemical industry.
2) Filtration and purification for all kinds of polymer melts in film industry.
3) Filtration and separation for all kinds of catalysts in pharmaceutical industry.
4) Component for gas distribution, and fluidized bed plates.
5) Component for the high-pressure backwash oil filter, etc.

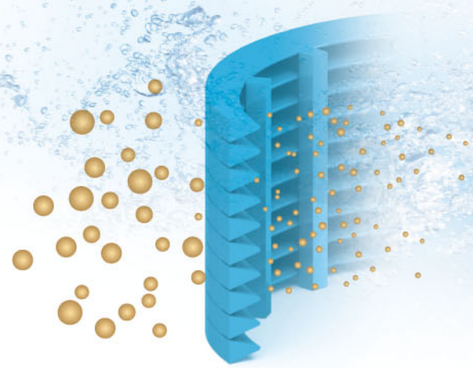
# WEDGE WIRE SCREEN



## DESCRIPTION

The filter is perfectly manufactured on the basis of European most sophisticated processing technology. A single wire is wound into a one piece stainless steel slot screen. Its high aperture ratio, high pressure resistance and high wear resistance make it greatly superior to other filter models.
FILAD's stainless steel wedge wire screen is a product manufactured in Europe. The filter surface is characterized by its perfect roundness and smoothness, making the filtering efficiency far superior to those of other products.

Filtration efficiency



A comparison of screens

## ADVANTAGES & CHARACTERISTICS

- Prevention from blocking: Its wedge-shaped slot prevents the filter from partial obstruction.
- High aperture ratio: The opening area is at least 30% greater than older models.
- High precision: An exquisite European technology is the sign of a high level precision.
- Pressure Resistance Structure: Wedge-shaped stainless steel wire wrapped around the ring in the solid support column, linked at the precision of the welding process, which makes the screen rigid.
- Easy cleaning: Scraping, rinse or backwash is enough to remove impurities from the surface of wedge wire screen.