Sintered Metal Filter Cartridge

Sintered metal filter cartridges are widely used in pharmaceuticals, fluidized beds, liquid and gas filtration, chemical processing, chemical fiber filtration, food and beverage, oil and gas filtration, polyester and water treatment industries.

Specification,features and application of sintered metal filter cartridge

COMPANY PROFILE

Anping Tianhao Wire Mesh Products Co., Ltd. is a professional manufacturer of stainless steel sintered nets. The company is located in "China's Wire Mesh Industrial Base" - Hebei Anping. It enjoys convenient transportation and a superior geographical location, and has abundant and complete raw material resources.

The company has introduced advanced vacuum sintering equipment and technology, specializing in the production of multi-layer stainless steel sintered nets of various structures and specifications, as well as special alloy sintered nets. It also uses sintered nets to produce various types of filtration elements.

The products are widely applied in industries such as petroleum, chemical engineering, aerospace, electronics, pharmaceuticals, environmental protection, food and beverage.

We possess advanced testing equipment and a rigorous quality control system. Our company was certified to the ISO9001:2008 quality management system in September 2015, ensuring that we can provide customers with high-quality products and excellent services.

Quality Control

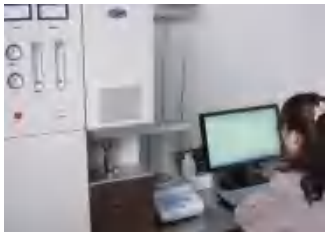
We employ advanced detection equipment and a rigorous quality control system to provide customers with high-quality products and excellent services.

1.Raw material inspection station
2.Alloy analyzer
3. High-frequency infrared carbon-sulfur analyzer
4. Magnifying glass
5. Microscope
6. Air flow tester

7. Hole size analyzer
8. Tensile testing machine

Raw material inspection station

Alloy analyzer



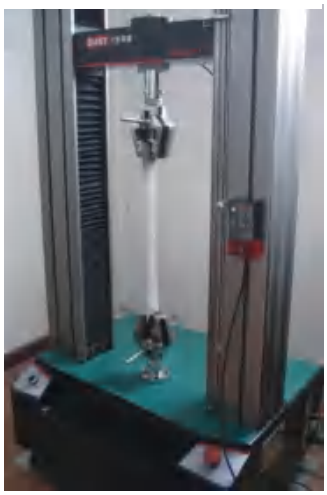
carbon-sulfur analyzer

Magnifying glass

Microscope

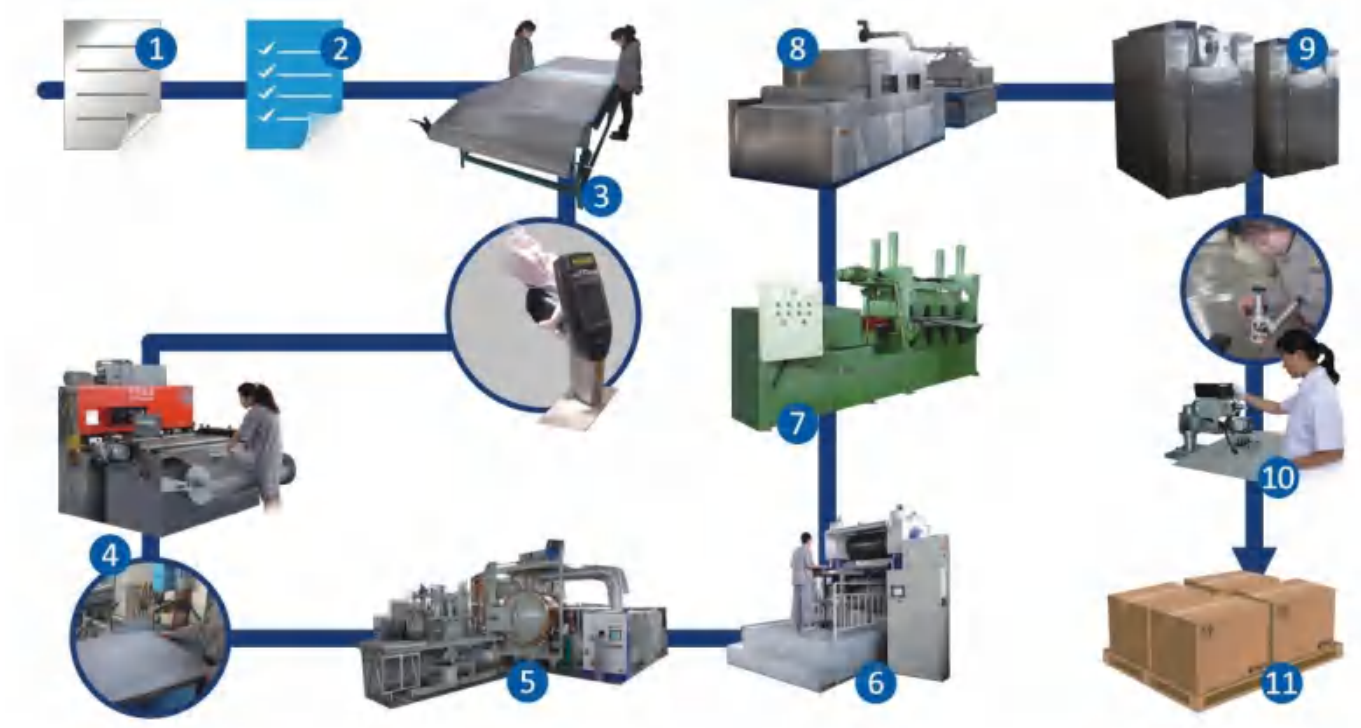
Air flow tester

Hole size analyzer



Tensile testing machine

Process flow



1. Accept an order 2. Production Instructions 3. Raw material inspection 4. Cutting and Wiring 5. Sintering 6. Rolling 7. Straightening 8. Cleaning 9. Drying 10. Final Product Inspection 11. Packaging and Storage

Sintered Metal Filter Cartridge

Sintered metal filter cartridge is a self-contained, replaceable, usually cylindrical filter element containing one or more filter media enclosed in a housing or casing, designed to remove impurities, particles, pollutants or specific substance. It is made by sintering, a process that compacts and forms a solid material without melting it. This creates a porous structure that allows fluid to pass through while trapping and retaining unwanted particles. Filter cartridge are commonly used in various industries including water treatment, air purification, industrial process, pharmaceutical, food and beverage, automotive and more.

Types Of Sintered Metal Filter Cartridge

Sintered Metal Filter Cartridge can be classified into the following two types based on their construction and manufacturing process:

- **Sintered Metal Mesh Filter Cartridge**: This type of filter cartridge is made by sintering multiple layers of metal mesh together. The metal mesh typically consists of woven wires or metal fibers, and the layers are carefully stacked and sintered at high temperatures. The sintering process fuses the individual layers, creating a porous structure with precise filtration properties.

- **Sintered Metal Powder Filter Cartridge**: This type of filter cartridge is made from metal powders, such as stainless steel, bronze, or titanium. The metal powders are compacted and sintered at high temperatures to form a solid structure with interconnected pores. The size and distribution of these

pores are controlled during the manufacturing process to achieve the desired filtration characteristics.

Sintered Metal Mesh Filter Cartridge

Sintered Metal Powder Filter Cartridge

Materials Used

The choice of materials depends on the specific application, and some common materials used for sintered filter cartridges are:

- Stainless Steel: SS 316L, 316, 304, 904L, etc.
- Bronze: SAE 841 bronze
- Nickel
- Titanium
- Hastelloy
- Monel: Copper-nickel alloy

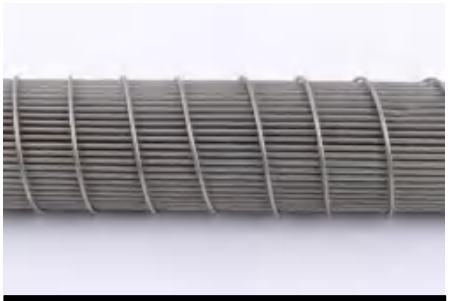
Sintered Metal Filter Cartridge

Sintered Metal Powder Filter Cartridge

Metal Porous Filter Cartridge

Pleated Sintered Metal Filter Cartridge

Pleated Sintered with tigtening rings



Pleated Sintered with spiral support wire

Interface Type

Features of Sintered Metal Mesh Filter Cartridge

- High mechanical strength and stability due to the layered construction.
- Uniform pore size and distribution, providing consistent filtration efficiency.
- Excellent resistance to high temperatures and pressure.
- Easy to clean and maintain, often reusable.
- Suitable for applications requiring fine filtration and high dirt-holding capacity.

Features of Sintered Metal Powder Filter Cartridge

- Wide range of available pore sizes, making it suitable for various filtration needs.
- Excellent chemical and thermal resistance, depending on the material used.
- High flow rates with low pressure drop.
- Can be designed with specific filtration efficiency and dirt-holding capacity.
- Often used in high-temperature and corrosive environments.

Specification

- **Standard material:** SUS 316 L, SUS 304, 316, 304, 317 L, 904 L, 321, titanium, other alloys are also available.
- **Filter rating:** 0.2 micron to 300 microns.
- **Standard outer diameter:** 64 mm.
- **Other outer diameter:** 30 mm, 40 mm, 50 mm, 60 mm, 64 mm, 70 mm, 80 mm, 350 mm.
- **Standard inner diameter:** 28 mm.
- **Length:** 10" (254 mm), 20" (508 mm), 30" (762 mm), 40" (1016 mm), 60" (1524 mm).
- **Fittings:** Double open end, single open end, double O-rings.

Filter Cartridge Selection Chart

Model Number	Medium	Removal Ratings	Length	OD	Connector	O-ring Options
MMF (pleated)	S = 304	2 = 2 μm	10 = 10 inch	25 = 25 mm	DOE = double open end	S = Silicone
MMPF (not pleated)	L = 316L	5 = 5 μm	20 = 20 inch	40 = 40mm	C3 = 222+flat closed end	V = Fluoroelastomer
		10 = 10 μm	30 = 30 inch	50 = 50 mm	C8 = 222+fin end	E = EPDM
		15 = 15 μm	40 = 40 inch	60 = 60 mm	C2 = 226+flat closed end	N = NBR
		20 = 20 μm		65 = 65 mm	C7 = 226+fin end	T = FEP Encapsulated FKM
		30 = 30 μm		70 = 70 mm	N4 = 1” NPT	Blank = Threaded
		50 = 50 μm			N6 = 1 1/2” NPT	
		100 = 100 μm				

Application

Sintered filter cartridges find applications in various industries, including:

- **Water Treatment and Air Purification:** These cartridges are extensively used in water treatment and air purification, playing a crucial role in filtering impurities and ensuring quality and safety.
- **Pharmaceutical, Food, and Beverage Industries:** In pharmaceuticals, they ensure the purity of products, while in the food and beverage sector, they are essential for maintaining hygiene and quality standards.
- **Petrochemicals, Refineries, and Chemical Processing:** Sintered filter cartridges are key in petrochemical and refinery operations, as well as in chemical processing, where they handle various filtration challenges.
- **Aerospace, Aviation, Oil, and Gas:** Their robust design makes them suitable for aerospace and aviation applications, as well as in the demanding environments of oil and gas exploration and processing.
- **Electronics and Semiconductors:** In the electronics and semiconductor industries, these cartridges are vital for ensuring the cleanliness and precision required in manufacturing processes.



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