

RKSfluid[®]

Proven Technology - Superior Features
Legendary Value

HPS-CF Series

High-Performance Scraper Type Self-Cleaning Filter



RKS Environmental Science & Technology (Shanghai) Co.,Ltd.

High-Performance Scraper type Self-cleaning Filter



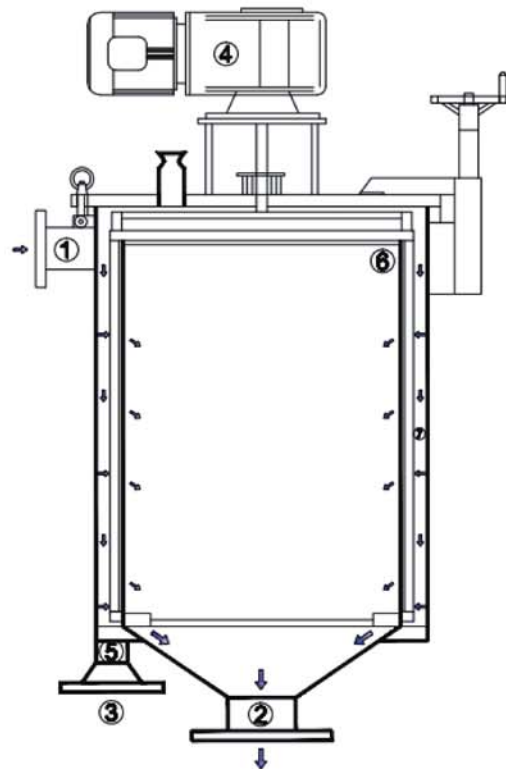
HPS-CF Series High-Performance Scraper type Self-cleaning Filter by mechanical scraping ways to automatically remove the particulate impurities of filter element surface, and it is a continuous online filtration. The range of Filtration precision is 50 to 500 microns. The product is suitable for water and viscous liquid filtration, suitable viscosity up to 800.000 cps. High-Performance Scraper type Self-cleaning Filter is made by RKSfluid, China, and meet the high-performance, high-quality, high reliability of the standard design and manufacturing, to achieve world-class quality.

As a traditional filter product, it is easily blocked when it filter Sticky substance and soft impurities, customers can only choose a large filter or frequently backwashing, a large investment, a heavy workload, material wasted, and so serious. HPS-CF series filter with advanced self-cleaning operation function and easy to solve those problems, so, the filtration element always keep clean, and discharge the liquid slag which has a high-concentration impurities, reduce the waste of materials. And, this filter has a big advantage in a filtration of poor water quality, adhesives, resin, Polymers, oils and other viscous materials.

HPS-CF filters are replacing traditional manual filters in many fields because of their significant technological advantages and low life-cycle costs. Such as vibrating screens, bag filters, basket filters, and some backwash self-cleaning filters.

Operating Principle

The liquid medium inflow from the inlet (1), outflow from the inner surface of the filter element (6), and the drain outlet (2) is on the bottom of filter element, the liquid flow out from the drain outlet (2); when the surface of filter element intercepts a certain amount of impurities, the electric actuator (4) by the pressure difference or timer to drive the scraper (7) to rotate and scrape the impurity on the inner surface of the filter element, rotated scraper scrape the impurities and collect them at the sewage cavity (5), at the same time, the electronic actuator by pressure difference or timer drive the blow-down valve to pen, the liquid slag which has a high-concentration impurities flow out from drain outlet (3), the liquid slag can be recycled or discharged directly.



Configuration Instructions

V-SLOT Filter Element



HPS-CF Series filters are equipped with top quality V-SLOT filter element that its mesh screen is wedge-shape mesh (V-shaped), the filter element is made of precision metal, it has the following outstanding advantages:

- ◆ Accuracy range 50-500 microns
- ◆ Accurate gap width, the tolerance is less than 5 microns
- ◆ The material of body is 316L, strong corrosion resistance
- ◆ V-shaped gap, not easy to be blocked by the impurities, maintain a stable flow in long term
- ◆ The outer surface is smooth, the impurities is easy to scrape, and, the wear of scraper is minimal
- ◆ Some troublesome impurities can also be filtered, such as: sludge type impurities, soft caking impurities
- ◆ The surface with a special hardening wear-resistant treatment, to extend the service life
- ◆ high-strength structure, the mesh screen is not deformed
- ◆ can wear the high-intensity positive and negative pressure

Optional Precision	mesh (mesh)	300	200	150	120	100	75	60	50	40	30
	micro (um)	50	75	100	125	150	200	250	300	375	500

ACS series Self-Cleaning Control System

The HPS-CF filter is equipped with an ACS series of automatic cleaning control systems to control the HPS-CF filter for efficient operation. If it is necessary, can also be customized to achieve DCS remote real-time monitoring. ACS control system with differential pressure transducer or timing cleaning control function, the function of self-cleaning by differential pressure is suitable for most occasions, is the most efficient cleaning mode, the pressure difference indicated the status that the internal surface of filter element is blocked or how is the filter cake. The Self-Cleaning Control System will begin to run when the pressure difference is reach to the set value, the self-cleaning process will be operated, it is recommended to clean when the pressure difference is 0.05MPa, and, it can be adjusted in the 0.01-0.1MPa range according to the operating conditions. The timer can be set between 0 and 24 hours. If the pressure mode is disabled, the time mode is still active and can be used as the final protection. The cleaning cycle should be set to the average period of differential pressure cleaning mode.

ACS control system pressure transducer has two forms. Differential pressure transmitter can output real-time pressure difference, sensitivity and reliability is highest, and, be easy to DCS remote real-time monitoring; RKS used special pressure difference switch, with high sensitivity and long-term reliability, and, there are two set points of pressure difference, the tolerance of accuracy value is $\pm 0.005\text{MPa}$, the first one for the cleaning pressure (such as 0.05MPa), and the other one can be used as an abnormal pressure differential alarm (such as 0.1MPa), can be connected to the DCS remote monitoring.



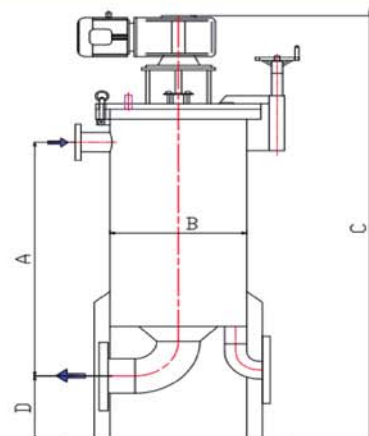
Technology Specification

Liquid Medium	Water, low viscosity liquids (<800,000 cps), impurities <1000 ppm
Filter precision	50-500um
Pressure Rating	1.0MPa, Higher pressures can be customized
Max Temp.	0-200°C (Depend on sealing materials)
Filter Area	0.11m ² -1.36m ²
Pressure difference	0.05MPa
Pressure Difference Transducer	Pressure Difference Transducer or Switch
Motor Reducer	180W, Three-phase, 380V, Protection Class IP55, Worm Gear Reducer
Connection Std.	Flange, HG20592-2009 (Design Standard), HG20615-2009 (Compatibility In ANSI B16.5)
Materials of Element	V-SLOT V-Shaped Gap Filter element, Material 316L
Shell material	304, 316L, CS
Scraper material	304, 316L
Sealing material	NBR (Standard) , VITON (FKM)
Blow-down valve	Pneumatic Ball Valve, IP65
Other demands	380V AC, 0.4-0.6MPa Clean and dry compressed air

Filter Type	H011	H022	H034	H075	H100	H136
Filter Area (m ²)	0.11	0.22	0.34	0.75	1.0	1.36
Volume (L)	16	30	50	120	195	320
Inlet/outlet Size	DN40-DN50	DN50-DN80	DN50-DN100	DN65-DN100	DN80-DN125	DN100-DN150
Drain outlet Size	DN40	DN40	DN50	DN50	DN80	DN80

Equipment Dimension

Type	H011	H022	H034	H075	H100	H136
A	740	970	977	1151	1146	1217
B	219	219	250	400	500	650
C	1390	1419	1551	1725	1778	1914
D	400	200	200	200	334	400



Application

Application Areas: Oil, Water treatment, paper Industry, Petrochemical, Fine chemicals

Applicative Liquid Medium: Waxes, Kerosene, Diesel, Monomers, Polymers, Citric acid, Fermentation broth, Chitosan, Cosmetics, Agarose (gel), Silicone solutions, Soaps, Sorbitol, Steroids, Cereal syrups, Wet Additives, Adhesives, Pigments, Lubricants, Coatings, Resins, Rubber, Ethanol, Mixed oil, Edible oil, High-temperature oil, Fruit juice, etc.