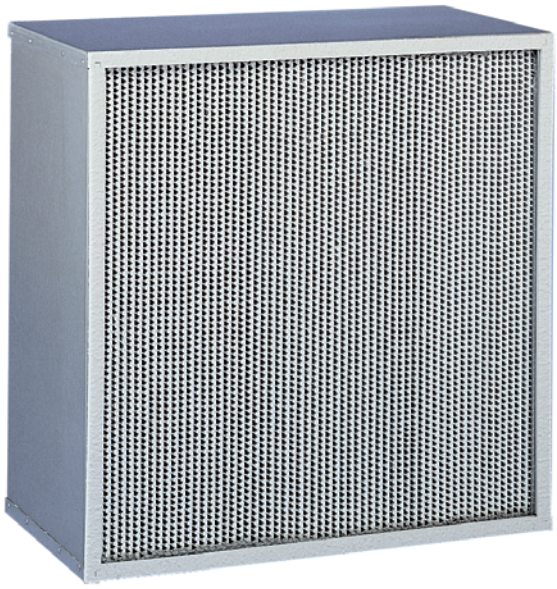
AstroCel® I HTD

HEPA Filter for High Temperature Dynamic Conditions

- ***Suitable for air temperatures up to 500ºC***
- ***Made up of specially selected, heat resistant components***
- ***Tested at U.K. Research Laboratoryof Atomic Energy Authority Technology***



Application

The AstroCel HTD is a HighEfficiency Particulate Air (HEPA) filter especially designed to removeairborne contaminants in criticalareas, in which high efficiency on fineparticulate matter is required andwhere hot air is used during theproduction process. These filters areused in a broad range of industries,from the production of pharmaceutics, photos and films, to food processing.

Components used for the assembly ofthis filter, were either specially selectedfor their heat resistance or becausethey are not severely affected byincreased temperatures. To have theconcept tested and tried under hotdynamic conditions, the AstroCel HTD filter was presented to theindependent U.K. Research Laboratory of Atomic Energy Authority Technology. Conclusion after testing was that the filters performed very satisfactorily and well within the criteria specified.

Cell Sides

The cell sides are made of special hotdipped aluminized steel. This material has excellent characteristics at high temperatures and will easily regain its original dimensions after sudden temperature variations. The cell sides are mechanically put together with stainless steel pop rivets to ensure a permanent close fit.

Seperators

Heat resistant corrugated aluminium seperators keep the pleats of the filter media apart. The uniform spacing between the pleats allows optimal air flow into and through the filter.

Expansion Layer

High temperatures have an influence on the filter media, sealant and cell sides, since they do not expand equally due to their different coefficients. By designing a filter with a unique expansion layer, which is mounted with a special glue to the cell sides, the difference in expansion is absorbed, thus preventing tears in the filter media and cracks in the sealant. In addition, the use of an expansion layer ensures that during cooling down, the filter cell sides and the media will regain their original dimensions.

Bond

The media pack is thoroughly sealedto an expansion layer with a special, heat resistant sealant. The bond totallyencapsulates the media edges andseperators, preventing bypass leakages.The sealant consists of ceramic based components

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Minimum Efficiency
Every AstroCel HTD is individually tested to guarantee the minimum overall efficiency of class H12, as stated on the filter. Testing is performed with PSL, using the EN1822 method.

Gasket
An air-tight seal between filters and frame is ensured by applying a special, high temperature resistant gasket to the face of the cell sides.

Operating Temperature
AstroCel HTD air filters are designed for applications with peak temperatures up to 500°C. Recommended continuous operating temperature is between 250°C and 380°C. See also instruction leaflet RA-3-200 for start-up operations.

Final Resistance
The final recommended resistance is depending upon static pressure characteristics of the fan. AstroCel HTD filters are fabricated to withstand a pressure of 1000 Pa.

Technical Data

Size[1]			Nominal Airflow[2)]	
H	W	D	m3/h	m3/s
610	610	149	1000	0.28
610	305	292	1000	0.28
610	610	292	2000	0.56
610	762	292	2500	0.70

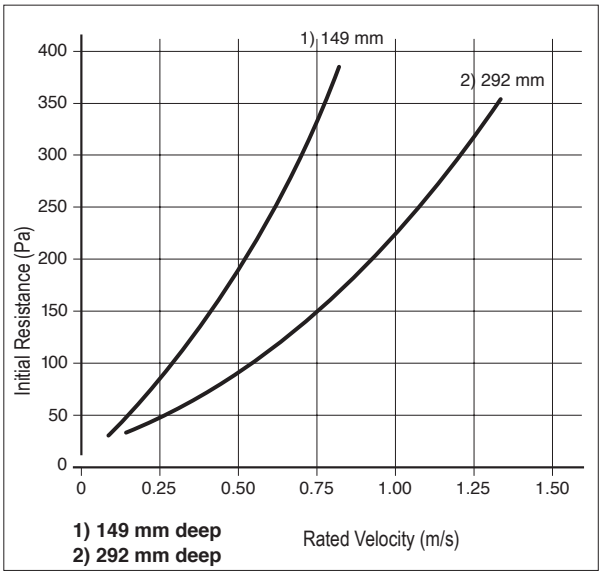
1) The 'H' (Height) dimension indicates the vertical direction of the seperators, AstroCel HTD filters must always be installed with the separators in a vertical position. Only indicated sizes are available.
2) Initial resistance at nominal airflow is ≤ 320 Pa.

Test results from the U.K. Laboratory of Atomic Energy Authority Technology

Temperature	Actual overall Efficiency %
°C	0,2 µm PSL spheres
Ambient	>99.99
250	>99.95
360	>99.90
500	1)

1) At peak temperature efficiency cannot be determined with existing test methods.

Operating Data



1) 149 mm deep
2) 292 mm deep

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