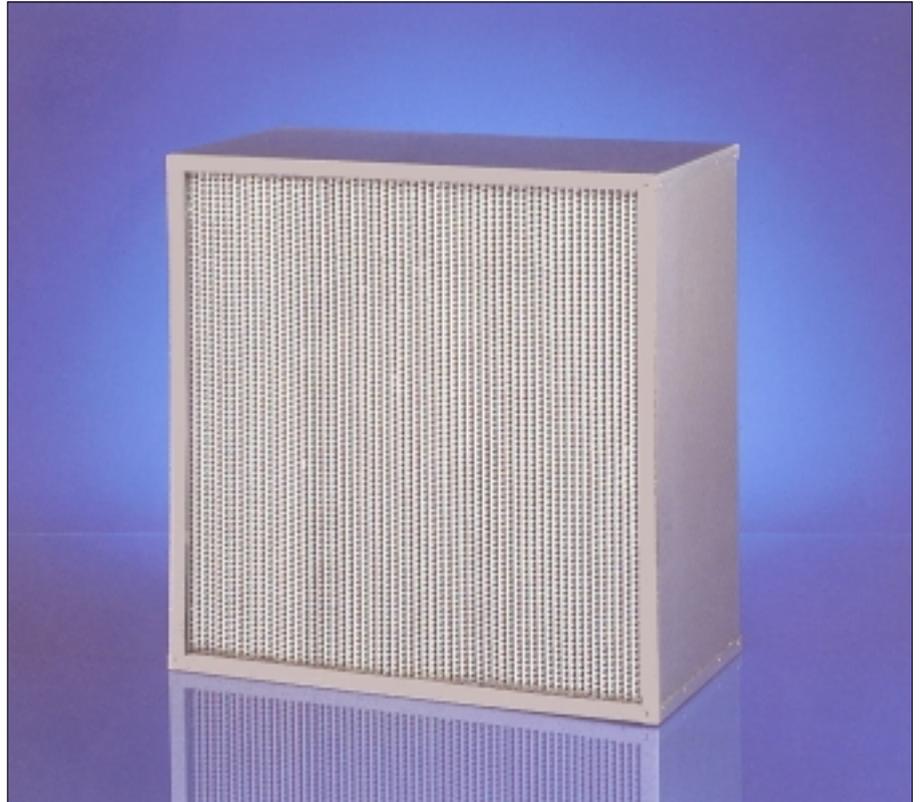


AstroCel[®] HTD

HEPA Filter for High Temperature Dynamic Conditions

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



Application

The AstroCel HTD is a High Efficiency Particulate Air (HEPA) filter especially designed to remove airborne contaminants in critical areas, in which high efficiency on fine particulate matter is required and where hot air is used during the production process. These filters are used in a broad range of industries, from the production of pharmaceuticals, photos and films, to food processing. Components used for the assembly of this filter, were either specially selected for their heat resistance or because they are not severely affected by increased temperatures. To have the concept tested and tried under hot dynamic conditions, the AstroCel HTD filter was presented to the independent 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 hot-dipped 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.

Separators

Heat resistant corrugated aluminium separators 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 sealed to an expansion layer with a special, heat resistant sealant. The bond totally encapsulates the media edges and separators, preventing bypass leakages. The sealant consists of ceramic based components.



AstroCel HTD

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

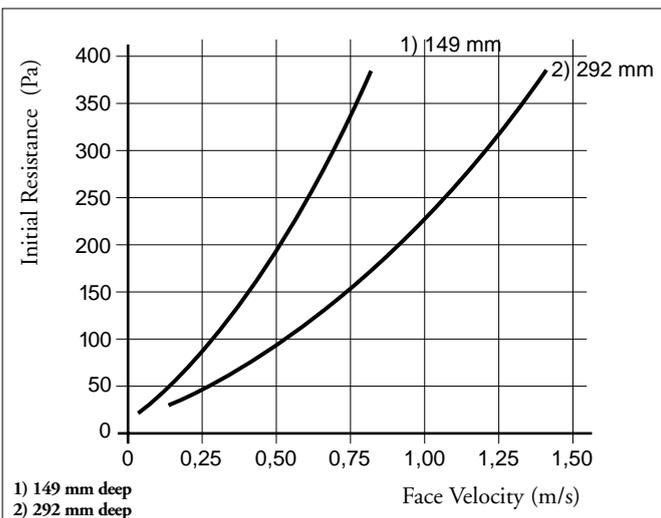
The final recommended resistance is depending upon static pressure characteristics of the fan. AstroCel HTD filters are fabricated to withstand a pressure of 1000 Pa.

Technical Data

Size ¹⁾			Nominal Airflow ²⁾	
H	W	D	m ³ /h	m ³ /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 separators, 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.

Operating Data



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.

AAF-International B.V.
P.O. Box 7928
1008 AC Amsterdam
The Netherlands
Tel.: + 31 20 549 44 11
Fax: + 31 20 644 43 98

International AAF Offices:
 Vienna (A), Brussels (B), Montreal (CDN),
 Dortmund (D), Vitoria (E), Paris (F),
 Cramlington (GB), Athens (GR),
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