

GSV Series

**BLOW-BACK FILTERS
TAILOR MADE**

MAIN APPLICATIONS:

- CHEMICAL
- PETROCHEMICAL
- OIL & GAS
- PHARMACEUTICAL
- POWER GENERATION

FILTER CHARACTERISTICS:

- Designed under Mott Corporation licensee
- Housings construction materials:
 - Carbon steel
 - Stainless steel
 - Exotic alloys
 - (other materials available as option)*
- Filter elements construction materials:
 - AISI 316L, AISI 310
 - Inconel 600, 625
 - Hastelloy C276, C22, B, X
 - Monel 400
 - Titanium
 - (other materials available as option)*
- Designed according to code:
 - ASME Sect. VIII Div. 1
 - EN 13445
 - (other codes available as option)*
- Suitable for gas Gr. 1 and 2 filtration
- Designed for solids separation from gas
- Designed for maintenance free continuous filtration
- Conform to 97/23/CE Directive
- Conform to 94/9/CE Directive
- Available with U-Stamp certification
- Blow-back cleaning system with pressurized gas
- Fully automatic blow-back cycles control
- **FILTER ELEMENTS CHARACTERISTICS:**
- Sintered metal powder construction
- High resistance to temperature and corrosion
- High porosity
- Low Delta-P even with high specific flow-rate
- Excellent cleanability
- Solids separation efficiency up to 99.999%

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TECHNICAL DATA

CONSTRUCTION MATERIAL

Body:

- Carbon steel
- 304-SS
- 316-SS
- 310-SS
- Exotic alloys
- Other materials available

Filter elements:

- 316L-SS, 310-SS
- Inconel 600, 625
- Hastelloy C276, C22, B, X
- Monel 400
- Titanium
- Other materials available

MAX. WORKING TEMPERATURE

Oxydising atmosphere:

- 316L-SS 399 °C
- 310-SS 593 °C
- Inconel 600 593 °C
- Hastelloy X 788 °C

Reducing atmosphere:

- 316L-SS 538 °C
- 310-SS 815 °C
- Inconel 600 815 °C
- Hastelloy X 927 °C

GASKETS

- Spiral wound
- Klingersil

ACCESSORIES

- Automatic blow-back valves
- Differential pressure switch
- Differential pressure transmitter
- Control unit
- Blow-back distribution headers isolation valves
- Pressure safety valves
- Gas booster

Main characteristics:

The increased demand of high performances at critical operating conditions have made the traditional separations systems, like cyclones, ESP (electrostatic precipitators) and disposable cartridges, no longer suitable to meet the industry needs.

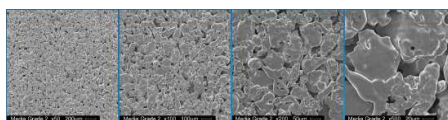
Cleanable filter elements manufactured with sintered metal powder offer a cost effective and reliable alternative.

The development of filter media from sintered metal powders, has contributed to increase the quality level and made it possible to reach higher filtration efficiencies and longer life.

Filter elements manufactured with sintered metal powders provide the highest performance in solids separation from a gas stream. The highly uniform porous structure, allows an higher permeability and therefore lower Delta-P even at increased filtration velocities: as a consequence installation and operation costs are greatly reduced.

Cleaning possibility, thanks to the particular construction of the filter media and to the design of the entire cleaning system, is excellent while the filtration media technological edge is additionally shown by its superior mechanical properties in comparison with the more traditional porous ceramic or sintered metal fibres.

For applications with high temperatures and corrosive gas, beside 316L-SS other alloys are available: 310-SS, Inconel 600 or 625, Hastelloy, Titanium and Monel 400.



The separation of solids particles from a gas stream, even at high temperatures, has several applications, including:

- Catalyst / products recovery from fluid bed reactor processes
- Contaminating solids particles removal from off-gas or process gas
- Gas filtration for process equipment protection



The most economic and cost effective way for the separation of solids particles from a gas stream is the use of a continuous filtration system with blow-back gas cleaning.

In blow-back filtration system, filter elements are cleaned by a high pressure gas stream flowing in a direction opposite to the process flow. Blow-back gas is accelerated to high velocity and pushed inside the filter elements through specially designed blow-back nozzles to a Venturi which is integrated in each filter element.

The filter system head is normally divided in a number of sections, therefore the blow-back is performed only one section at the time, allowing the other filter elements to remain on stream for process filtration. As the blowback gas has sufficient energy to overcome the filter operating pressure, each group of filter elements will be in the blow-back mode without disturbing the remaining elements.

The solid particles removed by blow-back from the filter elements surface will fall down on the filter housing bottom to be later collected.

The high separation efficiency together with the minimal solids particles penetration inside the filter media reduce to a minimum the chances of a filter media blinding, thus greatly increasing the system on stream life.

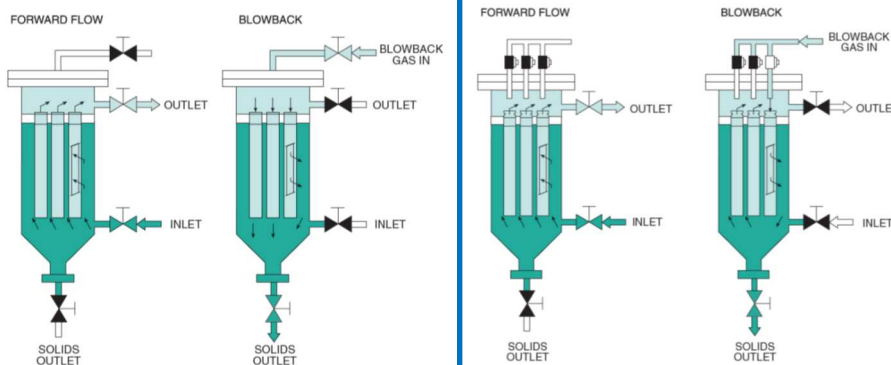
Engineering advantages:

- High filtration velocity (up to 3 m/min) allows the reduction of overall system size.
- High permeability of filter media require low blow-back pressures and allows the system to rapidly form the permanent cake.
- High operating temperature permitted by the filter media eliminates the need to cool down or dilute the gas stream in order to have it filtered through traditional fabric filter bags.
- High blow-back efficiency reduces or eliminates the need of frequent maintenance.
- High dirt holding capacity allows filters longer on-stream life and reduce blow-back gas consumption.
- In pharmaceutical applications, CIP (cleaning in place) or steam sterilization is made possible.



The Mott **HyPulse GSP** is a traditional filtration system for process gas and steam, suitable for all applications where working conditions prevent the use of cyclones or bag houses. When the pre-set Delta-P is reached or by timing, the gas feed is stopped, the filter isolated and filter cleaning takes place by flow inversion.

The Mott **HyPulse GSV** is the ideal alternative for those applications where filter continuous operation is required. The filtering candles are installed in separate sectors and sequentially back-washed while the filter remain in service.



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APPLICATION DETAILS:

- FLUID CATALYTIC CRACKER
- CATALYTIC REFORMING
- DEHYDROGENATION
- STEAM CRACKER
- POLYPROPYLENE GAS PHASE
- LLDPE/HDPE GAS PHASE
- ETHYLENE
- EDC & PVC INTERMEDIATE
- DIPHENOLS
- COAL GASIFICATION
- BIOMASS PYROLYSIS
- ANILINE
- MALEIC ANHYDRIDE
- HYDROXILAMINE
- AMMONIA
- CATALYST RECOVERY
- ORE SMELTING
- PRECIOUS METAL RECOVERY
- NUCLEAR PLANT
- DECOMMISSIONING
- MICRONIZED ALUMINA
- FUMED SILICA
- VACUUM DRYER
- BICONICAL DRYER

OFFICIAL LICENSEE FOR EMEA and INDIA of:

mott corporation

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In-line blow-back cleaning:

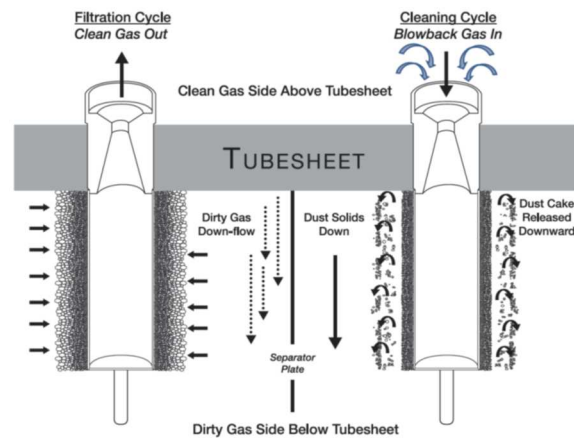
The Mott filter elements have been designed for use in automatic self-cleaning blow-back filters, to ensure, in addition to the high filtration standard, extended filtration cycle and thus minimize the maintenance activities.

The high porosity of filter media combined with the Venturi nozzles specifically designed, provides a uniform distribution of the blow-back gas during cleaning phase (jet-pulse); thereby the blow-back gas energy is not dispersed within the filter media and thus the back-wash performance result excellent.

The conventional filter media (polymeric felts) have a depth developed porous structure, than the powders (catalyst, polymers, etc.) are retained within the filter media providing a more rapid occlusion of the pores and thus reducing fasten the filtration system functionality. The use of sintered metal powder surface filter media can eliminates these problems.

The Mott filter media are made with rolled and welded sintered metal plates; this design allow to obtain filter media that exhibit a very highly uniform porosity distribution associated with a low thickness (from 1.2 to 1.57 mm) that generate low initial pressure drop

With this arrangement, all solid particles are retained on the external surface to form the so-called cake that can be easily removed with frequent backwashing cycles (blow-back).



We reserve the right to change the specifications of this specification without notice.

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