Series BB

BLOW- BACK FILTERS
TAILOR MADE

MAIN APPLICATIONS:

- CHEMICAL
- PETROCHEMICAL
- OIL & GAS
- PHARMACEUTICAL

FILTER CHARACTERISTICS:

– Housings construction materials:
  Carbon steel
  Stainless steel
  Exotic alloys
  (other materials available as option)
– Filter elements construction materials:
  316L SS
  Inconel
  Hastelloy
  Fecralloy
– 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
– Blow-back cleaning system with pressurized gas
– Fully automatic blow-back cycles control

FILTER ELEMENTS CHARACTERISTICS:

– Sintered metal fibres construction
– High resistance to temperature and corrosion
– High porosity
– Low Delta-P even with high specific flow-rate
– Excellent cleanability
– 1 µm absolute filtration rating

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TECHNICAL DATA:

CONSTRUCTION MATERIAL

Body:

- Carbon steel
- 304 SS
- 316 SS
- Exotic alloy
- Other material available

Filter elements:

- 316L SS
- Inconel
- Alloy HR
- Fecralloy

MAX. WORKING TEMPERATURE

- 316L SS 400 °C
- Inconel 560 °C
- Alloy HR 600 °C
- Fecralloy 1000 °C

GASKETS

- Spirometallica
- KlingerSil

ACCESSORIES

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

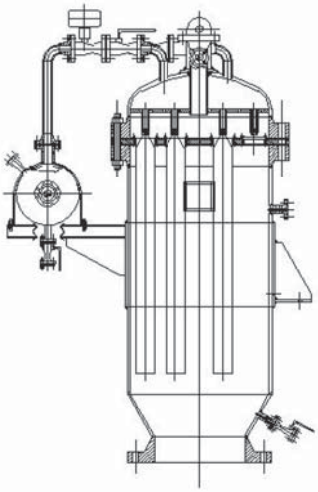
Main characteristics:

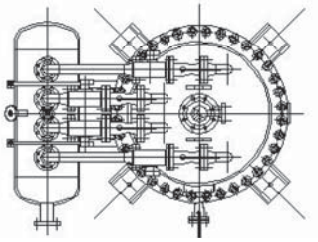
The increased demand of high performances at critical operating conditions have made the traditional separations systems, like cyclones, ESP (electro static precipitators) and disposable cartridges, no longer suitable to meet the industry needs.
Filter elements manufactured with sintered metal fibres offer a cost effective and reliable alternative.
The development of filter media from sintered metal fibres, has contributed to increase the quality level and made it possible to reach higher filtration efficiencies and longer life.
The highly porous structure unique feature of filtration media made from sintered metal fibres, allows a 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, is excellent while the filtration media technological edge is additionally shown by its superior mechanical properties in comparison with the more traditional porous ceramic and by its excellent permeability in comparison with the traditional sintered metal powder elements.
For applications with high temperatures and corrosive gas, beside 316L SS other alloys are available for the fibres. Inconel and Fecralloy are used for temperatures up to 560 and 1000 °C respectively, whereas Alloy HR withstands 600 °C in presence of acid and corrosives.

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 equipments 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 or, if needed, through venturi nozzles.
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 filtration elements to remain on stream for process filtration. As the blow-back gas has sufficient energy to overcome the filter operating pressure, each group of filter elements will be in the blowback 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 filtration media reduce to a minimum the chances of a filter media blinding, thus greatly increasing the system on stream life.

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Engineering advantages:

- High filtration velocity (up to 3 m/min) allows the reduction of overall system size.
- High permeability of filtration media require low blow-back pressures and allows the system to rapidly form the permanent cake.
- High operating temperature permitted by the sintered metal fibres elimintes 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.

Ordering information:

BB	T	16	4	C	L	06	A	-	XXXX

Closure type
T - Flanged
G - Swing bolts

Element quantity
3 4 9
...

Element length
4 - 40"
6 - 60"
8 - 80"
12 - 120"

Material
C - Carbon steel
W - 304 SS
S - 316 SS
...

In/out position
Z - Side / side
L - Side / bottom

In/out
03 - 3"
04 - 4"
06 - 6"
...

Nozzles type
F - UNI flange
A - ANSI flange

APPLICATION DETAILS:

- FLUID CATALYTIC CRACKER
- CATALYTIC REFORMING
- DEHYDROGENATION
- STEAM CRACKER
- POLYPROPYLENE GAS PHASE
- LLDPE/HDPE GAS PHASE
- ETHYLENE
- EDC & PVC INTERMEDIATE
- DIPHENOLES
- 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

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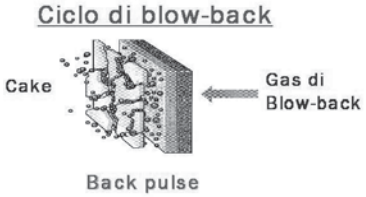
Blow-back in-line cleaning:

BBE series surface filtration elements, have been designed for use in automatic blow-back self cleaning filtration systems, to guarantee high filtration efficiency, long on stream life and therefore minimize maintenance downtime and related costs.
The filtration media high porosity allows a uniform blow back gas distribution during jet-pulse cleaning cycle; therefore the blowback gas energy is not lost inside the filtration media resulting in excellent blow back performances.
Traditional filtration media (polymer felts or sintered metal powder) have a depth porous structure, therefore particles (catalyst, polymers etc.) are retained inside the filtration media causing a quicker pore blinding and a consequent rapid reduction of the filtration system performance. The use of surface filtration media manufactured with sintered metal fibres may eliminate these drawbacks.
Surface filtration media are made up by an external layer of very thin fibres (down to 2 µm), supported by a middle layer of larger diameter fibres, with higher porosity. In this way, all solids particles are retained on the external surface, building up the so called "cake" which can be easily removed with frequent blowback cleaning cycles.



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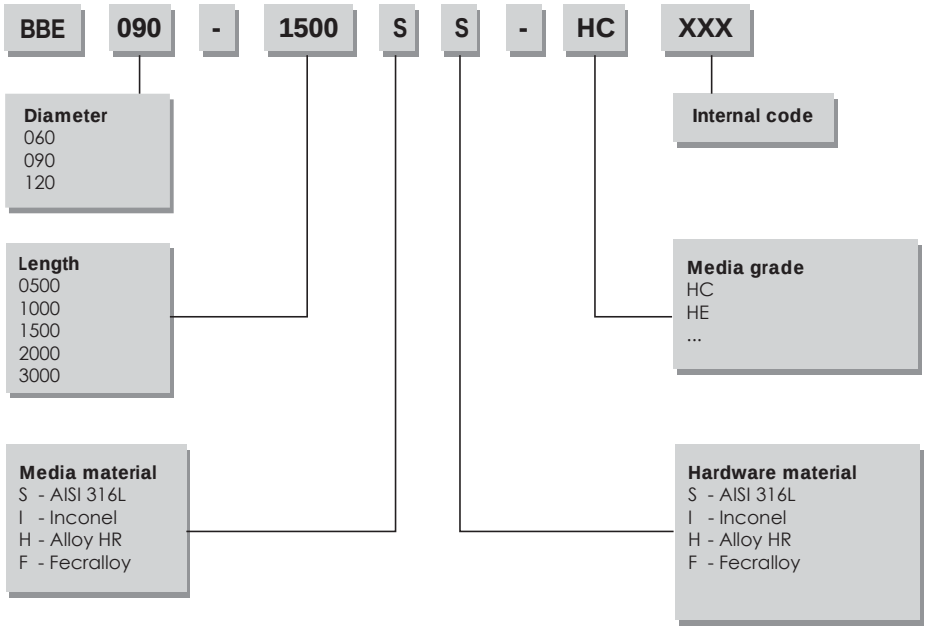

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