



# PureTec

Compressed air filtration



*Purifying your compressed air,  
increasing your efficiency.*



Cooling, conditioning, purifying.

# PureTec

Modern industrial processes are reaching ever higher levels of sophistication, and their Compressed Air networks require ever higher air purity levels; the consequences of inadequate or low efficiency filtration are increased downtime, high maintenance costs and reduced product quality. MTA's PureTec filters avoid these undesired consequences, offering guaranteed and lab tested filtration efficiency levels within an extensive range which satisfies all individual User needs.



## A complete range for all your filtration needs

### PureTec HEF (threaded aluminium)

The HEF range covers air flows from 1.0 to 46 m<sup>3</sup>/min. The extremely durable housing ensures years of trouble free operation whatever the conditions, thanks to standard anodization treatment. Numerous accessories simplify installation and operation, whilst the "CleanFit" design allows easy element substitution.

### PureTec B (flanged carbon steel)

Designed for higher air flows (da 52 a 550 m<sup>3</sup>/min), PureTec B filters feature a multi-element design offering maximum filtration surface area for lowest pressure drops within a compact housing. Element access is simplified thanks to the light-weight top access flange.

### PureTec HEF/50 and F (filters for high pressure)

The filters PureTec HEF/50 and the filters F complete the range of products MTA for compressed air, allowing applications that require high levels of pressure. The filters HEF/50 (2,9 to 32,2 m<sup>3</sup>/min) are made of aluminum and can operate up to a pressure of 50 barg. The filters F (12,6 to 37,5 m<sup>3</sup>/min) are made of carbon steel and can operate at pressures up to 40 barg.

### PureTec for special applications

Customer specific versions are also available, including stainless steel housings (AISI 304 or 316) for aggressive gases, versions for special gases and special approvals (ASME). Versions are available for higher pressure (up to 400 barg).



## Why quality filtration?

Modern industrial applications require ever higher quality air. Applications such as pneumatic automation, electronics, pharmaceutical and food industries, to name just a few, are becoming ever more sophisticated and require ever greater levels of air purity.

The level of atmospheric contamination that can be found in air typically amounts to as much as 140 million particles per cubic metre. About 80% of these are smaller than 2 microns in size, and therefore pass through the air compressor's air intake filter and pass into the compressed air network itself. When compressed to a pressure of 7 barg the number of particles contained in the compressed air reaches 1120 million per cubic metre.

As if this were not bad enough, further impurities are added to the compressed air:

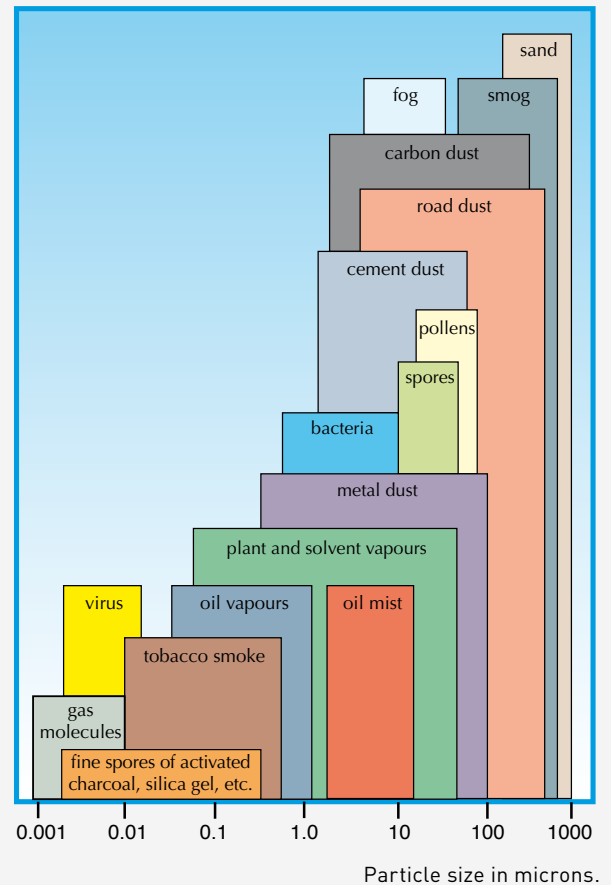
- Water vapour, which will condense to a liquid within the compressed air circuit.
- Oil vapour and air-borne oil particles produced during the compression process itself.
- Solid contaminants produced by the compressed air distribution network.

Failure to efficiently remove these impurities will lead to serious consequences, including:

- Increased maintenance costs.
- Interruptions in the production process.
- Costly tool wear.
- Damaged finished products.

All this can simply be avoided by the PureTec professional grade compressed air filters. PureTec has been designed to offer years of guaranteed high efficiency filtration in even the harshest conditions, safeguarding the User from the costly consequences of unfiltered or poorly filtered compressed air.

### Type and size of atmospheric polluting agents



## Quality housings

PureTec HEF are designed for demanding conditions. All aluminum bodies are subjected to ANODIZATION treatment, a very resistant process that leads to the formation of a protective surface able to prolong the life of the body. The absence of the risk of detachment of the surface particles, determines a better air quality and reduces the risk of obstruction of the discharge.

The process of degreasing at a high temperature, the antioxidant and the passivation treatment to which all bodies are subjected, further improves the resistance. The polyester powder coating provides years of perfect service.



## Quality Elements

Where most filters rely only on the filter media, MTA adds an extra layer of non-woven fabric, which is laminated to the filter media itself. The pulsations and pressure changes which filter elements are subject to risk damaging the media; by adding the non-woven fabric layer MTA adds significant extra strength, ensuring element integrity and, as a consequence, the quality of the compressed air itself.

The glass microfibre filter media offers filtration in accordance to ISO standards; the media is tested to ensure its efficiency. Corrosion resistant materials and stainless steel support cylinders (with wide spacing for minimal pressure drops) ensure the element remains integral over its entire working life. 4 filtration grades are offered, including 2 coalescing and an activated carbon grade.





Cooling, conditioning, purifying.

## Easy to use and maintain

### CLEANFIT element installation:

CLEANFIT (standard on HEF005-070) greatly simplifies element substitution. Simply place the element in the bowl and screw the bowl onto the head; the element will position itself into its guide in the head, with an O-ring ensuring a tight fit. The advantages are multiple:

**No dirty hands** – Used elements are covered in oil; with CLEANFIT there is no need to touch the element itself during substitution.

**Quick substitution** – CLEANFIT drastically reduces the time needed to substitute an element.

**Reduced installation space** – Given that CLEANFIT does not require a tie-rod, so the space required below the filter is notably reduced. PureTec can thus be installed in very limited spaces.



**Audible warning** – An orifice within the filter housing itself warns the User if the bowl has not been tightened enough during element substitution, or if the bowl is being removed whilst the filter is still under pressure.

**Multiple installation kits** – A complete range of accessories and kits ensures that PureTec can easily be installed in all situations.

**Designed for the vigors of industrial use** – The durable housing and quality elements ensure years of optimum filtration in even the most harsh conditions.

## Options and accessories

### Mounting kits

**In-series kits 2S - 2M - 3S - 3M**  
- available for the installation of either 2 filters or 3 filters in series, reducing both installation times and costs (HEF005-70).

**Wall mounting kits WS - WM**  
- allow the filter to be wall mounted, and are compatible with the in-series mounting kits (HEF005-070).

### Element monitors

**PDI 16:** clogging indicator.  
**MDA 60:** aluminum differential pressure gauge.  
**MDM 60C:** magnetic differential pressure gauge with free contact alarm.  
**MDM 60E:** magnetic differential pressure gauge with alarm led.  
**MDH 50:** differential pressure gauge with maximum operating pressure of 50 barg.

### Condensate drains

**Internal float** – zero-loss design, fits inside the housing.  
**External float** – zero-loss, no power supply required.  
**Timed** – safe and reliable.  
**Electronic** – zero-loss, very reliable, alarm security.  
**Manual** – for Grade A filters.



## Element Filtration Grades

| Filtration grade          |                                     |
|---------------------------|-------------------------------------|
| type                      |                                     |
| application               |                                     |
| maximum particle size     | micron<br>ISO Class (**)            |
| maximum oil concentration | mg/m <sup>3</sup><br>ISO Class (**) |
| temperature limit         | min/max °C                          |

(\*) The grade A filters must always be used.  
(\*\*) ISO 8573.1

## Applications by Filtration Grade

| Application           | Configuration |
|-----------------------|---------------|
| dust filtration       |               |
| general purpose       |               |
| fine filtration       |               |
| oil free              |               |
| critical applications |               |
| enhanced dew points   |               |

Complete your compressed separators, filters, adsorption

| P               | M           | S           | A                     |
|-----------------|-------------|-------------|-----------------------|
| pre-filter      | coalescing  | coalescing  | activated carbon      |
| general purpose | fine        | oil-free    | critical applications |
| 3               | 0,1         | 0,01        | N.A.                  |
| 3               | 2           | 1           | -                     |
| N.A.            | 0,1         | 0,01        | 0,005                 |
| N.A.            | 2           | 1           | 1[*]                  |
| 1,5° / 65°C     | 1,5° / 65°C | 1,5° / 65°C | 1,5° / 45°C           |

preceded by a grade S filter.

ade

| Typical applications   |
|--|
| dry particle removal, dust filtration, adsorption dryer post-filter, low pressure dust filtration  |
| pre-filtration for refrigeration dryers, general purpose filtration, vacuum pump pre-filtration, air blowers, bulk removal of liquids & solids, pneumatic tools  |
| offshore, pneumatic tools & controls, sand blasting, air conveyors, shipyards, metal working, compressed air motors, sand blasting equipment, vacuum pump post-filtration, surface treatment   |
| pre-filtration for adsorption dryers, instrumentation, pneumatic bearings, fine pneumatic tools, air logistics, air conveyors, spray painting processes, air gauging   |
| pharmaceutical, medical, critical instrumentation, air conveyors, pneumatic equipment, surface treatment, film processing, vacuum pump post-filtration, compressed air motors, offshore, shipyards, production & packaging & transport in breweries & dairies & food/drink industries, removal of taste/smell/oil vapour, non-critical breathing air applications, sand blasting processes |
| electronics, cosmetics, pharmaceutical, hospitals, aviation, automotive, plastics, refineries, railways, textiles, food/drink, dairies, breweries, chemical. (Certain applications also require grade A filtration downstream).  |

## Filter Housings

| Model      | Nominal air flow (1) (2) |        | Max operating pressure (bar) | Air connections | Dimensions (mm) |      |     |      | Weight (kg) | Filter element n° / model |
|------------|--------------------------|--------|------------------------------|-----------------|-----------------|------|-----|------|-------------|---------------------------|
|            | m³/h                     | m³/min |                              |                 | A               | B    | C   | D    |             |                           |
| HEF 005    | 60                       | 1,0    | 16                           | 3/8"            | 187             | 88   | 20  | 60   | 0,7         | 06050                     |
| HEF 007    | 78                       | 1,3    | 16                           | 1/2"            | 187             | 88   | 20  | 60   | 0,7         | 07050                     |
| HEF 010    | 120                      | 2,0    | 16                           | 3/4"            | 257             | 88   | 20  | 80   | 0,8         | 14050                     |
| HEF 018    | 198                      | 3,3    | 16                           | 1"              | 263             | 125  | 32  | 100  | 1,8         | 12075                     |
| HEF 030    | 335                      | 5,6    | 16                           | 1"              | 363             | 125  | 32  | 120  | 2,5         | 22075                     |
| HEF 047    | 510                      | 8,5    | 16                           | 1 1/2"          | 461             | 125  | 32  | 140  | 2,5         | 32075                     |
| HEF 070    | 780                      | 13,0   | 16                           | 1 1/2"          | 640             | 125  | 32  | 160  | 3,2         | 50075                     |
| HEF 094    | 1000                     | 16,7   | 16                           | 2"              | 684             | 163  | 43  | 520  | 5,1         | 51090                     |
| HEF 150    | 1500                     | 25,0   | 16                           | 2"              | 935             | 163  | 43  | 770  | 7,1         | 76090                     |
| HEF 175    | 1680                     | 28,0   | 16                           | 2 1/2"          | 935             | 163  | 43  | 770  | 6,9         | 76090                     |
| B 310      | 3120                     | 52     | 16                           | DN125           | 500             | 1654 | 304 | 1000 | 120         | 2/76090                   |
| B 460      | 4620                     | 77     | 16                           | DN125           | 500             | 1654 | 304 | 1000 | 120         | 3/76090                   |
| B 660      | 6600                     | 110    | 16                           | DN150           | 640             | 1680 | 330 | 1000 | 156         | 4/76090                   |
| B 900      | 9000                     | 150    | 16                           | DN200           | 790             | 1785 | 360 | 1000 | 220         | 6/76090                   |
| B 1350     | 13500                    | 225    | 16                           | DN250           | 840             | 2165 | 530 | 1200 | 300         | 9/76090                   |
| B 1800     | 18000                    | 300    | 16                           | DN300           | 950             | 2225 | 585 | 1300 | 416         | 12/76090                  |
| B 2400     | 24000                    | 400    | 16                           | DN350           | 1100            | 2266 | 626 | 1300 | 617         | 16/76090                  |
| B 3300     | 33000                    | 550    | 16                           | DN400           | 1200            | 2315 | 675 | 1400 | 776         | 22/76090                  |
| HEF 007/50 | 171                      | 2,9    | 50                           | 1/2"            | 250             | 110  | 30  | 80   | 2,1         | HF 6060                   |
| HEF 010/50 | 270                      | 4,5    | 50                           | 3/4"            | 250             | 110  | 30  | 90   | 2,1         | HF 7060                   |
| HEF 018/50 | 493                      | 8,2    | 50                           | 1"              | 250             | 110  | 30  | 140  | 2,1         | HF 12060                  |
| HEF 047/50 | 681                      | 11,3   | 50                           | 1 1/2"          | 535             | 160  | 45  | 260  | 9,5         | HF 22090                  |
| HEF 070/50 | 966                      | 16,1   | 50                           | 1 1/2"          | 535             | 160  | 45  | 360  | 9,5         | HF 32090                  |

(1) Nominal air flows for HEF, B filters refer to FAD conditions, 20 °C, 1 bar(A), and 7 barg operating pressure. For differing operating pressures apply the correction factors from the below table.

(2) Nominal air flows for HEF/50 bar refer to FAD conditions, 20 °C, 1 bar(A) and working pressure between 17 and 50 bar(g); the air flow remains unchanged within the full range of pressures for which the filter is designed.

Filtration efficiency is in accordance to ISO 8573.1. On request are available filters for high operating pressure and with different materials.

### Air flow correction factors for differing operating pressures for HEF and B filters:

| Pressure (barg)   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Correction factor | 0,25 | 0,38 | 0,50 | 0,63 | 0,75 | 0,88 | 1,00 | 1,13 | 1,25 | 1,38 | 1,50 | 1,63 | 1,75 | 1,88 | 2,00 | 2,13 |

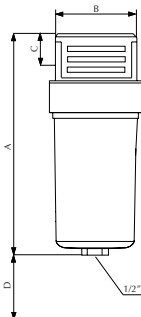
### Air flow correction factors for differing operating pressures for HEF/50 bar filters:

| Pressure (barg)   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Correction factor | 0,11 | 0,17 | 0,22 | 0,28 | 0,33 | 0,39 | 0,44 | 0,50 | 0,56 | 0,61 | 0,67 | 0,72 | 0,78 | 0,83 | 0,89 | 0,94 |

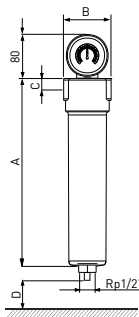
### Pressure drops for HEF, B, HEF/50 bar filters:

| Filter element grade                            | P           | M           | S           | A        |
|---|-------------|-------------|-------------|----------|
| Rated initial pressure drops dried/humid filter | 0,01 / 0,02 | 0,05 / 0,12 | 0,08 / 0,19 | 0,06 / - |

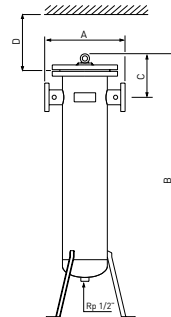
HEF 007/50 - HEF 070/50



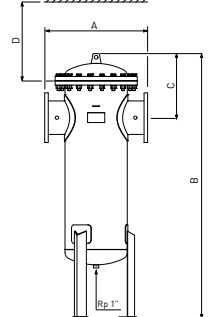
HEF 005-175



B 310 - 900



B 1350 - B 3300



air treatment system with MTA aftercoolers, dryers, drains, oil-water separators and chillers.





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MTA is ISO9001 certified, a sign of its commitment to complete customer satisfaction.



MTA products comply with European safety directives, as recognised by the CE symbol.



EAC Declaration



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