

# *Compressed air filters*

*Sustainable Productivity*

*Atlas Copco*







## COMMITTED TO SUPERIOR PRODUCTIVITY

### In-house development & testing

Since 1998, our dedicated filtration team is responsible for in-house development of cutting-edge filtration solutions. This results in expert know-how of filtration mechanisms, state-of-the-art test facilities and breakthrough innovations. For many years, our filtration team has cooperated closely with the University of Karlsruhe, a leading institute in research of filtration mechanisms.

### Rigorous quality control

To ensure the highest standards, all Atlas Copco products are subjected to rigorous quality control testing. The entire filter range is produced in-house, on the most advanced production lines, using the most stringent methods in the industry. You can rest assured at all times that strict certification and testing procedures are conducted to ensure our filtration products meet the highest standards.

## THE ATLAS COPCO SOLUTION

Compressed air can be contaminated by dirt, water and oil, which can be further divided as follows:

- **DIRT:** micro-organisms, dust, solid particles, rust particles.
- **WATER:** water vapor, condensed liquid water, water aerosols, acidic condensates.
- **OIL:** liquid oil, oil aerosol, hydrocarbon vapor.

Atlas Copco offers a wide selection of filtration solutions and application knowledge. Different product types and grades are available to meet your every demand. Only genuine spare cartridges guarantee the Atlas Copco filter performance.



### Welded design

6 grades  
12 sizes  
550 → 8,000 l/s  
1,200 → 17,000 cfm



### Cast design

6 grades  
13 sizes  
9 → 550 l/s  
19 → 1,200 cfm



850 → 1,100 l/s  
1,801 → 2,331 cfm

### Tower design

1 grade  
14 sizes  
20 → 1800 l/s  
42 → 3814 cfm



20 bar / 290 psi  
50 bar / 725 psi  
100 bar / 1,450 psi  
350 bar / 5,075 psi

### Threaded design

5 grades  
9 sizes  
15 → 944 l/s  
32 → 2,000 cfm



### Threaded design

5 grades  
11 sizes  
9 → 520 l/s  
19 → 1,102 cfm



### Threaded design

1 grade  
10 sizes  
400 → 6,700 l/min  
14 → 237 cfm



|             |                      |      |                        |      |          |           |         |                      |              |       |                      |              |       |                      |
|-------------|----------------------|------|------------------------|------|----------|-----------|---------|----------------------|--------------|-------|----------------------|--------------|-------|----------------------|
| Name        | DDp+                 | PDp+ | DD+                    | PD+  | UD+      | QD+       | QDT     | H<br>High pressure   |              |       | SFA<br>Silicone-free |              |       | MV<br>Medical vacuum |
|             | DDp                  | PDp  | DD                     | PD   |          | QD        |         |                      |              |       |                      |              |       |                      |
| Grade       | Rough                | Fine | Rough                  | Fine | Ultimate | Basic     | Optimal | Rough & Fine         | Rough & Fine | Basic | Rough & Fine         | Rough & Fine | Basic | Fine                 |
| Contaminant | Dry dust             |      | Oil aerosol / wet dust |      |          | Oil vapor |         | Rough & Fine         | Rough & Fine | Basic | Rough & Fine         | Rough & Fine | Basic | Dry dust             |
|             | General applications |      |                        |      |          |           |         | Special applications |              |       |                      |              |       |                      |



Dry dust



Micro-organisms



Oil aerosol



Wet dust



Oil vapor



Water drops

# CERTIFIED PERFORMANCE

Atlas Copco filters are qualified according to the ISO 8573-1:2010 standard. This is the latest edition of the standard. Beware of filters that comply with earlier editions, such as ISO 8573-1:1991 or ISO 8573-1:2001. The difference is inferior quality of the delivered compressed air. This qualification is a result of our filters being tested according to ISO 12500-1:2007, ISO 12500-2:2007, and ISO 12500-3:2009. These specify the test layout, test procedures and inlet conditions required for testing coalescing filters, vapor filters, and solid particle filters used in compressed air systems, to determine their effectiveness in removing oil aerosol, oil vapor and solid particles. The measurements of the air purity downstream the filter for each specific contaminant have been performed according to the test methods described in respectively ISO 8573-2:2007, ISO 8573-5:2001 and ISO 8573-4:2001. Tests have been conducted in-house as well as in external labs, and are independently validated by TÜV.

## ISO certification

Atlas Copco's filters have been fully tested and qualified according to the following ISO standards:

- ISO 8573-1:2010: Compressed air - Contaminants and purity classes
- ISO 8573-2:2007: Compressed air - Test method for oil aerosol content
- ISO 8573-4:2001: Compressed air - Test method for dust
- ISO 8573-5: 2001: Compressed air - Test method for oil vapor and organic solvent content
- ISO 12500-1:2007: Filters for compressed air - test methods - oil aerosols
- ISO 12500-2:2007: Filters for compressed air - test methods - oil vapors
- ISO 12500-3:2009: Filters for compressed air - test methods - particulates



### Certified peace of mind

|                             |  |                                  |  |
|-----------------------------|--|----------------------------------|--|
| <b>FILTER APPROVALS</b><br> |  | <b>COMPANY CERTIFICATION</b><br> |  |
| <b>ACTIVE MEMBER OF</b><br> |  |                                  |  |

# A SOLUTION FOR EVERY APPLICATION

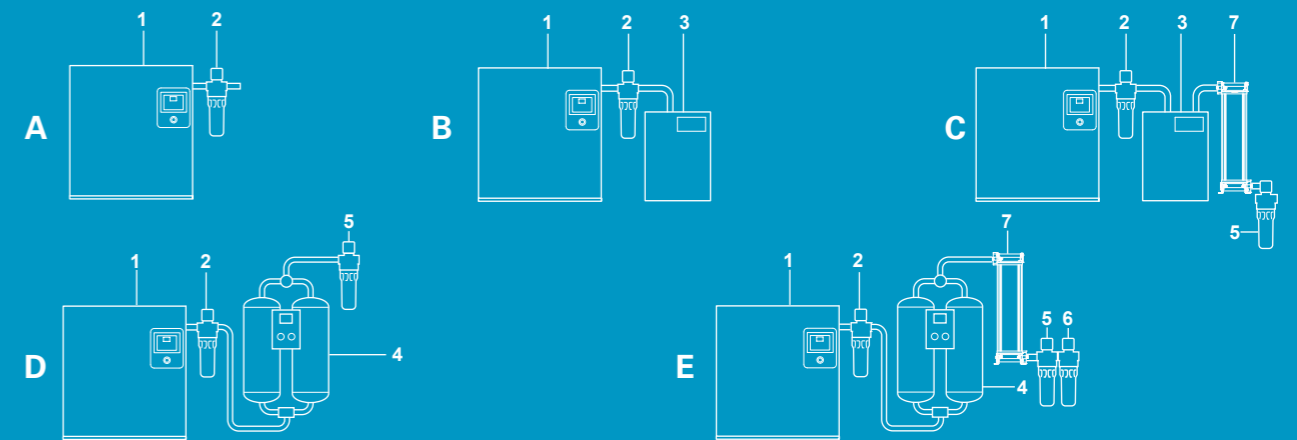
At different points of use, different compressed air purities might be needed, depending on the application. The various air purity classes are provided in the table below, which clearly shows the various Atlas Copco filters and dryers that meet all the different classes.

| ISO 8573-1:2010 CLASS | Solid particles               |                | Water  | Oil (= aerosol, liquid, vapor) |                        |
|-----------------------|-------------------------------|----------------|--|--------------------------------|------------------------|
|                       | Wet conditions                | Dry conditions |  |                                |                        |
| 0                     | As specified by the customer* |                |  | Oil-free compressor            |                        |
| 1                     | DD+ & PD+<br>UD+              | DDp+ & PDp+    | Desiccant dryer                                    | DD+ & PD+<br>UD+               | & QD+/QDT<br>& QD+/QDT |
| 2                     | DD+                           | DDp+           | Desiccant dryer                                    | DD+ & PD+<br>UD+               |                        |
| 3                     | DD+                           | DDp+           | Desiccant dryer, membrane dryer, rotary drum dryer | DD+                            |                        |
| 4                     | DD+                           | DDp+           | Membrane dryer, refrigerant dryer                  | DD+                            |                        |
| 5                     | DD+                           | DDp+           | Membrane dryer, refrigerant dryer                  | -                              |                        |
| 6                     | -                             | -              | Membrane dryer, refrigerant dryer                  | -                              |                        |

\* Please contact your Atlas Copco sales representative.

## Examples of typical installations

|          |  |   |
|----------|--|---|
| <b>A</b> | Compressor - UD+                                       | Air purity class ISO 8573-1:2010 [1:-:2]  |
| <b>B</b> | Compressor - UD+ - Refrigerant dryer                   | Air purity class ISO 8573-1:2010 [1:4:2]* |
| <b>C</b> | Compressor - UD+ - Refrigerant dryer - QDT - DDp+      | Air purity class ISO 8573-1:2010 [2:4:1]  |
| <b>D</b> | Compressor - UD+ - Desiccant dryer - DDp+              | Air purity class ISO 8573-1:2010 [2:2:2]  |
| <b>E</b> | Compressor - UD+ - Desiccant dryer - QDT - DDp+ - PDp+ | Air purity class ISO 8573-1:2010 [1:2:1]  |



- 1. Compressor
- 2. UD+ filter
- 3. Refrigerant dryer
- 4. Desiccant dryer
- 5. DDp+ filter
- 6. PDp+ filter
- 7. QDT filter

\* Particle class 1 is reached directly after UD+. As downstream piping & vessels can add particles, it is advised to install particle filters DDp+ and PDp+ just before the application to reach particle class 1 at point of use.

The compressor should be equipped with a liquid water separation system such as an after cooler including a drain or a water separator (WSD). Always install a water separator in front of a coalescence filter. In case of critical applications, install extra air treatment products at point of use for the removal of pipeline contamination and condensation.



# UD+ SERIES

## Two-in-one oil coalescing filters with supreme energy savings

UD+ filters efficiently reduce oil aerosol, wet dust and water drops in your compressed air stream to protect your investment, equipment and processes. The UD+ combines two filtration steps (DD+ and PD+) into one, a unique technology to meet the high-quality requirements of diverse applications and provide ultimate energy savings.



## YOUR BENEFITS

### 40% energy savings

A 40% lower pressure drop than the conventional filter combination results in 40% higher energy efficiency.

### Pure air

Air purity is equal to that obtained using two filters in line, thanks to the thick filter package of UD+ filters.

### Save space

The two-in-one filtration concept reduces installation space and complexity, making UD+ filters particularly suitable for applications where space is at a premium.

### Save money

Install UD+ filters to enjoy significant cost savings compared to conventional filters.

## Performance

|  | UD+                                   |
|--|---------------------------------------|
| Contaminant                                  | Oil aerosol/wet dust                  |
| Test method                                  | ISO 8573-2:2007, ISO 12500-1:2007     |
| Maximum oil carry-over (mg/m <sup>3</sup> )* | 0.0009                                |
| Wet pressure drop (mbar)                     | 245                                   |
| Element service                              | After 4,000 operating hours or 1 year |
| Precede with                                 | Water separation                      |

\* Inlet oil concentration = 10 mg/m<sup>3</sup>. Oil = oil aerosol and liquid.

## Sizing & dimensions

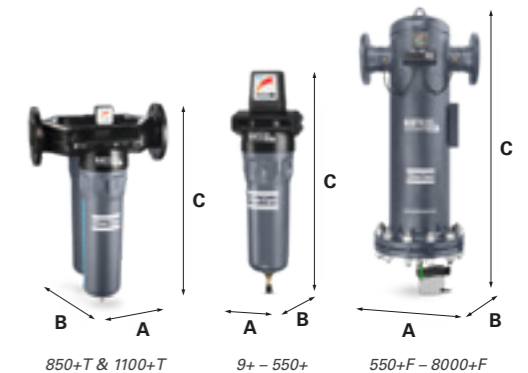
| FILTER SIZE UD+ | Nominal capacity |        | Reference pressure |      | Maximum pressure |      | Connections | Dimensions |      |     |      |      |      | Free space for cartridge replacement |      | Weight |        |
|-----------------|------------------|--------|--------------------|------|------------------|------|-------------|------------|------|-----|------|------|------|--------------------------------------|------|--------|--------|
|                 | l/s              | cfm    | bar(e)             | psig | bar(e)           | psig |             | A          |      | B   |      | C    |      | D                                    |      | kg     | lbs    |
|                 |                  |        |                    |      |                  |      | mm          | in         | mm   | in  | mm   | in   | mm   | in                                   |      |        |        |
| 9+              | 9                | 19     | 7                  | 102  | 16               | 232  | 3/8         | 90         | 3.5  | 61  | 2.4  | 268  | 10.6 | 75                                   | 2.9  | 1.0    | 2.2    |
| 15+             | 15               | 32     | 7                  | 102  | 16               | 232  | 1/2         | 90         | 3.5  | 61  | 2.4  | 268  | 10.6 | 75                                   | 2.9  | 1.1    | 2.4    |
| 25+             | 25               | 53     | 7                  | 102  | 16               | 232  | 1/2         | 90         | 3.5  | 61  | 2.4  | 323  | 12.8 | 75                                   | 2.9  | 1.3    | 2.9    |
| 45+             | 45               | 95     | 7                  | 102  | 16               | 232  | 3/4 & 1     | 110        | 4.3  | 99  | 3.9  | 374  | 14.7 | 75                                   | 2.9  | 1.6    | 4.2    |
| 60+             | 60               | 127    | 7                  | 102  | 16               | 232  | 1           | 110        | 4.3  | 99  | 3.9  | 414  | 16.3 | 75                                   | 2.9  | 2.1    | 4.6    |
| 100+            | 100              | 212    | 7                  | 102  | 16               | 232  | 1           | 140        | 5.5  | 105 | 4.0  | 425  | 16.7 | 100                                  | 3.9  | 3.7    | 8.2    |
| 140+            | 140              | 297    | 7                  | 102  | 16               | 232  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 520  | 20.5 | 100                                  | 3.9  | 4.2    | 9.3    |
| 180+            | 180              | 381    | 7                  | 102  | 16               | 232  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 603  | 23.7 | 100                                  | 3.9  | 4.5    | 9.9    |
| 220+            | 220              | 466    | 7                  | 102  | 16               | 232  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 603  | 23.7 | 100                                  | 3.9  | 4.6    | 10.1   |
| 310+            | 310              | 657    | 7                  | 102  | 16               | 232  | 2 & 2-1/2   | 179        | 7.1  | 121 | 4.8  | 689  | 27.1 | 150                                  | 5.9  | 6.9    | 15.2   |
| 425+            | 425              | 901    | 7                  | 102  | 16               | 232  | 3           | 210        | 8.3  | 128 | 5.1  | 791  | 31.1 | 200                                  | 7.9  | 11.0   | 24.2   |
| 550+            | 550              | 1165   | 7                  | 102  | 16               | 232  | 3           | 210        | 8.3  | 128 | 5.1  | 961  | 37.8 | 200                                  | 7.9  | 12.6   | 27.8   |
| 550+F           | 550              | 1165   | 7                  | 102  | 16               | 232  | DN80        | 370        | 14.6 | 280 | 11.0 | 1295 | 51.0 | 1375                                 | 54.1 | 76.0   | 167.6  |
| 850+T           | 850              | 1.801  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 418 | 16.5 | 796  | 31.3 | 200                                  | 7.9  | 35.2   | 77.6   |
| 850+F           | 850              | 1.801  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 410 | 16.1 | 1360 | 53.5 | 1500                                 | 59.1 | 141.0  | 310.9  |
| 1100+T          | 1.100            | 2.331  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 418 | 16.5 | 966  | 38.0 | 200                                  | 7.9  | 37.4   | 82.4   |
| 1100+F          | 1100             | 2.331  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 410 | 16.1 | 1360 | 53.5 | 1500                                 | 59.1 | 143.0  | 315.3  |
| 1400+F          | 1400             | 2.967  | 7                  | 102  | 16               | 232  | DN150       | 620        | 24.4 | 485 | 19.1 | 1480 | 58.3 | 1560                                 | 61.4 | 210.0  | 463.0  |
| 1800+F          | 1800             | 3.814  | 7                  | 102  | 16               | 232  | DN150       | 640        | 25.2 | 490 | 19.3 | 1555 | 61.2 | 1640                                 | 64.6 | 176.0  | 388.0  |
| 2200+F          | 2200             | 4.662  | 7                  | 102  | 16               | 232  | DN150       | 640        | 25.2 | 490 | 19.3 | 1555 | 61.2 | 1640                                 | 64.6 | 178.0  | 392.4  |
| 3000+F          | 3000             | 6.357  | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 650 | 25.6 | 1745 | 68.7 | 1710                                 | 67.3 | 420.0  | 925.9  |
| 4000+F          | 4000             | 8.476  | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 650 | 25.6 | 1745 | 68.7 | 1710                                 | 67.3 | 428.0  | 943.6  |
| 5000+F          | 5000             | 10.595 | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 650 | 25.6 | 1745 | 68.7 | 1710                                 | 67.3 | 432.0  | 952.4  |
| 6000+F          | 6000             | 12.714 | 7                  | 102  | 16               | 232  | DN250       | 920        | 36.2 | 815 | 32.1 | 2085 | 82.1 | 1625                                 | 64.0 | 671.0  | 1479.3 |
| 7000+F          | 7000             | 14.833 | 7                  | 102  | 16               | 232  | DN250       | 920        | 36.2 | 815 | 32.1 | 2085 | 82.1 | 1625                                 | 64.0 | 675.0  | 1488.1 |
| 8000+F          | 8000             | 16.952 | 7                  | 102  | 16               | 232  | DN300       | 1040       | 40.9 | 930 | 36.6 | 2070 | 81.5 | 1625                                 | 64.0 | 900.0  | 1984.2 |

## Correction factors

| Inlet pressure (bar)  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 10   | 12   | 14   | 16   |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Inlet pressure (psig) | 15   | 29   | 44   | 58   | 72.5 | 87   | 102  | 116  | 145  | 174  | 203  | 232  |
| Correction factor     | 0.38 | 0.53 | 0.65 | 0.75 | 0.83 | 0.92 | 1.00 | 1.06 | 1.20 | 1.31 | 1.41 | 1.50 |

### Example

- Working pressure 3 bar(g), compressed air flow 35 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 45+: 45 l/s \* 0.65 = 29 l/s => the 45+ filter size is not large enough.
  - Size 60+: 60 l/s \* 0.65 = 39 l/s => the 60+ filter size is the size to select.



## Options

- Filter connection kit for easy mounting in series (9-550 l/s).
- Wall mounting kit simplifies installation (9-550 l/s).
- Quick coupling connects the filter with a drain or oil/water separator.
- Voltage-free contact mounted in the differential pressure gauge, to give remote indication of cartridge replacement.
- EWD electronic drain with no loss of compressed air and an alarm function (EWD is optional on size 9+ - 550+, 850+T and 1100+T; standard on size 550+F and larger).



Wall mounting kit

## Certification

- ISO 8573-2:2007
- ISO 12500-1:2007



# DD(+)/PD(+) SERIES

## High performance oil coalescing filters

DD(+) and PD(+) filters efficiently reduce oil aerosol, wet dust and water drops in your compressed air stream. These could come from the lubrication of the compressor element, the intake air, and the compressor installation itself. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's increasing quality demands.



## YOUR BENEFITS

### Maximum oil aerosol, wet dust and water droplet filtration and drainage

High-efficient glass fiber and foam media.

### Significant energy savings & limited system operating costs

Optimal design and filter media allow low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps, and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing, or a rotating bottom cover for the welded housings, and push-on elements.

### Monitoring of energy use

Differential pressure indication (indicator for sizes 10-35 l/s, gauge for sizes 50-8000 l/s) (optional for standard range).

## Performance

|  | DD                                    | PD                  | DD+              | PD+                  |
|--|---------------------------------------|---------------------|------------------|----------------------|
| Contaminant                                  | Oil aerosol/wet dust                  |                     |                  |                      |
| Test method                                  | ISO 8573-2:2007, ISO 12500-1:2007     |                     |                  |                      |
| Maximum oil carry-over (mg/m <sup>3</sup> )* | 0.1*                                  | 0.01*               | 0.07*            | 0.008*               |
| Wet pressure drop (mbar)                     | 245                                   | 280                 | 180              | 215                  |
| Element service                              | After 4,000 operating hours or 1 year |                     |                  |                      |
| Precede with                                 | Water separation                      | Water separation DD | Water separation | Water separation DD+ |

\* Inlet oil concentration = 10 mg/m<sup>3</sup>. Oil = oil aerosol and liquid.

## Sizing & dimensions

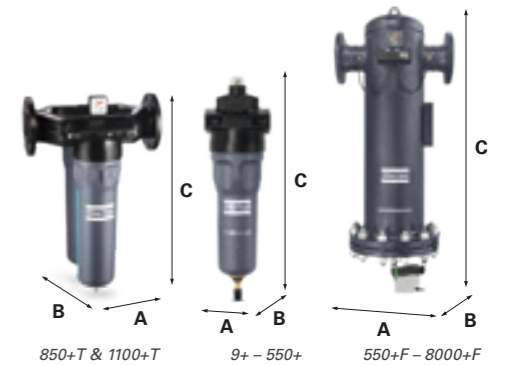
| FILTER SIZE<br>DD/PD | Nominal capacity |      |      |      |       | Reference pressure |      | Maximum pressure |      | Connections | Dimensions |      |     |      |      |      | Free space for cartridge replacement |      | Weight |        |
|----------------------|------------------|------|------|------|-------|--------------------|------|------------------|------|-------------|------------|------|-----|------|------|------|--------------------------------------|------|--------|--------|
|                      | Standard         |      | +    |      |       | bar(e)             | psig | bar(e)           | psig |             | A          |      | B   |      | C    |      | D                                    |      | kg     | lbs    |
| Standard             | +                | l/s  | cfm  | l/s  | cfm   |                    |      |                  |      | mm          | in         | mm   | in  | mm   | in   | mm   | in                                   | mm   |        |        |
| 12                   | 10+              | 12   | 25   | 10   | 21    | 7                  | 102  | 20               | 290  | 3/8         | 90         | 3.5  | 61  | 2.4  | 268  | 10.6 | 75                                   | 2.9  | 1.0    | 2.2    |
| 25                   | 20+              | 25   | 53   | 20   | 42    | 7                  | 102  | 20               | 290  | 1/2         | 90         | 3.5  | 61  | 2.4  | 268  | 10.6 | 75                                   | 2.9  | 1.1    | 2.4    |
| 45                   | 35+              | 45   | 95   | 35   | 74    | 7                  | 102  | 20               | 290  | 1/2         | 90         | 3.5  | 61  | 2.4  | 323  | 12.7 | 75                                   | 2.9  | 1.3    | 2.9    |
| 65                   | 50+              | 65   | 138  | 50   | 106   | 7                  | 102  | 20               | 290  | 3/4 & 1     | 110        | 4.3  | 99  | 3.9  | 374  | 14.7 | 75                                   | 2.9  | 1.6    | 4.2    |
| 90                   | 70+              | 90   | 191  | 70   | 148   | 7                  | 102  | 20               | 290  | 1           | 110        | 4.3  | 99  | 3.9  | 414  | 16.3 | 75                                   | 2.9  | 2.1    | 4.6    |
| 160                  | 130+             | 160  | 339  | 130  | 275   | 7                  | 102  | 20               | 290  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 520  | 20.5 | 100                                  | 3.9  | 4.2    | 9.3    |
| 215                  | 170+             | 215  | 456  | 170  | 360   | 7                  | 102  | 20               | 290  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 603  | 23.7 | 100                                  | 3.9  | 4.5    | 9.9    |
| 265                  | 210+             | 265  | 562  | 210  | 445   | 7                  | 102  | 20               | 290  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 603  | 23.7 | 100                                  | 3.9  | 4.6    | 10.1   |
| 360                  | 310+             | 360  | 763  | 310  | 657   | 7                  | 102  | 20               | 290  | 2 & 2-1/2   | 179        | 7.0  | 121 | 4.8  | 689  | 27.1 | 150                                  | 5.9  | 6.9    | 15.2   |
| 525                  | 425+             | 525  | 1112 | 425  | 901   | 7                  | 102  | 16               | 232  | 3           | 210        | 8.3  | 128 | 5.0  | 791  | 31.1 | 200                                  | 7.9  | 11.0   | 24.2   |
| 690                  | 550+             | 690  | 1462 | 550  | 1165  | 7                  | 102  | 16               | 232  | 3           | 210        | 8.3  | 128 | 5.0  | 961  | 37.9 | 200                                  | 7.9  | 12.6   | 27.8   |
| 630F                 | 550+F            | 630  | 1335 | 550  | 1165  | 7                  | 102  | 16               | 232  | DN80        | 370        | 14.6 | 190 | 7.5  | 1295 | 51.0 | 1375                                 | 54.1 | 76.0   | 167.6  |
| -                    | 850+T            | -    | -    | 850  | 1801  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 418 | 16.5 | 796  | 31.3 | 200                                  | 7.9  | 35.2   | 77.6   |
| 970F                 | 850+F            | 970  | 2055 | 850  | 1801  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 230 | 9.1  | 1360 | 53.5 | 1500                                 | 59.1 | 141.0  | 310.9  |
| -                    | 1100+T           | -    | -    | 1100 | 2331  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 418 | 16.5 | 966  | 38.0 | 200                                  | 7.9  | 37.4   | 82.4   |
| 1260F                | 1100+F           | 1260 | 2670 | 1100 | 2331  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 230 | 9.1  | 1360 | 53.5 | 1500                                 | 59.1 | 143.0  | 415.3  |
| 1600F                | 1400+F           | 1600 | 3390 | 1400 | 2967  | 7                  | 102  | 16               | 232  | DN150       | 620        | 24.4 | 290 | 11.4 | 1480 | 58.3 | 1560                                 | 61.4 | 210.0  | 463.0  |
| 2200F                | 1800+F           | 2200 | 4662 | 1800 | 3814  | 7                  | 102  | 16               | 232  | DN150       | 640        | 25.2 | 285 | 11.2 | 1555 | 61.2 | 1640                                 | 64.6 | 176.0  | 388.0  |
| 2400F                | 2200+F           | 2400 | 5086 | 2200 | 4662  | 7                  | 102  | 16               | 232  | DN150       | 640        | 25.2 | 285 | 11.2 | 1555 | 61.2 | 1640                                 | 64.6 | 178.0  | 392.4  |
| 3600F                | 3000+F           | 3600 | 7628 | 3000 | 6357  | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 400 | 15.7 | 1745 | 68.7 | 1710                                 | 67.3 | 420.0  | 925.9  |
| -                    | 4000+F           | -    | -    | 4000 | 8476  | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 400 | 15.7 | 1745 | 68.7 | 1710                                 | 67.3 | 428.0  | 943.6  |
| -                    | 5000+F           | -    | -    | 5000 | 10595 | 7                  | 102  | 16               | 232  | DN250       | 820        | 32.3 | 400 | 15.7 | 1745 | 68.7 | 1710                                 | 67.3 | 432.0  | 952.4  |
| -                    | 6000+F           | -    | -    | 6000 | 12714 | 7                  | 102  | 16               | 232  | DN250       | 920        | 32.3 | 550 | 18.9 | 2085 | 80.3 | 1625                                 | 64   | 594.0  | 1034.0 |
| -                    | 7000+F           | -    | -    | 7000 | 14833 | 7                  | 102  | 16               | 232  | DN300       | 920        | 36.2 | 550 | 21.7 | 2085 | 82.1 | 1625                                 | 64   | 597.0  | 1479.3 |
| -                    | 8000+F           | -    | -    | 8000 | 16952 | 7                  | 102  | 16               | 232  | DN300       | 1040       | 40.9 | 525 | 20.7 | 2070 | 81.5 | 1625                                 | 64   | 1140.0 | 1984.2 |

## Correction factors

|                       |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Inlet pressure (bar)  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 10   | 12   | 14   | 16   |
| Inlet pressure (psig) | 15   | 29   | 44   | 58   | 72.5 | 87   | 102  | 116  | 145  | 174  | 203  | 232  |
| Correction factor     | 0.38 | 0.53 | 0.65 | 0.75 | 0.83 | 0.92 | 1.00 | 1.06 | 1.20 | 1.31 | 1.41 | 1.50 |

### Example

- Working pressure 3 bar(g), compressed air flow 35 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 50+: 50 l/s \* 0.65 = 33 l/s => the 50+ filter size is not large enough.
  - Size 70+: 70 l/s \* 0.65 = 46 l/s => the 70+ filter size is the size to select.



## Options

- Filter connection kit for easy mounting in series (10+ - 550+ l/s and 12-690 l/s).
- Wall-mounting kit simplifies installation (10+ - 550+ l/s and 12-690 l/s).
- Quick coupling connects the filter with a drain or oil/water separator.
- Voltage-free contact mounted in the differential pressure gauge, to give remote indication of cartridge replacement.
- EWD electronic drain with no loss of compressed air and an alarm function (EWD is optional on sizes 10+ - 550+ l/s and 12-690 l/s; standard on sizes ≥550F).

## Certification

- ISO 8573-2:2007
- ISO 12500-1:2007



EWD electronic drain



# DDp(+)/PDp(+) SERIES

## Optimal dry dust filtration

DDp(+) and PDp(+) filters efficiently prevent dust, particulates and micro-organisms arising from corrosion, dirt and adsorption material from entering your compressed air stream. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's increasing quality demands.



## YOUR BENEFITS

### Maximum dirt, solid particles, micro-organisms and rust particles removal

High-efficient glass fiber and foam media.

### Significant energy savings & limited system operating costs

Optimal design and filter media allow for low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps, and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing, or a rotating bottom cover for the welded housings, and push-on elements.

### Monitoring of energy use

Differential pressure indication (indicator for sizes 10-35 l/s, gauge for sizes 45-8000 l/s) (optional for standard range).

## Performance

|   | DDp   | PDp       | DDp+  | PDp+       |
|---|---|-----------|-------|------------|
| Contaminant                             | Dry dust  |           |       |            |
| Test method                             | ISO 8573-4:2001, ISO 12500-3:2009                               |           |       |            |
| Particle removal efficiency (% at MPPS) | 99.81   | 99.97     | 99.92 | 99.98      |
| Dry pressure drop (mbar)                | 135   | 150       | 85    | 100        |
| Element service                         | After 4,000 operating hours or 1 year or 350 mbar pressure drop |           |       |            |
| Precede with                            | Dryer   | Dryer DDp | Dryer | Dryer DDp+ |

## Sizing & dimensions

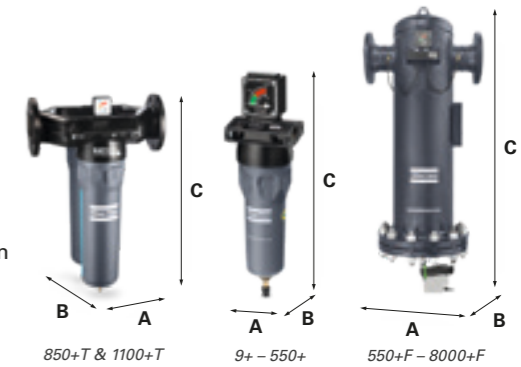
| FILTER SIZE<br>DD/PD | Nominal capacity |      |      |      |       | Reference pressure |      | Maximum pressure |      | Connections | Dimensions |      |     |      |      |      | Free space for cartridge replacement |      | Weight |        |
|----------------------|------------------|------|------|------|-------|--------------------|------|------------------|------|-------------|------------|------|-----|------|------|------|--------------------------------------|------|--------|--------|
|                      | Standard         |      | +    |      |       | bar(e)             | psig | bar(e)           | psig |             | A          |      | B   |      | C    |      | D                                    |      | kg     | lbs    |
| Standard             | +                | l/s  | cfm  | l/s  | cfm   |                    |      |                  |      | mm          | in         | mm   | in  | mm   | in   | mm   | in                                   | mm   |        |        |
| 12                   | 10+              | 12   | 25   | 10   | 21    | 7                  | 102  | 20               | 290  | 3/8         | 90         | 3.5  | 61  | 2.4  | 268  | 10.6 | 75                                   | 2.9  | 1.0    | 2.2    |
| 25                   | 20+              | 25   | 53   | 20   | 42    | 7                  | 102  | 20               | 290  | 1/2         | 90         | 3.5  | 61  | 2.4  | 268  | 10.6 | 75                                   | 2.9  | 1.1    | 2.4    |
| 45                   | 35+              | 45   | 95   | 35   | 74    | 7                  | 102  | 20               | 290  | 1/2         | 90         | 3.5  | 61  | 2.4  | 323  | 12.7 | 75                                   | 2.9  | 1.3    | 2.9    |
| 65                   | 50+              | 65   | 138  | 50   | 106   | 7                  | 102  | 20               | 290  | 3/4 & 1     | 110        | 4.3  | 99  | 3.9  | 374  | 14.7 | 75                                   | 2.9  | 1.6    | 4.2    |
| 90                   | 70+              | 90   | 191  | 70   | 148   | 7                  | 102  | 20               | 290  | 1           | 110        | 4.3  | 99  | 3.9  | 414  | 16.3 | 75                                   | 2.9  | 2.1    | 4.6    |
| 160                  | 130+             | 160  | 339  | 130  | 275   | 7                  | 102  | 20               | 290  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 520  | 20.5 | 100                                  | 3.9  | 4.2    | 9.3    |
| 215                  | 170+             | 215  | 456  | 170  | 360   | 7                  | 102  | 20               | 290  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 603  | 23.7 | 100                                  | 3.9  | 4.5    | 9.9    |
| 265                  | 210+             | 265  | 562  | 210  | 445   | 7                  | 102  | 20               | 290  | 1-1/2       | 140        | 5.5  | 105 | 4.1  | 603  | 23.7 | 100                                  | 3.9  | 4.6    | 10.1   |
| 360                  | 310+             | 360  | 763  | 310  | 657   | 7                  | 102  | 20               | 290  | 2 & 2-1/2   | 179        | 7.0  | 121 | 4.8  | 689  | 27.1 | 150                                  | 5.9  | 6.9    | 15.2   |
| 525                  | 425+             | 525  | 1112 | 425  | 901   | 7                  | 102  | 16               | 232  | 3           | 210        | 8.3  | 128 | 5.0  | 791  | 31.1 | 200                                  | 7.9  | 11.0   | 24.2   |
| 690                  | 550+             | 690  | 1462 | 550  | 1165  | 7                  | 102  | 16               | 232  | 3           | 210        | 8.3  | 128 | 5.0  | 961  | 37.9 | 200                                  | 7.9  | 12.6   | 27.8   |
| 630F                 | 550+F            | 630  | 1335 | 550  | 1165  | 7                  | 102  | 16               | 232  | DN80        | 370        | 14.6 | 190 | 7.5  | 1295 | 51.0 | 1375                                 | 54.1 | 76.0   | 167.6  |
| -                    | 850+T            | -    | -    | 850  | 1801  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 418 | 16.5 | 796  | 31.3 | 200                                  | 7.9  | 35.2   | 77.6   |
| 970F                 | 850+F            | 970  | 2055 | 850  | 1801  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 230 | 9.1  | 1360 | 53.5 | 1500                                 | 59.1 | 141.0  | 310.9  |
| -                    | 1100+T           | -    | -    | 1100 | 2331  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 418 | 16.5 | 966  | 38.0 | 200                                  | 7.9  | 37.4   | 82.4   |
| 1260F                | 1100+F           | 1260 | 2670 | 1100 | 2331  | 7                  | 102  | 16               | 232  | DN100       | 510        | 20.1 | 230 | 9.1  | 1360 | 53.5 | 1500                                 | 59.1 | 143.0  | 415.3  |
| 1600F                | 1400+F           | 1600 | 3390 | 1400 | 2967  | 7                  | 102  | 16               | 232  | DN150       | 620        | 24.4 | 290 | 11.4 | 1480 | 58.3 | 1560                                 | 61.4 | 210.0  | 463.0  |
| 2200F                | 1800+F           | 2200 | 4662 | 1800 | 3814  | 7                  | 102  | 16               | 232  | DN150       | 640        | 25.2 | 285 | 11.2 | 1555 | 61.2 | 1640                                 | 64.6 | 176.0  | 388.0  |
| 2400F                | 2200+F           | 2400 | 5086 | 2200 | 4662  | 7                  | 102  | 16               | 232  | DN150       | 640        | 25.2 | 285 | 11.2 | 1555 | 61.2 | 1640                                 | 64.6 | 178.0  | 392.4  |
| 3600F                | 3000+F           | 3600 | 7628 | 3000 | 6357  | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 400 | 15.7 | 1745 | 68.7 | 1710                                 | 67.3 | 420.0  | 925.9  |
| -                    | 4000+F           | -    | -    | 4000 | 8476  | 7                  | 102  | 16               | 232  | DN200       | 820        | 32.3 | 400 | 15.7 | 1745 | 68.7 | 1710                                 | 67.3 | 428.0  | 943.6  |
| -                    | 5000+F           | -    | -    | 5000 | 10595 | 7                  | 102  | 16               | 232  | DN250       | 820        | 32.3 | 400 | 15.7 | 1745 | 68.7 | 1710                                 | 67.3 | 432.0  | 952.4  |
| -                    | 6000+F           | -    | -    | 6000 | 12714 | 7                  | 102  | 16               | 232  | DN250       | 920        | 32.3 | 550 | 18.9 | 2085 | 80.3 | 1625                                 | 64   | 594.0  | 1034.0 |
| -                    | 7000+F           | -    | -    | 7000 | 14833 | 7                  | 102  | 16               | 232  | DN300       | 920        | 36.2 | 550 | 21.7 | 2085 | 82.1 | 1625                                 | 64   | 597.0  | 1479.3 |
| -                    | 8000+F           | -    | -    | 8000 | 16952 | 7                  | 102  | 16               | 232  | DN300       | 1040       | 40.9 | 525 | 20.7 | 2070 | 81.5 | 1625                                 | 64   | 1140.0 | 1984.2 |

## Correction factors

| Inlet pressure (bar)  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 10   | 12   | 14   | 16   |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Inlet pressure (psig) | 15   | 29   | 44   | 58   | 72.5 | 87   | 102  | 116  | 145  | 174  | 203  | 232  |
| Correction factor     | 0.38 | 0.53 | 0.65 | 0.75 | 0.83 | 0.92 | 1.00 | 1.06 | 1.20 | 1.31 | 1.41 | 1.50 |

### Example

- Working pressure 3 bar(g), compressed air flow 35 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 50+: 50 l/s \* 0.65 = 33 l/s => the 50+ filter size is not large enough.
  - Size 70+: 70 l/s \* 0.65 = 46 l/s => the 70+ filter size is the size to select.



## Options

- Filter connection kit for easy mounting in series (10+ - 550+ l/s and 12-690 l/s).
- Wall-mounting kit simplifies installation (10+ - 550+ l/s and 12-690 l/s).
- Voltage-free contact mounted in the differential pressure gauge, to give remote indication of cartridge replacement.

## Certification

- ISO 8573-4:2001
- ISO 12500-3:2009

Voltage-free contact



# QDT SERIES

## Activated carbon towers for optimal oil vapor filtration

The high efficiency activated carbon tower is capable of removing hydrocarbons, odors and oil vapor from compressed air. The activated carbon layers will, by the use of adsorption, reduce the residual oil content to lower than 0.003 mg/m<sup>3</sup>. The pressure drop is low and stays minimal during the filter's lifetime.



## YOUR BENEFITS

### Maximum oil vapor removal

Superb activated carbon material.

### Low pressure drop

Optimal internal flow path.

### High reliability

Robust design and optimal filter material.

### Options

- Oil indicator ensures pure air.
- Wall mounting kit for easy installation (20 – 185 l/s).



### Certification

ISO 8573-5:2001

## Performance

|  | QDT   |
|--|---|
| Contaminant                                  | Oil vapor                                   |
| Test method                                  | ISO 8573-5:2001, ISO 12500-2:2007           |
| Maximum oil carry-over (mg/m <sup>3</sup> )* | 0.003                                       |
| Dry pressure drop (mbar)                     | 125 (QDT 20-310)<br>72 (QDT 425-1800)       |
| Element service                              | After 4,000 operating hours or 1 year       |
| Precede with                                 | Water separation<br>UD+ or DD+/PD+<br>Dryer |

\* After UD+ or DD+/PD+ with inlet oil concentration of 10 mg/m<sup>3</sup>.

## Sizing & dimensions

| FILTER SIZE QDT | Nominal capacity |      | Connections G or NPT threaded | Dimensions |     |      |    |     |    | Weight |      |
|-----------------|------------------|------|-------------------------------|------------|-----|------|----|-----|----|--------|------|
|                 |                  |      |                               | A          |     | B    |    | C   |    |        |      |
|                 | l/s              | cfm  | DIN or ANSI flanged           | mm         | in  | mm   | in | mm  | in | kg     | lbs  |
| 20              | 20               | 42   | 1/2"                          | 490        | 19  | 223  | 9  | 190 | 7  | 10     | 22   |
| 45              | 45               | 95   | 1"                            | 715        | 28  | 223  | 9  | 190 | 7  | 15     | 33   |
| 60              | 60               | 127  | 1"                            | 840        | 33  | 223  | 9  | 190 | 7  | 18     | 40   |
| 95              | 95               | 210  | 1"                            | 715        | 28  | 387  | 15 | 190 | 7  | 29     | 64   |
| 125             | 125              | 265  | 1 1/2"                        | 840        | 33  | 387  | 15 | 190 | 7  | 34     | 75   |
| 150             | 150              | 318  | 1 1/2"                        | 715        | 28  | 551  | 22 | 190 | 7  | 42     | 93   |
| 195             | 185              | 392  | 1 1/2"                        | 840        | 33  | 551  | 22 | 190 | 7  | 50     | 110  |
| 245             | 245              | 519  | 1 1/2"                        | 840        | 33  | 715  | 28 | 190 | 7  | 67     | 148  |
| 310             | 310              | 657  | 1 1/2"                        | 840        | 33  | 879  | 35 | 190 | 7  | 84     | 185  |
| 425             | 425              | 901  | DN80 / 3"                     | 2148       | 85  | 650  | 26 | 600 | 24 | 264    | 581  |
| 550             | 550              | 1165 | DN80 / 3"                     | 2190       | 86  | 710  | 28 | 670 | 26 | 302    | 664  |
| 850             | 850              | 1801 | DN100 / 4"                    | 2320       | 91  | 724  | 29 | 805 | 32 | 391    | 860  |
| 1100            | 1100             | 2331 | DN100 / 4"                    | 2450       | 97  | 934  | 37 | 820 | 32 | 602    | 1324 |
| 1800            | 1800             | 3814 | DN100 / 4"                    | 2612       | 103 | 1046 | 41 | 980 | 39 | 882    | 1940 |

## Correction factors

For other compressed air inlet temperatures, please multiply the filter capacity by the following correction factor (Kt):

|                      |      |      |      |    |      |      |      |      |      |
|----------------------|------|------|------|----|------|------|------|------|------|
| Inlet temperature °C | 20   | 25   | 30   | 35 | 40   | 45   | 50   | 55   | 60   |
| Inlet temperature °F | 68   | 77   | 96   | 95 | 104  | 113  | 122  | 131  | 140  |
| Correction factor    | 1.67 | 1.43 | 1.25 | 1  | 0.71 | 0.56 | 0.37 | 0.25 | 0.19 |

For other compressed air inlet pressures, please multiply the filter capacity by the following correction factor (Kp):

|                    |      |      |      |    |     |     |     |      |      |      |      |
|--------------------|------|------|------|----|-----|-----|-----|------|------|------|------|
| Inlet pressure bar | 3    | 4    | 5    | 6  | 7   | 8   | 9   | 10   | 11   | 12   | 13   |
| Inlet pressure psi | 44   | 58   | 73   | 87 | 102 | 116 | 131 | 145  | 160  | 174  | 193  |
| Correction factor  | 0.57 | 0.77 | 0.83 | 1  | 1   | 1   | 1   | 1.05 | 10.5 | 1.11 | 1.18 |

### Example

- Working temperature 50°C, pressure 12 bar(g), compressed air flow 100 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factors at the required working temperature and pressure to obtain the capacity at working pressure:
  - Size 150: 150 l/s \* 0.37 \* 1.11 = 62 l/s => the 125 filter size is not large enough.
  - Size 195: 195 l/s \* 0.37 \* 1.11 = 80 l/s => the 195 filter size is not large enough.
  - Size 245: 245 l/s \* 0.37 \* 1.11 = 101 l/s => the 245 filter size is the size to select.



## UD+ & QDT: the winning combination



## CLASS 1: Total oil, according ISO 8573-1:2010

The Atlas Copco UD+ - QDT filter train meets the requirements of air purity class 1 for total oil, according to ISO 8573-1:2010, in a typical compressed air installation.

| UD+  | QDT  |
|--|--|
| Liquid oil & oil aerosol removal                       | Oil vapor removal                                    |
| Guaranteed 0.0009 mg/m <sup>3</sup> aerosol and liquid | Guaranteed 0.003 mg/m <sup>3</sup> vapor             |
| 40% pressure drop reduction compared to DD+/PD+        | 65% pressure drop reduction compared to previous QDT |
| 50% footprint reduction                                | Extremely compact compared to vessel designs         |



## QD(+) SERIES

### High performance oil vapor filters

QD(+) filters efficiently reduce hydrocarbons, odors and oil vapor in your compressed air stream to protect your investment, equipment and processes. The activated carbon layers will, by the use of adsorption, reduce the residual oil content to less than 0.003 mg/m<sup>3</sup>. The pressure drop is low and stays minimal during the lifetime of the filter.



## YOUR BENEFITS

### Maximum oil vapor removal

Highly efficient activated carbon layers.

### Significant energy savings & limited system operating costs

Low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps, and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing, or a rotating bottom cover for the welded housings, and push-on elements.

### Options

- Filter connection kit for easy mounting in series (10+ - 550+ l/s and 12-690 l/s).
- Wall mounting kit simplifies installation (10+ - 550+ l/s and 12-690 l/s).

For sizing and dimensions, please refer to the product pages of the DD(+) & PD(+) Series.

## SFA SERIES

### Silicone-free removal of oil aerosol, dust and oil vapor

Superb air purity is a prerequisite to safeguard your instruments and end product. Our silicone-free SFA filters efficiently prevent dry and wet dust, particulates, oil aerosol and water drops from entering your compressed air system. The SFA series is manufactured and treated according to the high standards of silicone-free equipment, and certified by the Fraunhofer Institute as guaranteed silicone-free.



## YOUR BENEFITS

### Maximum contaminant removal

Removal of dry and wet dust, particulates, oil aerosol and water droplets. High-efficiency glass fiber and fleece media.

### Significant energy savings & limited system operating costs

Optimal design and filter media allow for low pressure drops.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing and push-on elements.

### Monitoring of energy use

Differential pressure indication (indicator for sizes 9-32 l/s, gauge for sizes 44-520 l/s) (optional).

### Applications

- Painting
- Automotive

### Options

- Filter connection kit (9-520 l/s).
- Wall-mounting kit (9-520 l/s).
- Quick coupling (DD & PD only).
- EWD no-loss electronic drain (DD & PD only).
- Voltage-free contact mounted in the differential gauge (not for QD).

### Certification

Paint compatibility certificate (Fraunhofer Institute)



## Performance

|  | QD                                    | QD+                                   |
|--|---------------------------------------|---------------------------------------|
| Contaminant                                  | Oil vapor                             |                                       |
| Test method                                  | ISO 8573-5:2001                       |                                       |
| Maximum oil carry-over (mg/m <sup>3</sup> )* | 0.003*                                |                                       |
| Dry pressure drop (mbar)                     | 190                                   | 140                                   |
| Element service                              | After 1,000 operating hours or 1 year |                                       |
| Precede with                                 | Water separation DD/PD Dryer          | Water separation UD+ or DD+/PD+ Dryer |

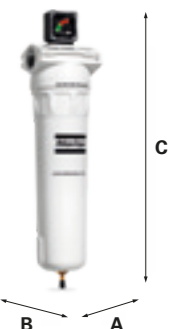
\* After UD+ or DD(+)/PD(+) with inlet oil concentration of 10 mg/m<sup>3</sup>.

The performance of the SFA filters is comparable to the performance of the + range filters (please refer to pages 8, 10 and 14).

## Sizing & dimensions

| FILTER SIZE | Nominal capacity* |      | Maximal capacity* |      | Connections G or NPT | Dimensions |      |      |      |     |       | Free space for cartridge replacement |      | Weight |      |
|-------------|-------------------|------|-------------------|------|----------------------|------------|------|------|------|-----|-------|--------------------------------------|------|--------|------|
|             | l/s               | cfm  | l/s               | cfm  |                      | A          |      | B    |      | C   |       | D                                    |      | kg     | lbs  |
| 9           | 9                 | 19   | 11                | 23   | 3/8                  | 90         | 3.54 | 61   | 2.40 | 268 | 10.55 | 75                                   | 2.95 | 1      | 2.2  |
| 17          | 17                | 36   | 21                | 45   | 1/2                  | 90         | 3.54 | 61   | 2.40 | 268 | 10.55 | 75                                   | 2.95 | 1.1    | 2.4  |
| 32          | 32                | 68   | 40                | 85   | 1/2                  | 90         | 3.54 | 61   | 2.40 | 323 | 12.72 | 75                                   | 2.95 | 1.3    | 2.9  |
| 44          | 44                | 93   | 55                | 117  | 3/4 & 1              | 110        | 4.33 | 98.5 | 3.88 | 374 | 14.72 | 75                                   | 2.95 | 1.9    | 4.19 |
| 60          | 60                | 127  | 75                | 159  | 1                    | 110        | 4.33 | 98.5 | 3.88 | 414 | 16.3  | 75                                   | 2.95 | 2.1    | 4.6  |
| 120         | 120               | 254  | 150               | 318  | 1-1/2                | 140        | 5.51 | 105  | 4.13 | 520 | 20.47 | 100                                  | 3.94 | 4.2    | 9.3  |
| 150         | 150               | 318  | 188               | 399  | 1-1/2                | 140        | 5.51 | 105  | 4.13 | 603 | 23.47 | 100                                  | 3.94 | 4.5    | 9.9  |
| 175         | 175               | 371  | 219               | 464  | 1-1/2                | 140        | 5.51 | 105  | 4.13 | 603 | 23.47 | 100                                  | 3.94 | 4.6    | 10.1 |
| 280         | 280               | 594  | 350               | 742  | 2 & 2-1/2            | 179        | 7.05 | 121  | 4.76 | 689 | 27.13 | 150                                  | 5.91 | 6.9    | 15.2 |
| 390         | 390               | 827  | 488               | 1035 | 3                    | 210        | 8.27 | 128  | 5.04 | 791 | 31.14 | 200                                  | 7.87 | 11     | 24.2 |
| 520         | 520               | 1102 | 650               | 1378 | 3                    | 210        | 8.27 | 128  | 5.04 | 961 | 37.83 | 200                                  | 7.87 | 12.6   | 27.8 |

\* Nominal pressure: 7 bar(e)/102 psig; temperature: 20°C, 68°F





# H SERIES

## Guaranteed air purity up to 350 bar

High pressure filters efficiently reduce oil aerosol, dust and wet dust, particulates, water droplets and oil vapor in your compressed air stream to protect your investment, equipment and processes. Our innovative high pressure filtration solutions are engineered to cost effectively provide the best air purity and meet today's increasing quality demands up to working pressures of 350 bar. All high pressure filter housings are hydraulically tested to ensure safe and reliable operation at all times. A pressure test certificate accompanies each filter.



## YOUR BENEFITS

### Maximum contaminant removal (dry & wet dust, particulates, oil aerosol and water droplets)

High-efficient glass fiber and fleece media.

### Significant energy savings & limited system operation cost

Optimal design and filter media allow for low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps and anti-corrosive coated filter housing.

### Applications

- Chemical
- Food & beverage
- Manufacturing
- Military
- Oil & gas

## Performance

|   | DDHp+   | PDHp+        | DDH+                                  | PDH+   | QDH+                                  |
|---|---|--------------|---------------------------------------|--------|---------------------------------------|
| Contaminant                                 | Dry dust  |              | Oil aerosol/wet dust                  |        | Oil vapor                             |
| Test method                                 | ISO 8573-4:2001<br>ISO 12500-3:2009                             |              | ISO 8573-2:2007<br>ISO 12500-1:2007   |        | ISO 8573-5:2001                       |
| Maximum oil carry-over (mg/m <sup>3</sup> ) | -   | -            | 0.08*                                 | 0.007* | 0.003**                               |
| Particle removal efficiency (% at MPPS)     | 99.92 (0.1)   | 99.98 (0.06) | N/A                                   | N/A    | N/A                                   |
| Dry pressure drop (mbar)                    | 85  | 100          | N/A                                   | N/A    | 140                                   |
| Wet pressure drop (mbar)                    | N/A   | N/A          | 180                                   | 215    | N/A                                   |
| Element service                             | After 4,000 operating hours or 1 year or 350 mbar pressure drop |              | After 4,000 operating hours or 1 year |        | After 1,000 operating hours or 1 year |
| Precede with                                | N/A   | DDHp+        | N/A                                   | DDH+   | DDH+/PDH+                             |

Always install a liquid water separation system in front of a filter. Water separation is not needed in the high pressure line if there is a sufficiently low PDP in the low pressure line (e.g. nitrogen skid, low pressure line with adsorption dryer).

\* Inlet oil concentration = 10 mg/m<sup>3</sup>. Oil = oil aerosol and liquid.

\*\* After DD(+)/PD(+) with inlet oil concentration of 10 mg/m<sup>3</sup>.

## Sizing & dimensions

| FILTER SIZE                    | Nominal capacity  |     |      | Connections | Dimensions |     |     |      |     |      | Weight |      |
|--------------------------------|-------------------|-----|------|-------------|------------|-----|-----|------|-----|------|--------|------|
|                                | m <sup>3</sup> /h | l/s | cfm  |             | A          |     | B   |      | C   |      | kg     | lbs  |
| <b>20 bar Aluminum</b>         |                   |     |      |             |            |     |     |      |     |      |        |      |
| 15+                            | 54                | 15  | 32   | 3/8         | 90         | 3.5 | 61  | 2.4  | 268 | 10.6 | 1.0    | 2.2  |
| 32+                            | 115               | 32  | 68   | 1/2         | 90         | 3.5 | 61  | 2.4  | 268 | 10.6 | 1.1    | 2.4  |
| 55+                            | 198               | 55  | 117  | 1/2         | 90         | 3.5 | 61  | 2.4  | 323 | 12.7 | 1.3    | 2.9  |
| 80+                            | 288               | 80  | 170  | 3/4 & 1     | 110        | 4.3 | 99  | 3.9  | 374 | 14.7 | 1.6    | 3.5  |
| 110+                           | 396               | 110 | 233  | 1           | 110        | 4.3 | 99  | 3.9  | 414 | 16.3 | 2.1    | 4.6  |
| 200+                           | 720               | 200 | 424  | 1 1/2       | 140        | 5.5 | 105 | 4.1  | 520 | 20.5 | 4.2    | 9.3  |
| 270+                           | 972               | 270 | 572  | 1 1/2       | 140        | 5.5 | 105 | 4.1  | 603 | 23.7 | 4.5    | 9.9  |
| 330+                           | 1188              | 330 | 699  | 1 1/2       | 140        | 5.5 | 105 | 4.1  | 603 | 23.7 | 4.6    | 10.1 |
| 490+                           | 1764              | 490 | 1038 | 2 & 2 1/2   | 179        | 7.0 | 121 | 4.8  | 689 | 27.1 | 6.9    | 15.2 |
| <b>50 bar Aluminum</b>         |                   |     |      |             |            |     |     |      |     |      |        |      |
| 160+                           | 160               | 44  | 94   | 1/4         | 63         | 0.0 | 150 | 5.9  | 150 | 5.9  | 0.3    | 0.7  |
| 250+                           | 250               | 69  | 147  | 3/8         | 63         | 2.5 | 190 | 7.4  | 190 | 7.4  | 0.3    | 0.7  |
| 450+                           | 450               | 125 | 265  | 1/2         | 114        | 4.4 | 305 | 11.9 | 305 | 11.9 | 2.6    | 5.7  |
| 550+                           | 550               | 153 | 324  | 3/4         | 114        | 4.4 | 305 | 11.9 | 305 | 11.9 | 2.6    | 5.7  |
| 835+                           | 835               | 232 | 491  | 1           | 114        | 4.4 | 395 | 15.4 | 395 | 15.4 | 3.3    | 7.3  |
| 1250+                          | 1250              | 347 | 736  | 1 1/2       | 146        | 5.7 | 435 | 17.0 | 435 | 17.0 | 7.5    | 16.5 |
| 1725+                          | 1725              | 479 | 1015 | 1 1/2       | 146        | 5.7 | 435 | 17.0 | 435 | 17.0 | 7.5    | 16.5 |
| 1925+                          | 1925              | 535 | 1133 | 2           | 146        | 5.7 | 435 | 17.0 | 435 | 17.0 | 7.5    | 16.5 |
| 3200+                          | 3200              | 889 | 1883 | 2           | 146        | 5.7 | 635 | 24.8 | 635 | 24.8 | 10     | 22.0 |
| <b>50 bar Stainless Steel</b>  |                   |     |      |             |            |     |     |      |     |      |        |      |
| 100+                           | 100               | 28  | 59   | 1/4         | 85         | 3.3 | 202 | 7.9  | 202 | 7.9  | 1.7    | 3.7  |
| 200+                           | 200               | 56  | 118  | 3/8         | 85         | 3.3 | 227 | 8.9  | 227 | 8.9  | 2      | 4.4  |
| 340+                           | 340               | 94  | 200  | 1/2         | 85         | 3.3 | 257 | 10.0 | 257 | 10.0 | 2.2    | 4.8  |
| 500+                           | 500               | 139 | 294  | 3/4         | 110        | 4.3 | 270 | 10.5 | 270 | 10.5 | 4      | 8.8  |
| 1000+                          | 1000              | 278 | 589  | 1           | 110        | 4.3 | 422 | 16.5 | 422 | 16.5 | 5      | 11.0 |
| 1700+                          | 1700              | 472 | 1000 | 1 1/2       | 150        | 5.9 | 517 | 20.2 | 517 | 20.2 | 15     | 33.1 |
| 2040+                          | 2040              | 567 | 1200 | 2           | 150        | 5.9 | 517 | 20.2 | 517 | 20.2 | 15     | 33.1 |
| 3400+                          | 3400              | 944 | 2000 | 2           | 150        | 5.9 | 817 | 31.9 | 817 | 31.9 | 21     | 46.3 |
| <b>100 bar Stainless Steel</b> |                   |     |      |             |            |     |     |      |     |      |        |      |
| 100+                           | 100               | 28  | 59   | 1/4         | 65         | 2.5 | 135 | 5.3  | 135 | 5.3  | 3.2    | 7.1  |
| 315+                           | 315               | 88  | 185  | 1/2         | 65         | 2.5 | 250 | 9.8  | 250 | 9.8  | 5.6    | 12.3 |
| 460+                           | 460               | 128 | 271  | 3/4         | 88         | 3.4 | 275 | 10.7 | 275 | 10.7 | 6.1    | 13.4 |
| 680+                           | 680               | 189 | 400  | 1           | 135        | 5.3 | 265 | 10.3 | 265 | 10.3 | 10.5   | 23.1 |
| 1200+                          | 1200              | 333 | 706  | 1           | 135        | 5.3 | 480 | 18.7 | 480 | 18.7 | 14.7   | 32.4 |
| 1700+                          | 1700              | 472 | 1000 | 1 1/2       | 150        | 5.9 | 525 | 20.5 | 525 | 20.5 | 22     | 48.5 |
| 3400+                          | 3400              | 944 | 2000 | 2           | 150        | 5.9 | 815 | 31.8 | 815 | 31.8 | 28     | 61.7 |
| <b>350 bar Stainless Steel</b> |                   |     |      |             |            |     |     |      |     |      |        |      |
| 48+                            | 48                | 13  | 28   | 1/4         | 41         | 1.6 | 103 | 4.0  | 103 | 4.0  | 1.6    | 3.5  |
| 111+                           | 111               | 31  | 65   | 1/4         | 65         | 2.5 | 135 | 5.3  | 135 | 5.3  | 3.2    | 7.1  |
| 255+                           | 255               | 71  | 150  | 1/2         | 88.5       | 3.5 | 210 | 8.2  | 210 | 8.2  | 5.6    | 12.3 |
| 510+                           | 510               | 142 | 300  | 3/4         | 88.5       | 3.5 | 280 | 10.9 | 280 | 10.9 | 6.1    | 13.4 |
| 750+                           | 750               | 208 | 441  | 1           | 150        | 5.9 | 330 | 12.9 | 330 | 12.9 | 14.5   | 32.0 |
| 1330+                          | 1330              | 369 | 783  | 1           | 150        | 5.9 | 480 | 18.7 | 480 | 18.7 | 17.4   | 38.3 |

## Correction factors

|  |      |      |      |      |      |      |      |      |      |      |
|--|------|------|------|------|------|------|------|------|------|------|
| <b>20 bar Aluminum</b>                       |      |      |      |      |      |      |      |      |      |      |
| Operating pressure                           | barg | -    | -    | -    | -    | -    | 14   | 16   | 18   | 20   |
|  | psig | -    | -    | -    | -    | -    | 203  | 232  | 261  | 290  |
| Correction factor                            |      |      |      |      |      |      | 0.9  | 0.95 | 1    | 1.05 |
| <b>50 bar Aluminum &amp; Stainless Steel</b> |      |      |      |      |      |      |      |      |      |      |
| Operating pressure                           | barg | 4    | 6    | 8    | 10   | 15   | 20   | 30   | 40   | 50   |
|  | psig | 58   | 87   | 116  | 145  | 218  | 290  | 435  | 581  | 726  |
| Correction factor                            |      | 0.14 | 0.22 | 0.28 | 0.34 | 0.47 | 0.56 | 0.7  | 0.85 | 1    |
| <b>100 bar Stainless Steel</b>               |      |      |      |      |      |      |      |      |      |      |
| Operating pressure                           | barg | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  |
|  | psig | 290  | 435  | 581  | 726  | 871  | 1016 | 1161 | 1306 | 1451 |
| Correction factor                            |      | 0.45 | 0.57 | 0.68 | 0.8  | 0.84 | 0.88 | 0.92 | 0.96 | 1    |
| <b>350 bar Stainless Steel</b>               |      |      |      |      |      |      |      |      |      |      |
| Operating pressure                           | barg | -    | -    | 50   | 100  | 150  | 200  | 250  | 300  | 350  |
|  | psig | -    | -    | 726  | 1451 | 2177 | 2903 | 3628 | 4354 | 5080 |
| Correction factor                            |      |      | 0.73 | 0.78 | 0.82 | 0.87 | 0.91 | 0.96 | 1    |      |



### Example

- Working pressure 300 bar(g), compressed air flow 500 m<sup>3</sup>/h.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 510+: 510 m<sup>3</sup>/h \* 0.96 = 490 m<sup>3</sup>/h => the 510+ filter size is not large enough.
  - Size 750+: 750 m<sup>3</sup>/h \* 0.96 = 720 m<sup>3</sup>/h => the 750+ filter size is the size to select.

# MV SERIES

## Medical vacuum filters for optimal protection of man and machine

Medical vacuum filters are installed at the inlet of the vacuum pump to remove any liquid, solid or bacterial contamination which could damage the vacuum pump and biologically infect the downstream air. Our innovative medical vacuum filtration solutions comply with HTM medical standards.



## YOUR BENEFITS

### Maximum contaminant removal

Removal of dry and wet dust, particulates, oil aerosol and water droplets. High-efficiency glass fiber and fleece media.

### Significant energy savings & limited system operation cost

Optimal design and filter media allow for low pressure losses.

### High reliability

High performance stainless steel cores, double O-rings, epoxy sealed caps and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing and push-on elements.

### Monitoring of energy use

Differential pressure indication show the pressure loss.

## Applications

- Medical
- Dental
- Veterinary

## Sizing & dimensions

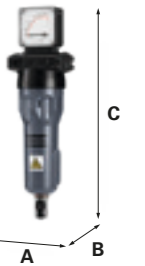
| FILTER SIZE MV | Nominal Capacity l/min | Connections in | Dimensions |    |     |    |     |    | Weight |      |
|----------------|------------------------|----------------|------------|----|-----|----|-----|----|--------|------|
|                |                        |                | A          |    | B   |    | C   |    | kg     | lbs  |
|                |                        |                | mm         | in | mm  | in | mm  | in |        |      |
| 10             | 400                    | 1/2            | 60         | 2  | 90  | 4  | 240 | 9  | 1.3    | 2.9  |
| 20             | 800                    | 1              | 76         | 3  | 110 | 4  | 300 | 12 | 2.1    | 4.6  |
| 60             | 2400                   | 1 1/2          | 103        | 4  | 140 | 5  | 489 | 19 | 4.6    | 10.1 |
| 80             | 3400                   | 2              | 135        | 5  | 179 | 7  | 575 | 22 | 6.9    | 15.2 |
| 120            | 4900                   | 3              | 155        | 6  | 210 | 8  | 677 | 26 | 11.0   | 24.2 |
| 160            | 6700                   | 3              | 155        | 6  | 210 | 8  | 847 | 33 | 12.6   | 27.8 |

## Correction factors

| Operating pressure | bar(a)       | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1   |
|--------------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                    | Psig         | 1   | 3   | 4   | 6   | 7   | 9   | 10  | 12  | 13  | 15  |
|                    | Torr = mm Hg | 75  | 150 | 225 | 300 | 375 | 450 | 525 | 600 | 675 | 750 |
| Correction factor  |              | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1   |

## Example

- Working vacuum 300 mbar(a), capacity 1,000 l/min.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working vacuum to obtain the correct capacity:
  - Size 60: 2,400 l/min \* 0.3 = 720 l/min => the 60 filter size is not large enough.
  - Size 80: 3,400 l/min \* 0.3 = 1,020 l/min => the 80 filter size is the size to select.



## Performance

|                                  | MV   |
|----------------------------------|--|
| Contaminant                      | Dry dust   |
| Maximum temperature              | 60°C/140°F   |
| Maximum working vacuum           | Full vacuum  |
| Test method                      | Sodium flame test BS 3928:1969, based on requirements of HTM2022 |
| Particle removal efficiency (%)* | 99.995   |
| Dry pressure drop (mbar)         | 30   |
| Element service                  | After 2,000 operating hours or 1 year or 100 mbar pressure drop  |

\* In accordance with BS 3928-1969.

## Options

- Wall mounting kit.
- Drain flask.



Drain flask

## Certification

BS 3928 Sodium flame test certificate based on requirements of HTM2022.





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