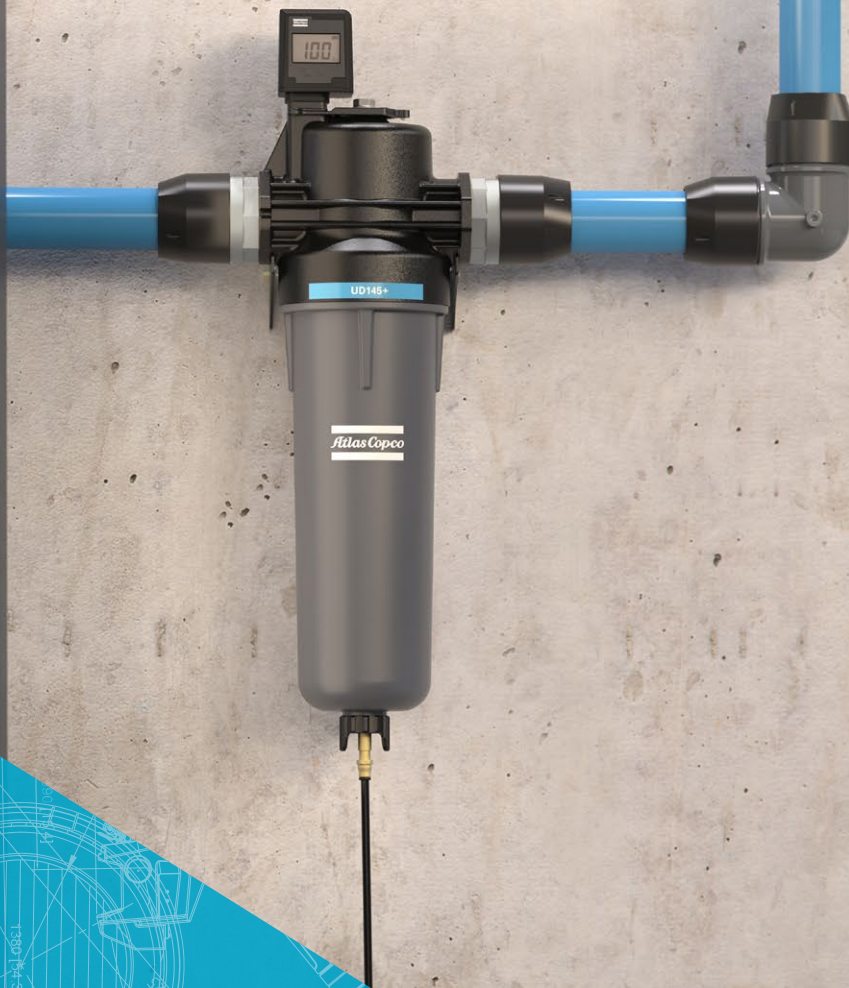


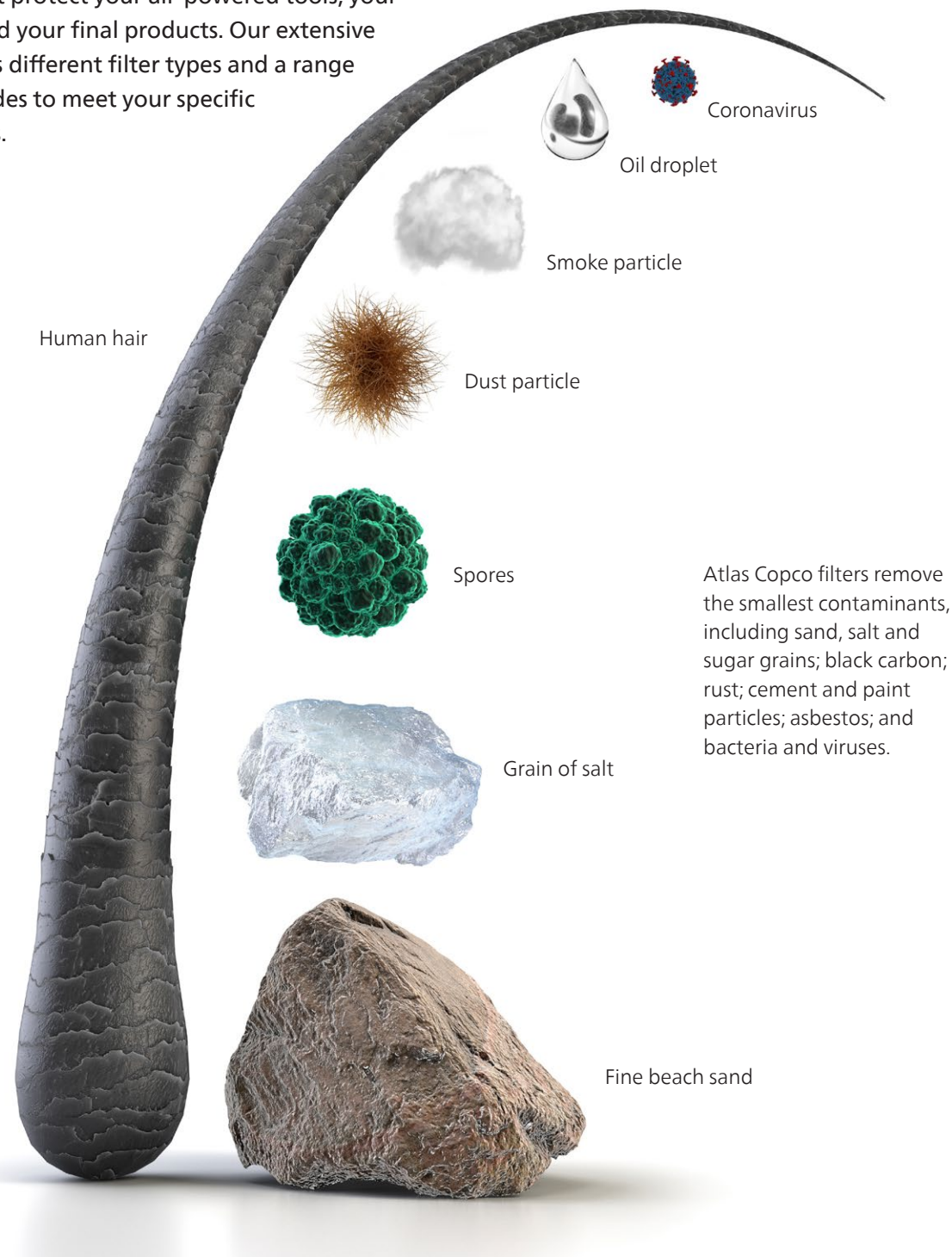


**Compressed  
air filters**



# Committed to superior productivity

Untreated compressed air can be contaminated by dust, water and oil. This makes filtration a crucial component of your air system. Atlas Copco has developed filtration solutions that protect your air-powered tools, your processes, and your final products. Our extensive offer includes different filter types and a range of purity grades to meet your specific requirements.



# Unsurpassed filtration quality

## In-house expertise

Because filtration is so important, Atlas Copco’s dedicated engineering team works in close collaboration with universities, regulatory authorities and premium filter material suppliers. Our scientists and engineers are therefore knowledgeable on the latest advances and innovations in the industry. Every step of the engineering process is meticulously executed, from basic research to prototype designs and end-of-life analysis.

## Rigorous quality control

To ensure top performance and reliability, all Atlas Copco filters are subjected to rigorous internal and external certification and quality control. Thanks to our testing facility, we conduct all certification in-house, including testing witnessed by independent parties. Capable of testing filters according to all relevant standards and under real-life conditions, our competence continues to grow with every new development in the filtration business.

### Certified peace of mind

| FILTER APPROVALS |         |      | COMPANY CERTIFICATION |           |           |
|------------------|---------|------|-----------------------|-----------|-----------|
| CE               | ASME    | CRN  | ISO 9001              | ISO 14001 | ISO 45001 |
| ACTIVE MEMBER OF |         |      |                       |           |           |
| ISO              | pneurop | CAGI | bcas                  | VDMA      |           |

- Atlas Copco’s filters are certified to meet the following ISO standards:
- ISO 8573-1:2010: Compressed air - Contaminants and purity classes
  - ISO 8573-2:2018: Compressed air - Test method for oil aerosol content
  - ISO 8573-4:2019: Compressed air - Test method for particles
  - 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



## Engineered and built in Europe

Our entire filter range is designed and produced in Atlas Copco’s European facilities, using state-of-the-art production lines and quality controls. This geographic proximity allows us to keep R&D, engineering, production, and testing close together and streamline their collaboration.



# Advanced filtration technology

Filtration technology matters if you need constant air quality with low maintenance requirements. Over the years, Atlas Copco has innovated filter types, design, processes and media to give you best-in-class performance, reliability and lifetime.

## Filtration technologies

Choose the best filtration technology for your application to improve your air system performance:

### Wet particles: wrapped media

Wrapped media are known for their durability in wet and oil-contaminated environments. Our patented Nautilus technology combines multiple wrapped layers to offer constant air quality at the lowest pressure drop, even in the harshest working conditions.

### Solid particles: pleated media

Pleating is the optimal technology for capturing dry particulates in compressed air. Pleated media have a large surface area and therefore ensure a longer filter service lifetime and lower pressure drop.

### Oil vapors: macro-structured activated carbon

Macro-structured activated carbon has a larger surface compared to the typical carbon filter media, giving it a superior adsorption capacity and a steady performance over a longer time.

### Water: cyclone

The use of centrifugal forces secures a proper separation of liquid water droplets in the air flow.

**Anodized aluminum housing with powder coating to maximize corrosion protection**

## Element bottom cap (UD+, PD+ & DD+)

A patented drainage system facilitates the removal of oil from the filter element, eliminating the “wet band” at the bottom of the element that can compromise filter performance and lifetime.

## Service indicator

To ensure constant air quality, the service indicator allows for an easy check of the filter’s running hours, differential pressure, and maintenance status. It can even send a remote alert.

## Element top cap

The top cap guides the air flow optimally into the cartridge and to the outlet to reduce pressure drop and the overall energy use of the filter.

## inPASS™ bypass



Atlas Copco’s revolutionary built-in bypass can be used to reroute the air during filter service to ensure an uninterrupted air flow. It’s an invisible invention that will give you big investment and operational savings:

- Service your filters at any time, even during working hours.
- Secured air flow for your production during maintenance.
- Reduced maintenance time as your air system doesn’t need to be shut down.
- Eliminates the huge cost of an external piping bypass.
- Lowers the risk of leakages, resulting in lower energy costs.

## Strong and durable stainless-steel cylinders

## Differently colored end caps to easily recognize the filtration grade

## Easy-service float drain

Our non-stick float drain automatically expels all captured oil and water. To save you time and money, our drains can easily be serviced without removing the filter bowl. The threaded drain connection to the bowl also makes it easy to replace the float drain with an external manual or automatic drain.



Complete filtration

Dirt, water and oil are no match for Atlas Copco’s filters. They are designed to remove one or more of the following contaminants:

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



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



**Threaded design**  
7 grades  
14 sizes  
7 → 630 l/s  
14 → 1,335 cfm



**Flanged design**  
850 → 1,100 l/s  
1,801 → 2,331 cfm

**Tower design**  
1 grade  
9 sizes  
20 → 1,800 l/s  
42 → 3,814 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



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



Dry dust



Micro-organisms



Oil aerosol



Wet dust



Oil vapor



Water drops

A solution for every application

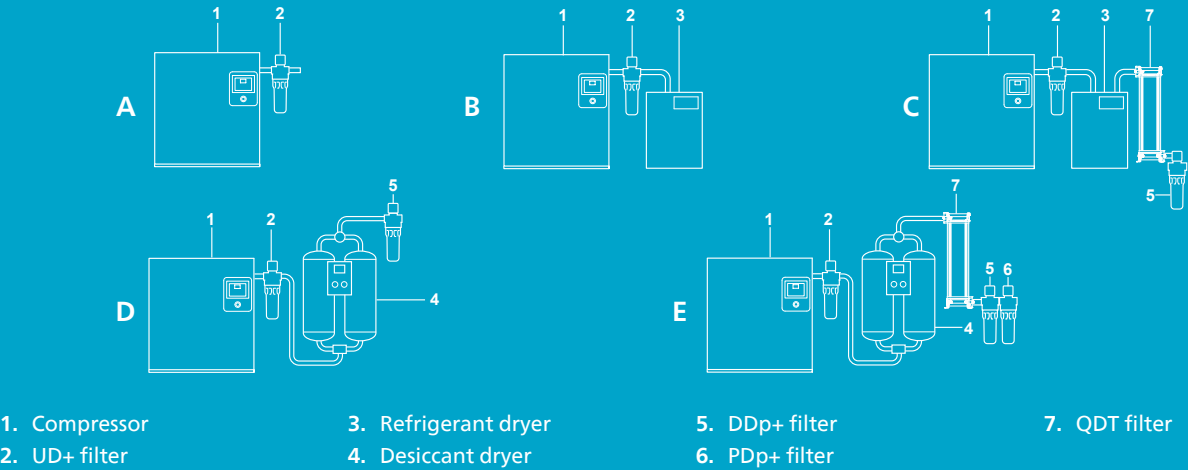
Depending on point of use and application, different compressed air purities might be needed. The table below shows the various ISO 8573-1:2010 air purity classes and the Atlas Copco filter and dryer-combinations that meet these classes.

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

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



\* 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 aftercooler including a drain or a water separator (WSD). If this is not the case, install a water separator in front of a coalescence filter. For critical applications, install extra air treatment products at the point of use for the removal of pipeline contamination and condensation.

# DD+/PD+/UD+ Series

## Oil coalescence filters with patented Nautilus technology

Compressor element lubrication and your compressor installation itself can release oil aerosols and wet dust in your air system. DD+, PD+ and UD+ filters efficiently remove these contaminants to protect your equipment and your processes. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's increasingly stringent quality requirements.



### Your benefits:

- **Maximum oil aerosol, wet dust and water droplet filtration and drainage** - High-efficiency glass fiber Nautilus technology ensures a low pressure drop.
- **Patented drainage technology** - A coarse 3D-structured layer/barrier provides efficient oil drainage and prevents re-entry of oil droplets into the air stream.
- **Minimal operating costs** - Optimal design and filter technology allow for low pressure losses.
- **Cost-saving maintenance** - Ribbed housing ensures easy removal of the filter bowl. The push-in element and drain connection were designed for effortless replacement. The service indicator shows (preventive) maintenance alerts.



### Certification

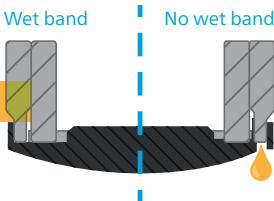
- ISO 8573-2:2018
- ISO 12500-1:2007

### 3 patented innovations



#### 1. Nautilus technology for energy savings

The Nautilus multi-wrap technology was specifically developed to improve the oil aerosol coalescing process. That means you get optimal filtration results at a lower pressure drop to minimize your operational costs.



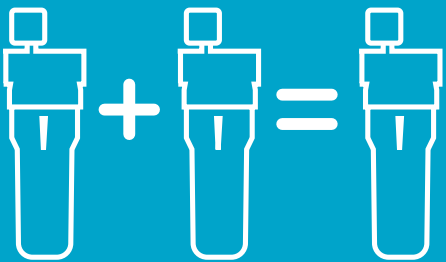
#### 2. Enhanced drainage channels for pure air

The bottom cap of the filter is designed to increase the drainage rate of the oil from the barrier by optimizing the contact between the barrier and drainage routes. This ensures no wet band is formed in the barrier and the re-entrainment risk is significantly diminished, resulting in cleaner air.

#### 3. Superior drainage technology for a strong performance & long lifetime

A unique coarse 3D-structured layer/barrier ensures efficient oil drainage and prevents re-entry of oil droplets into the air flow. The 3D structure also offers a service life of 8,000 hours.

### UD+ 2-in-1 concept saves money and space



The UD+ combines two filtration steps (DD+ and PD+) into one, a unique technology to meet the quality requirements of diverse applications and offer superior energy savings. The UD+ filter provides the same air purity as a DD+-PD+ filter train with a lower pressure drop.

- Save up to 50% in space: The 2-in-1 concept is ideal for applications where space is at a premium, reducing your environmental footprint, system complexity, and installation space.
- Save money: Install UD+ filters to enjoy significant installation and maintenance (cost) savings compared to conventional filters.

### Performance

|                                  | DD+                                                                                                                           | PD+                    | UD+              |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Contaminant                      | Oil aerosol/wet dust                                                                                                          |                        |                  |
| Filtration technology            | Wrapped                                                                                                                       |                        |                  |
| Test method                      | ISO 8573-2:2018, ISO 12500-1:2007                                                                                             |                        |                  |
| Maximum oil carry-over (mg/m³)*  | 0.08*                                                                                                                         | 0.008*                 | 0.001            |
| ISO class 8573-1                 | [2-3]                                                                                                                         | [1-2]                  | [1-2]            |
| Average wet pressure drop (mbar) | 119                                                                                                                           | 132                    | 220              |
| Element service                  | After 8,000 operating hours or 1 year<br>For flanged filters: after 4,000 operating hours or 1 year or 350 mbar pressure drop |                        |                  |
| Precede with                     | Water separation                                                                                                              | Water separation & DD+ | Water separation |

\* Inlet oil concentration = 10 mg/m³. Oil = oil aerosol and liquid.

# DDp+/PDp+ Series

## Optimal dry dust filtration

DDp+ and PDp+ filters efficiently prevent dust, corrosion particles, micro-organisms, 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 strict quality demands.



### Your benefits:

- **Maximum dirt, solid particle, micro-organism and rust particle removal**  
High-efficiency pleated glass fiber media with coarse pre-filter fleece ensure a high dust-holding capacity.
- **Minimal operating costs** - Optimal pleated design and filter technology allow for low pressure losses.
- **Cost-saving maintenance** - Ribbed housing ensures easy removal of the filter bowl. The push-in element and drain connection were designed for effortless replacement. The service indicator shows (preventive) maintenance alerts.



## Performance

|                                         | DDp+                                                                                                                                                    | PDp+         |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Contaminant                             | Dry dust                                                                                                                                                |              |
| Filtration technology                   | Pleated                                                                                                                                                 |              |
| Test method                             | ISO 8573-4:2001, ISO 12500-3:2009                                                                                                                       |              |
| Particle removal efficiency (% at MPPS) | 99.92                                                                                                                                                   | 99.98        |
| ISO class 8573-1                        | [2:-3]                                                                                                                                                  | [1:-2]       |
| Element service                         | After 8,000 operating hours or 1 year or 350 mbar pressure drop<br>For flanged filters: after 4,000 operating hours or 1 year or 350 mbar pressure drop |              |
| Precede with                            | Dryer                                                                                                                                                   | Dryer & DDp+ |

## Certification

- ISO 8573-4:2019
- ISO 12500-3:2009

# QD+ Series

## High-performance oil vapor filters

QD+ filters efficiently reduce hydrocarbons, odors and oil vapor in your compressed air to protect your investment, equipment and processes. The macro-structured activated carbon will reduce the residual oil content through adsorption to less than 0.003 mg/m³. The pressure drop is low and remains constant during the lifetime of the filter.



### Your benefits:

- **Maximum oil vapor removal**  
The macro-structured activated carbon is specifically designed to efficiently and completely remove oil vapors from compressed air with minimal dust release.
- **Minimal operating costs** - Low pressure losses thanks to an optimal flow design.
- **Low-cost maintenance** - Ribbed housing ensures easy removal of the filter bowl. The push-in element and drain connection were designed for effortless replacement. The service indicator shows (preventive) maintenance alerts.



## Performance

|                                  | QD+                                                                                                 |
|----------------------------------|-----------------------------------------------------------------------------------------------------|
| Contaminant                      | Oil vapor                                                                                           |
| Filtration technology            | Macro-structured activated carbon                                                                   |
| Test method                      | ISO 8573-5:2001                                                                                     |
| Maximum oil carry-over (mg/m³)*  | 0.003*                                                                                              |
| ISO class 8573-1                 | [2:-1]                                                                                              |
| Average dry pressure drop (mbar) | 75                                                                                                  |
| Element service                  | After 2,000 operating hours or 1 year<br>For flanged filters: after 1,000 operating hours or 1 year |
| Precede with                     | Water separation<br>UD+ or DD+/PD+<br>Dryer                                                         |

\* In a typical installation with refrigerant dryer and UD+ filter.

Options  
DD+/PD+/UD+/DDp+/PDp+/QD+

- Potential-free alarm contact for gauge.
- Smart indicator.
- External wiring kit for smart indicator (alarm/ power supply).
- Interconnection kit.
- Wall mounting kit.
- EWD including connection kit.



|                                           |                   | DD+/PD+/UD+ |         | DDp+/PDp+ |         | QD+      |         |
|-------------------------------------------|-------------------|-------------|---------|-----------|---------|----------|---------|
|                                           |                   | Standard    | inPASS™ | Standard  | inPASS™ | Standard | inPASS™ |
| Standard                                  |                   |             |         |           |         |          |         |
|                                           |                   |             |         |           |         |          |         |
| Drain                                     | Floater drain     | X           | X       |           |         |          |         |
|                                           | Manual drain      |             |         | X         | X       | X        | X       |
| Indicator                                 | Sliding indicator | size 7-25   |         | size 7-25 |         |          |         |
|                                           | Gauge             | > size 25   |         | > size 25 |         |          |         |
|                                           | Smart indicator   |             | X       |           | X       |          |         |
| Bypass                                    |                   |             | X       |           | X       |          | X       |
| Options                                   |                   |             |         |           |         |          |         |
| Smart indicator                           |                   | X           |         | X         |         | X        | X       |
| External wiring kit (for smart indicator) |                   | X           | X       | X         | X       | X        | X       |
| Potential-free alarm for gauge            |                   | X           |         | X         |         |          |         |
| Filter connection kit                     |                   | X           | X       | X         | X       | X        | X       |
| Wall mounting kit                         |                   | X           | X       | X         | X       | X        | X       |
| EWD drain with connection kit             |                   | X           | X       |           |         |          |         |

Correction factors

When working with other pressures than the nominal pressure, the actual FAD capacity is calculated by multiplying the correction factor with the rated AML capacity. The calculated actual flow capacity corresponds to the AML-stated pressure drop.

| Working pressure in bar(g) | 1    | 2    | 3    | 4    | 5    | 6    | 7 | 8    | 10   | 12   | 14   | 16   |
|----------------------------|------|------|------|------|------|------|---|------|------|------|------|------|
| Correction factor          | 0.38 | 0.53 | 0.65 | 0.75 | 0.83 | 0.92 | 1 | 1.06 | 1.20 | 1.31 | 1.41 | 1.50 |

Sizing & dimensions  
DD+/PD+/UD+/DDp+/PDp+/QD+

| Filter size with<br>or without<br>inPASS™ | Nominal<br>capacity |     | Reference<br>pressure |      | Maximum<br>pressure |      | Connections |           | Dimensions |      |     |      |       |      | Free space<br>for cartridge<br>replacement |      | Weight |       |
|-------------------------------------------|---------------------|-----|-----------------------|------|---------------------|------|-------------|-----------|------------|------|-----|------|-------|------|--------------------------------------------|------|--------|-------|
|                                           |                     |     |                       |      |                     |      |             |           | A          |      | B   |      | C     |      | D                                          |      |        |       |
|                                           | l/s                 | cfm | bar(e)                | psig | bar(e)              | psig | G           | NPT       | mm         | inch | mm  | inch | mm    | inch | mm                                         | inch | kg     | lbs   |
| 7+                                        | 7                   | 15  | 7                     | 102  | 16                  | 232  | G 1/2       | NPT 1/2   | 106        | 4.17 | 90  | 3.54 | 362.6 | 14.3 | 90                                         | 3.54 | 1.18   | 2.60  |
| 15+                                       | 15                  | 32  | 7                     | 102  | 16                  | 232  | G 1/2       | NPT 1/2   | 106        | 4.17 | 90  | 3.54 | 362.6 | 14.3 | 90                                         | 3.54 | 1.24   | 2.73  |
| 25+                                       | 25                  | 53  | 7                     | 102  | 16                  | 232  | G 1/2       | NPT 1/2   | 106        | 4.17 | 90  | 3.54 | 415.1 | 16.3 | 90.5                                       | 3.56 | 1.45   | 3.20  |
| 45+                                       | 45                  | 95  | 7                     | 102  | 16                  | 232  | G 3/4       | NPT 3/4   | 135        | 5.31 | 110 | 4.33 | 442.6 | 17.4 | 110                                        | 4.33 | 2.35   | 5.18  |
| 75+                                       | 75                  | 159 | 7                     | 102  | 16                  | 232  | G 1         | NPT 1     | 135        | 5.31 | 110 | 4.33 | 527.6 | 20.8 | 110                                        | 4.33 | 2.8    | 6.17  |
| 110+                                      | 110                 | 233 | 7                     | 102  | 16                  | 232  | G 1 1/2     | NPT 1 1/2 | 175        | 6.89 | 143 | 5.63 | 559.1 | 22.0 | 130.5                                      | 5.14 | 5.4    | 11.91 |
| 145+                                      | 145                 | 307 | 7                     | 102  | 16                  | 232  | G 1 1/2     | NPT 1 1/2 | 175        | 6.89 | 143 | 5.63 | 629.1 | 24.8 | 130.5                                      | 5.14 | 5.93   | 13.08 |
| 180+                                      | 180                 | 381 | 7                     | 102  | 16                  | 232  | G 1 1/2     | NPT 1 1/2 | 175        | 6.89 | 143 | 5.63 | 699.1 | 27.5 | 130.5                                      | 5.14 | 6.45   | 14.22 |
| 240+                                      | 240                 | 509 | 7                     | 102  | 16                  | 232  | G 2         | NPT 2     | 222        | 8.74 | 171 | 6.73 | 729.6 | 28.7 | 175                                        | 6.89 | 9.54   | 21.04 |
| 300+                                      | 300                 | 636 | 7                     | 102  | 16                  | 232  | G 2         | NPT 2     | 222        | 8.74 | 171 | 6.73 | 822.6 | 32.4 | 175                                        | 6.89 | 10.71  | 23.62 |
|                                           |                     |     |                       |      |                     |      | G 2 1/2     | NPT 2 1/2 | 222        | 8.74 | 171 | 6.73 | 822.6 | 32.4 | 175                                        | 6.89 | 10.43  | 23.00 |

Non-inPASS™ variant: height “C” decreases by 51 mm (2”) for sizes 7-25 and by 10 mm (0.4”) for sizes 45-300.

|                 |     |      |   |     |    |     |         |           |     |      |     |      |        |      |       |      |       |       |
|-----------------|-----|------|---|-----|----|-----|---------|-----------|-----|------|-----|------|--------|------|-------|------|-------|-------|
| With inPASS™    |     |      |   |     |    |     |         |           |     |      |     |      |        |      |       |      |       |       |
| 380+            | 380 | 805  | 7 | 102 | 16 | 232 | G 3     | NPT 3     | 250 | 9.84 | 191 | 7.52 | 927.1  | 36.5 | 200.5 | 7.89 | 13.6  | 29.99 |
| 425+            | 425 | 901  | 7 | 102 | 16 | 232 | G 3     | NPT 3     | 250 | 9.84 | 191 | 7.52 | 1043.1 | 41.1 | 200.5 | 7.89 | 14.95 | 32.96 |
| 510+            | 630 | 1081 | 7 | 102 | 16 | 232 | G 3     | NPT 3     | 250 | 9.84 | 191 | 7.52 | 1281.1 | 50.4 | 200.5 | 7.89 | 19.6  | 43.22 |
| Without inPASS™ |     |      |   |     |    |     |         |           |     |      |     |      |        |      |       |      |       |       |
| 360+            | 360 | 763  | 7 | 102 | 16 | 232 | G 2 1/2 | NPT 2 1/2 | 222 | 8.74 | 171 | 6.73 | 812.7  | 32.0 | 175   | 6.89 | 10.2  | 22.49 |
| 430+            | 430 | 911  | 7 | 102 | 16 | 232 | G 3     | NPT 3     | 250 | 9.84 | 191 | 7.52 | 917.2  | 36.1 | 200.5 | 7.89 | 13.98 | 30.83 |
| 525+            | 525 | 1112 | 7 | 102 | 16 | 232 | G 3     | NPT 3     | 250 | 9.84 | 191 | 7.52 | 1033.2 | 40.7 | 200.5 | 7.89 | 15.32 | 33.78 |
| 630+            | 630 | 1335 | 7 | 102 | 16 | 232 | G 3     | NPT 3     | 250 | 9.84 | 191 | 7.52 | 1271.2 | 50.0 | 200.5 | 7.89 | 19.24 | 42.42 |

|                    |      |       |   |     |    |     |        |  |      |      |     |      |      |      |      |      |       |        |
|--------------------|------|-------|---|-----|----|-----|--------|--|------|------|-----|------|------|------|------|------|-------|--------|
| Flanged            |      |       |   |     |    |     |        |  |      |      |     |      |      |      |      |      |       |        |
| Flanged connection |      |       |   |     |    |     |        |  |      |      |     |      |      |      |      |      |       |        |
| 550+F/630+F        | 550  | 1165  | 7 | 102 | 16 | 232 | DN 80  |  | 370  | 14.6 | 280 | 11.0 | 1295 | 51.0 | 1375 | 54.1 | 76.0  | 167.6  |
| 850+F/970+F        | 850  | 1801  | 7 | 102 | 16 | 232 | DN 100 |  | 510  | 20.1 | 410 | 16.1 | 1360 | 53.5 | 1500 | 59.1 | 141.0 | 310.9  |
| 850+T              | 850  | 1801  | 7 | 102 | 16 | 232 | DN 100 |  | 510  | 20.1 | 418 | 16.5 | 796  | 31.3 | 200  | 7.9  | 35.2  | 77.6   |
| 1100+F/1260+F      | 1100 | 2331  | 7 | 102 | 16 | 232 | DN 100 |  | 510  | 20.1 | 410 | 16.1 | 1360 | 53.5 | 1500 | 59.1 | 143.0 | 315.3  |
| 1100+T             | 1100 | 2331  | 7 | 102 | 16 | 232 | DN 100 |  | 510  | 20.1 | 418 | 16.5 | 966  | 38.0 | 200  | 7.9  | 37.4  | 82.4   |
| 1400+F/1600+F      | 1400 | 2967  | 7 | 102 | 16 | 232 | DN 150 |  | 620  | 24.4 | 485 | 19.1 | 1480 | 58.3 | 1560 | 61.4 | 210.0 | 463.0  |
| 1800+F/2200+F      | 1800 | 3814  | 7 | 102 | 16 | 232 | DN 150 |  | 640  | 25.2 | 490 | 19.3 | 1555 | 61.2 | 1640 | 64.6 | 176.0 | 388.0  |
| 2200+F/2400+F      | 2200 | 4662  | 7 | 102 | 16 | 232 | DN 150 |  | 640  | 25.2 | 490 | 19.3 | 1555 | 61.2 | 1640 | 64.6 | 178.0 | 392.4  |
| 3000+F/3600+F      | 3000 | 6357  | 7 | 102 | 16 | 232 | DN 200 |  | 820  | 32.3 | 650 | 17.7 | 1745 | 68.7 | 1710 | 67.3 | 420.0 | 925.9  |
| 4000+F             | 4000 | 8476  | 7 | 102 | 16 | 232 | DN 200 |  | 820  | 32.3 | 650 | 17.7 | 1745 | 68.7 | 1710 | 67.3 | 428.0 | 943.6  |
| 5000+F             | 5000 | 10595 | 7 | 102 | 16 | 232 | DN 200 |  | 820  | 32.3 | 650 | 17.7 | 1745 | 68.7 | 1710 | 67.3 | 432.0 | 952.4  |
| 6000+F             | 6000 | 12714 | 7 | 102 | 16 | 232 | DN 250 |  | 920  | 36.2 | 815 | 32.1 | 2085 | 82.1 | 1625 | 64.0 | 671.0 | 1479.3 |
| 7000+F             | 7000 | 14833 | 7 | 102 | 16 | 232 | DN 250 |  | 920  | 36.2 | 815 | 32.1 | 2085 | 82.1 | 1625 | 64.0 | 675.0 | 1488.1 |
| 8000+F             | 8000 | 16952 | 7 | 102 | 16 | 232 | DN 300 |  | 1040 | 40.9 | 930 | 36.6 | 2070 | 81.5 | 1625 | 64.0 | 900.0 | 1984.2 |

Temperature correction factors QD+

At higher temperatures, more compressor oil evaporates. When the actual working air inlet temperature differs from the reference, divide the filter capacity by the corresponding correction factors to obtain the correct capacity.

| 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 oil-free       | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   | 1   |
| Correction factor oil-lubricated | 1  | 1  | 1  | 1.2 | 1.5 | 1.7 | 2.1 | 2.4 | 2.6 |

Some environmental or process aspects could cause a higher amount of hydrocarbons or other volatile organic compounds in the compressed air. Contact Atlas Copco when higher concentrations can be expected.



# 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 will, through adsorption, reduce the residual oil content to lower than 0.003 mg/m³. 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** - The QDT’s robust design and rigorous quality control of the activated carbon optimize filter reliability.
- **Long service intervals** - The high volume of activated carbon material ensures a long lifetime, even in very harsh working conditions.

### Options

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

### Performance

|                                  | QDT                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------|
| Contaminant                      | Oil vapor                                                                                                     |
| Test method                      | ISO 8573-5:2001, ISO 12500-2:2007                                                                             |
| Maximum oil carry-over (mg/m³)*  | 0.003                                                                                                         |
| Average dry pressure drop (mbar) | 125 (QDT 20-310)<br>72 (QDT 425-1800)                                                                         |
| Element service                  | After 4,000 operating hours or 1 year (up to QDT 310)<br>After 8,000 operating hours or 1 year (from QDT 425) |
| Precede with                     | Water separation<br>UD+ or DD+ /PD+<br>Dryer                                                                  |

\* After UD+ or DD+ /PD+.



QDT 20-310



QDT 425-1800

### Certification

ISO 8573-5:2001

### Sizing & dimensions

| Filter size | Nominal capacity |      | Connections<br>G or NPT | Dimensions |     |      |    |     |    | Weight |      |
|-------------|------------------|------|-------------------------|------------|-----|------|----|-----|----|--------|------|
|             |                  |      |                         | A          |     | B    |    | C   |    |        |      |
|             | l/s              | cfm  |                         | in         | mm  | in   | mm | in  | mm | in     | kg   |
| 20          | 20               | 42   | 1/2                     | 490        | 19  | 223  | 9  | 190 | 7  | 7      | 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   |
| 185         | 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  | DN 80 3"                | 2148       | 85  | 710  | 28 | 600 | 24 | 264    | 581  |
| 550         | 550              | 1165 | DN 80 3"                | 2190       | 86  | 710  | 28 | 670 | 26 | 302    | 664  |
| 850         | 850              | 1801 | DN 100/4"               | 2320       | 91  | 724  | 29 | 805 | 32 | 391    | 860  |
| 1100        | 1100             | 2331 | DN 100/4"               | 2450       | 97  | 934  | 37 | 820 | 32 | 602    | 1324 |
| 1800        | 1800             | 3814 | DN 150/6"               | 2612       | 103 | 1046 | 41 | 980 | 39 | 882    | 1940 |

### Correction factors

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

| Inlet temperature °C             | 10 | 15 | 20 | 25 | 30 | 35 | 40  | 45  | 50  | 55  | 60  | 65  | 70* | 75* | 80* |
|----------------------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Inlet temperature °F             | 50 | 59 | 68 | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 | 158 | 167 | 176 |
| Correction factor oil-free       | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Correction factor oil-lubricated | 1  | 1  | 1  | 1  | 1  | 1  | 1.2 | 1.5 | 1.7 | 2.1 | 2.4 | 3   | 3.5 | 4.1 | 4.9 |

\* For QDT flanged only.

For other compressed air inlet pressures, 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 | 1.05 | 1.11 | 1.18 |

### UD+ & QDT: the winning combination

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/m³ aerosol and liquid       | Guaranteed 0.003 mg/m³ 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         |

### Certified filter trains

| Filter train          | Purity class according to ISO 8573-1:2010 | Certified |
|-----------------------|-------------------------------------------|-----------|
| UD+ - QDT - DDp+      | [2:-1]                                    | yes       |
| UD+ - QDT - DDp+ PDp+ | [1:-1]                                    | yes       |
| UD+ - QD+             | [2:-1]                                    | yes       |





SFA Series

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

Superb air purity is a prerequisite to safeguard your instruments and end products. Our silicone-free SFA filters efficiently prevent dry and wet dust, particulates, oil aerosol and water droplets 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 with high-efficiency glass fiber and fleece media.
- **Significant energy savings & limited system operating costs** - Optimal design and filter media allow for a low pressure drop.
- **High reliability** - Stainless-steel cores, double O-rings, epoxy-sealed caps and filter housing with anti-corrosive coating.
- **Easy maintenance** - External ribbing 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).



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)

Sizing & dimensions

| Filter size               | Nominal capacity* |      | Maximal capacity* |      | Connections G or NPT | Dimensions |      |      |      |     |       | Free space for cartridge replacement |      | Weight |      |
|---------------------------|-------------------|------|-------------------|------|----------------------|------------|------|------|------|-----|-------|--------------------------------------|------|--------|------|
|                           |                   |      |                   |      |                      | A          |      | B    |      | C   |       |                                      |      |        |      |
| DD+, DDp+, PD+, PDp+, QD+ | l/s               | cfm  | l/s               | cfm  | in                   | mm         | in   | mm   | in   | mm  | in    | mm                                   | in   | 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    | 4.2  |
| 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.

WSD Series

High-performance water separators

Atlas Copco’s WSD prevents condensed water from building up in your air system. The water separator comes as standard with Atlas Copco’s aftercoolers and can also be installed at any point in your system. Made entirely of corrosion-proof material, these cyclone-based separators remove water aerosols to protect system components such as dryers and filters. Maintenance-free and without moving parts, they come with an automatic or a manual drain.



**Your benefits:**

- **A reliable air system** - The corrosion-proof drain prevents condensed water from building up in your air system.
- **Minimal maintenance** - The water separator does not have moving parts and is thus maintenance-free. It comes with an automatic and a manual drain.
- **Energy savings** - The intelligent drain function monitors condensate build-up with liquid level sensors. It drains the condensate only when required to avoid using compressed air inefficiently.
- **Flexible installation** - WSD water separators can be installed at any point in your air net.



Sizing & dimensions

| Type    | Capacity range |          | Maximum working pressure |     | Connections  | Dimensions |      |     |      |     |      | Weight |      |
|---------|----------------|----------|--------------------------|-----|--------------|------------|------|-----|------|-----|------|--------|------|
|         |                |          |                          |     |              | A          |      | B   |      | C   |      |        |      |
|         | l/s            | cfm      | bar(e)                   | psi | inlet/outlet | mm         | inch | mm  | inch | mm  | inch | kg     | lbs  |
| WSD 25  | 7-60           | 15-127   | 20                       | 290 | G 1          | 332        | 13.0 | 130 | 5.1  | 185 | 7.3  | 1.1    | 2.4  |
| WSD 80  | 50-150         | 106-318  | 20                       | 290 | G 1½         | 432        | 17.0 | 130 | 5.1  | 185 | 7.3  | 3.5    | 7.7  |
| WSD 250 | 125-350        | 265-742  | 20                       | 290 | G 2½         | 532        | 20.9 | 160 | 6.3  | 230 | 9.0  | 12.5   | 27.6 |
| WSD 750 | 300-800        | 636-1695 | 20                       | 290 | 83 mm*       | 532        | 20.9 | 160 | 6.3  | 230 | 9.0  | 14.0   | 30.9 |

\* Blind flange to be machined up to this diameter.



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 for working pressures of up to 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-efficiency glass fiber and fleece media.
- **Significant energy savings & limited system operation costs** Optimal design and filter media allow for low pressure losses.
- **High reliability** - Strong and durable stainless-steel cores, double O-rings, epoxy-sealed caps and filter housing with anti-corrosive coating.



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 8573-4:2019<br>ISO 12500-3:2009                             |              | ISO 8573-2:2018<br>ISO 12500-1:2007   |        | ISO 8573-5:2001                       |
| Maximum oil carry-over (mg/m³)          | -                                                               | -            | 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                                   |
| ISO class 8573-1                        | [2:-]                                                           | [1:-]        | [2:-3]                                | [1:-2] | [3:-1]                                |
| 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/m³. Oil = oil aerosol and liquid.  
\*\* After DD+/PD+ with inlet oil concentration of 10 mg/m³.

Sizing & dimensions

| Filter size               | Nominal capacity |     |      | Connections | Dimensions |     |      |     |     |      | Weight |      |
|---------------------------|------------------|-----|------|-------------|------------|-----|------|-----|-----|------|--------|------|
|                           |                  |     |      |             | A          |     | B    |     | C   |      |        |      |
| DDH, DDHp, PDH, PDHp, QDH | m³/h             | l/s | cfm  | in          | mm         | in  | mm   | in  | mm  | in   | kg     | lbs  |
| 20 bar aluminum           |                  |     |      |             |            |     |      |     |     |      |        |      |
| 15+                       | 54               | 15  | 32   | 3/8         | 90         | 3.5 | 80   | 3.1 | 185 | 7.3  | 1.0    | 2.2  |
| 32+                       | 115              | 32  | 68   | 1/2         | 90         | 3.5 | 80   | 3.1 | 185 | 7.3  | 1.1    | 2.4  |
| 55+                       | 198              | 55  | 117  | 1/2         | 90         | 3.5 | 80   | 3.1 | 240 | 9.4  | 1.3    | 2.9  |
| 80+                       | 288              | 80  | 170  | 3/4 & 1     | 110        | 4.3 | 100  | 3.9 | 260 | 10.2 | 1.6    | 3.5  |
| 110+                      | 396              | 110 | 233  | 1           | 110        | 4.3 | 100  | 3.9 | 300 | 11.8 | 2.1    | 4.6  |
| 200+                      | 720              | 200 | 424  | 1 1/2       | 140        | 5.5 | 131  | 5.2 | 410 | 16.1 | 4.2    | 9.3  |
| 270+                      | 972              | 270 | 572  | 1 1/2       | 140        | 5.5 | 131  | 5.2 | 490 | 19.3 | 4.5    | 9.9  |
| 330+                      | 1188             | 330 | 699  | 1 1/2       | 140        | 5.5 | 131  | 5.2 | 490 | 19.3 | 4.6    | 10.1 |
| 490+                      | 1764             | 490 | 1038 | 2 & 2 1/2   | 179        | 7   | 166  | 6.5 | 575 | 22.6 | 6.9    | 15.2 |
| 50 bar aluminum           |                  |     |      |             |            |     |      |     |     |      |        |      |
| 160+                      | 160              | 44  | 94   | 1/4         | 63         | 2.5 | 63   | 2.5 | 150 | 5.9  | 0.3    | 0.7  |
| 250+                      | 250              | 69  | 147  | 3/8         | 63         | 2.5 | 63   | 2.5 | 190 | 7.5  | 0.3    | 0.7  |
| 450+                      | 450              | 125 | 265  | 1/2         | 114        | 4.5 | 114  | 4.5 | 305 | 12.0 | 2.6    | 5.7  |
| 550+                      | 550              | 153 | 324  | 3/4         | 114        | 4.5 | 114  | 4.5 | 305 | 12.0 | 2.6    | 5.7  |
| 835+                      | 835              | 232 | 491  | 1           | 114        | 4.5 | 114  | 4.5 | 395 | 15.6 | 3.3    | 7.3  |
| 1250+                     | 1250             | 347 | 736  | 1 1/2       | 146        | 5.8 | 146  | 5.8 | 435 | 17.1 | 7.5    | 16.5 |
| 1725+                     | 1725             | 479 | 1015 | 1 1/2       | 146        | 5.8 | 146  | 5.8 | 435 | 17.1 | 7.5    | 16.5 |
| 1925+                     | 1925             | 535 | 1133 | 2           | 146        | 5.8 | 146  | 5.8 | 435 | 17.1 | 7.5    | 16.5 |
| 3200+                     | 3200             | 889 | 1883 | 2           | 146        | 5.8 | 146  | 5.8 | 635 | 25.0 | 10     | 22.0 |
| 50 bar stainless steel    |                  |     |      |             |            |     |      |     |     |      |        |      |
| 100+                      | 100              | 28  | 59   | 1/4         | 85         | 3.4 | 85   | 3.4 | 202 | 8.0  | 1.7    | 3.7  |
| 200+                      | 200              | 56  | 118  | 3/8         | 85         | 3.4 | 85   | 3.4 | 227 | 8.9  | 2      | 4.4  |
| 340+                      | 340              | 94  | 200  | 1/2         | 85         | 3.4 | 85   | 3.4 | 257 | 10.1 | 2.2    | 4.8  |
| 500+                      | 500              | 139 | 294  | 3/4         | 110        | 4.3 | 110  | 4.3 | 270 | 10.6 | 4      | 8.8  |
| 1000+                     | 1000             | 278 | 589  | 1           | 110        | 4.3 | 110  | 4.3 | 422 | 16.6 | 5      | 11.0 |
| 1700+                     | 1700             | 472 | 1000 | 1 1/2       | 150        | 5.9 | 150  | 5.9 | 517 | 20.4 | 15     | 33.1 |
| 2040+                     | 2040             | 567 | 1200 | 2           | 150        | 5.9 | 150  | 5.9 | 517 | 20.4 | 15     | 33.1 |
| 3400+                     | 3400             | 944 | 2000 | 2           | 150        | 5.9 | 150  | 5.9 | 817 | 32.2 | 21     | 46.3 |
| 100 bar stainless steel   |                  |     |      |             |            |     |      |     |     |      |        |      |
| 100+                      | 100              | 28  | 59   | 1/4         | 65         | 2.6 | 65   | 2.6 | 135 | 5.3  | 3.2    | 7.1  |
| 315+                      | 315              | 88  | 185  | 1/2         | 65         | 2.6 | 65   | 2.6 | 250 | 9.8  | 5.6    | 12.3 |
| 460+                      | 460              | 128 | 271  | 3/4         | 88         | 3.5 | 88   | 3.5 | 275 | 10.8 | 6.1    | 13.4 |
| 680+                      | 680              | 189 | 400  | 1           | 135        | 5.3 | 135  | 5.3 | 265 | 10.4 | 10.5   | 23.1 |
| 1200+                     | 1200             | 333 | 706  | 1           | 135        | 5.3 | 135  | 5.3 | 480 | 18.9 | 14.7   | 32.4 |
| 1700+                     | 1700             | 472 | 1000 | 1 1/2       | 150        | 5.9 | 150  | 5.9 | 525 | 20.7 | 22     | 48.5 |
| 3400+                     | 3400             | 944 | 2000 | 2           | 150        | 5.9 | 150  | 5.9 | 815 | 32.1 | 28     | 61.7 |
| 350 bar stainless steel   |                  |     |      |             |            |     |      |     |     |      |        |      |
| 48+                       | 48               | 13  | 28   | 1/4         | 41         | 1.6 | 41   | 1.6 | 103 | 4.0  | 1.6    | 3.5  |
| 111+                      | 111              | 31  | 65   | 1/4         | 65         | 2.6 | 65   | 2.6 | 135 | 5.3  | 3.2    | 7.1  |
| 255+                      | 255              | 71  | 150  | 1/2         | 88.5       | 3.5 | 88.5 | 3.5 | 210 | 8.2  | 5.6    | 12.3 |
| 510+                      | 510              | 142 | 300  | 3/4         | 88.5       | 3.5 | 88.5 | 3.5 | 280 | 10.9 | 6.1    | 13.4 |
| 750+                      | 750              | 208 | 441  | 1           | 150        | 5.9 | 150  | 5.9 | 330 | 12.9 | 14.5   | 32.0 |
| 1330+                     | 1330             | 369 | 783  | 1           | 150        | 5.9 | 150  | 5.9 | 480 | 18.7 | 17.4   | 38.3 |

Correction factors

| 20 bar aluminum                   |      |      |      |      |      |      |      |      |      |      |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|
| Operating pressure                | barg | -    | -    | -    | -    | -    | 14   | 16   | 18   | 20   |
|                                   | psig | -    | -    | -    | -    | -    | 203  | 232  | 261  | 290  |
| Correction factor                 |      |      |      |      |      |      | 0.9  | 0.95 | 1    | 1.05 |
| 50 bar aluminum & stainless steel |      |      |      |      |      |      |      |      |      |      |
| 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    |
| 100 bar stainless steel           |      |      |      |      |      |      |      |      |      |      |
| 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    |
| 350 bar stainless steel           |      |      |      |      |      |      |      |      |      |      |
| 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    |

