

Air treatment solutions

Aftercoolers & condensate treatment

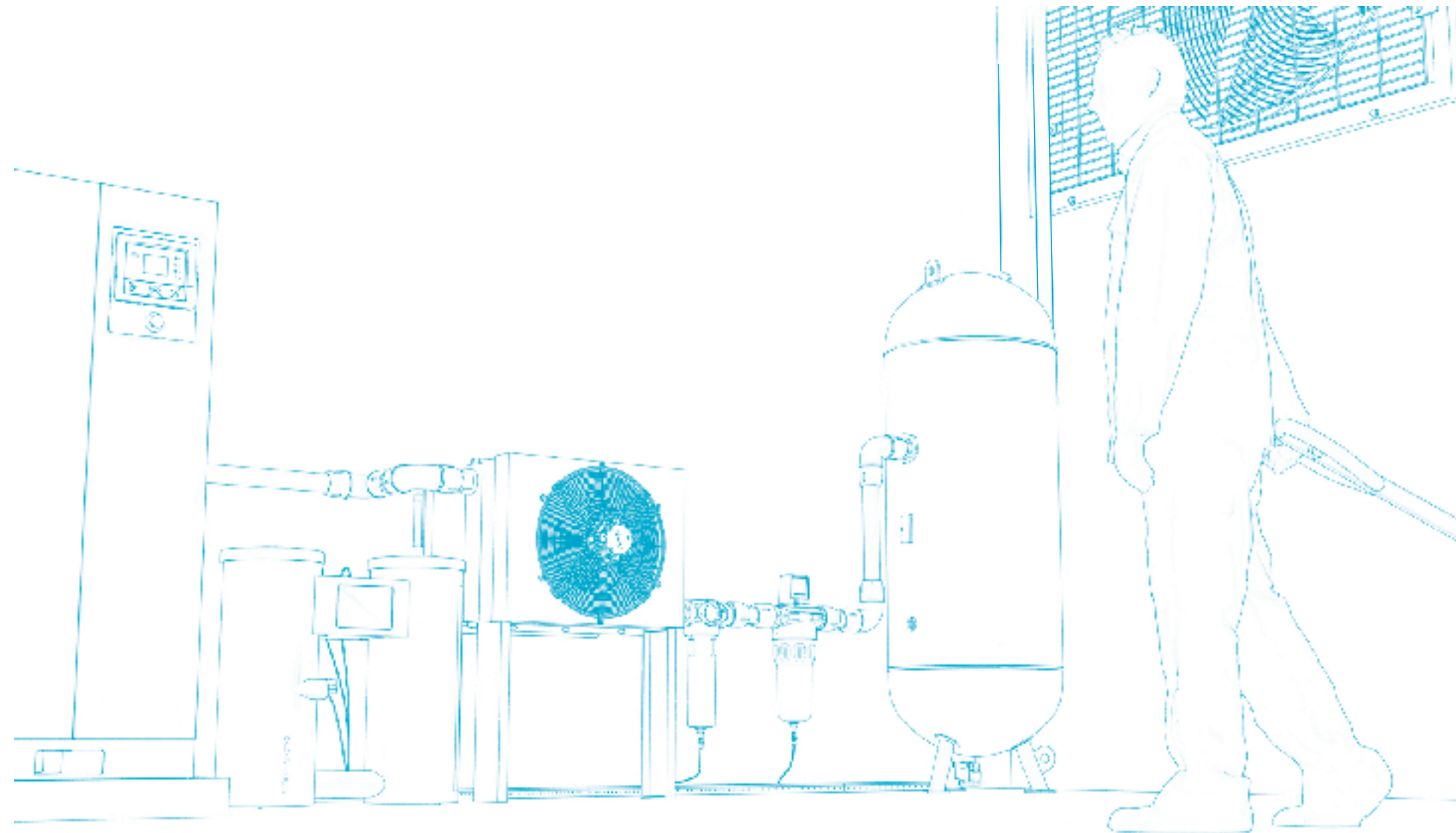
Atlas Copco



RELIABLE AND CLEAN AIR

Atlas Copco aftercoolers and condensate treatment

The air that leaves a compressor reaches 100% humidity. It also contains oil (unless you are using an oil-free compressor) and solid particles. Together, they form an abrasive, often acidic, oily sludge. Without air treatment, this murky mix will enter your compressed air system, corroding pipe work, damaging pneumatic tools and potentially compromising final products.



AIR TREATMENT

Atlas Copco offers a wide range of aftercoolers, drains and condensate treatment solutions, extending our premium quality throughout your compressed air system.

REMOVE WATER AFTERCOOLERS

All Atlas Copco compressors are equipped with an aftercooler. It cools the air, turning up to 70% of the humidity into water, which is then immediately drained. However, production facilities with extremely high ambient temperatures might need additional cooling. Atlas Copco's add-on aftercoolers prevent excess moisture from entering your compressed air system.

DRAINS

The remaining humidity in compressed air turns into water as the air cools while it moves through the system. Because water causes corrosion and damage, drains must be installed throughout your network. Atlas Copco has a range of drains, automatic or electronic, that will keep your aftercooler, dryer, air receiver, and other equipment working optimally.

REMOVE OIL CONDENSATE TREATMENT

Because oil poses an environmental risk, compressed air condensate must be treated appropriately. Atlas Copco's condensate management solutions separate and safely dispose of the oil in compressed air before it enters the system.

HD AND TD AFTERCOOLERS

Atlas Copco's air and water-cooled aftercoolers provide additional moisture management in facilities with extremely high ambient temperatures. Supplied with all necessary parts, they are compact, simple to install and easy to disassemble for cleaning.



Our HD and TD aftercoolers combine minimal pressure drop with high cooling efficiency and low energy consumption. A negligible pressure drop means no production power is lost. The compressor doesn't generate extra demand, eliminating additional energy or maintenance costs.

YOUR BENEFITS:

- **Efficiency** - Special, highly efficient separation by cyclone results in low pressure drop and energy use.
- **Minimal installation & maintenance**
Easy assembly of connection flanges.
- **Reliability** - Totally rustproof materials ensure a long lifetime.



WATER-COOLED HD AFTERCOOLERS

Atlas Copco's HD water-cooled aftercoolers deliver high effectiveness with low water consumption. Their built-in bundle of stainless steel tubes reduces the temperature of the air leaving the compressor. The cooling water and the compressed air flow in opposite directions. The cooler is equipped with a water drain as standard.

AIR-COOLED TD AFTERCOOLERS

Atlas Copco's TD air-cooled aftercoolers have an aluminum block element. An electrically driven fan, shielded by a protector for user safety, forces air between the cooling fins to ensure high efficiency and low energy use. The aftercooler is mounted on a sturdy frame and has a built-in water drain.

HD WATER-COOLED AFTERCOOLER

| Type | Nominal flow * | | Maximum working pressure | | Δt above cooling water * | | Water consumption | | |
|---------|----------------|------|--------------------------|-----|--------------------------|----|-------------------|------|------------|
| | l/s | cfm | bar(e) | psi | °C | °F | l/s | m³/h | US gal/min |
| HD 250 | 180 | 380 | 20 | 290 | 12 | 21 | 0.4 | 1.44 | 6.3 |
| HD 650 | 530 | 1120 | 10.5 | 150 | 11 | 20 | 1.3 | 4.68 | 21 |
| HD 1500 | 1500 | 3180 | 16 | 230 | 4 | 7 | 3.9 | 14.0 | 62 |
| HD 3500 | 3500 | 7420 | 16 | 230 | 4 | 7 | 8.5 | 30.6 | 134 |

* HD water-cooled aftercooler.

| Type | Air inlet / outlet connections Ø | | Dimensions | | | | | | Weight | | Cooling water |
|---------|----------------------------------|--------|------------|------|-------|------|--------|------|--------|------|---------------|
| | inlet | outlet | Height | | Width | | Length | | kg | lbs | inlet outlet |
| | | | mm | inch | mm | inch | mm | inch | | | |
| HD 250 | G 2½ | G 2½ | 1975 | 77.7 | 230 | 9.0 | 483 | 19.0 | 140 | 308 | G ½ |
| HD 650 | DN 100 | DN 100 | 2083 | 82.0 | 500 | 19.7 | 635 | 25.0 | 210 | 463 | G 1 |
| HD 1500 | DN 150 | DN 150 | 840 | 33.0 | 1574 | 62.0 | 925 | 36.4 | 710 | 1565 | DN 80 |
| HD 3500 | DN 200 | DN 200 | 828 | 33.0 | 1574 | 62.0 | 925 | 36.4 | 715 | 1576 | DN 80 |

TD AIR-COOLED AFTERCOOLER

| Type | Nominal flow * | | Maximum working pressure | | Δt above * ambient temperature | | Fan motor power | |
|--------|----------------|------|--------------------------|-----|--------------------------------|----|-----------------|------|
| | l/s | cfm | bar(e) | psi | °C | °F | kW | hp |
| TD 08 | 8 | 17 | 20 | 290 | 10 | 18 | 0.05 | 0.07 |
| TD 25 | 25 | 53 | 20 | 290 | 10 | 18 | 0.12 | 0.16 |
| TD 50 | 50 | 106 | 20 | 290 | 10 | 18 | 0.18 | 0.24 |
| TD 150 | 150 | 318 | 20 | 290 | 10 | 18 | 0.75 | 1.01 |
| TD 300 | 300 | 363 | 20 | 290 | 10 | 18 | 0.75 | 1.01 |
| TD 650 | 650 | 1377 | 20 | 290 | 10 | 18 | 2.20 | 2.95 |
| TD 650 | 650 | 1377 | 10.5 | 152 | 10 | 18 | 2.20 | 2.95 |

* Refers to absolute pressure of 1 bar and temperature of 20 °C. Compressed air in at 160 °C.

| v | Air inlet / outlet connections Ø | | Dimensions | | | | | | Weight | | N° of cooler cores |
|--------|----------------------------------|--------|------------|------|-------|------|--------|------|--------|-----|--------------------|
| | | | Height | | Width | | Length | | | | |
| | inlet | outlet | mm | inch | mm | inch | mm | inch | kg | lbs | |
| TD 08 | G ½ | G ½ | 188 | 7.4 | 130 | 5.1 | 270 | 10.6 | 6 | 13 | 1 |
| TD 25 | G 1 | G 1 | 658 | 25.9 | 402 | 15.8 | 588 | 23.1 | 19 | 42 | 1 |
| TD 50 | G 1¼ | G 1¼ | 735 | 28.9 | 412 | 16.2 | 664 | 26.1 | 23 | 51 | 1 |
| TD 150 | G 2½ | G 2½ | 1160 | 45.6 | 435 | 17.1 | 920 | 36.2 | 53 | 117 | 1 |
| TD 300 | G 2½ | G 2½ | 1280 | 50.3 | 466 | 18.3 | 1140 | 44.8 | 73 | 161 | 1 |
| TD 650 | DN 80 | DN 100 | 1525 | 60.0 | 716 | 28.1 | 1780 | 70.0 | 185 | 408 | 1 |

WSD 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 rustproof 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.



| Type | Capacity range | | Maximum working pressure | | Connections | Dimensions | | | | | | Weight | |
|---------|----------------|----------|-----------------------------|-----|--------------|------------|------|-------|------|--------|------|--------|------|
| | | | | | | Height | | Width | | Length | | | |
| | 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.

WD AUTOMATIC DRAINS

The WD 80 drain valve provides completely automatic drainage of the water that collects at the lowest point of a compressed air system (e.g. at the bottom of a receiver or cyclone separator). Its patented design ensures minimal maintenance.



| Type | Maximum working pressure | | Drain capacity | Connections | Dimensions | | | | | | Weight | |
|-------|--------------------------|-----|----------------|-------------|------------|------|-------|------|--------|------|--------|-----|
| | | | | | Height | | Width | | Length | | | |
| | bar(e) | psi | l/h | | mm | inch | mm | inch | mm | inch | kg | lbs |
| WD 80 | 20 | 290 | 200 | G ½ | 182 | 7.2 | 132 | 5.2 | 132 | 5.2 | 2.7 | 5.9 |

TWD TIMER DRAIN

The TWD timer drain removes condensate using a solenoid valve in combination with an electronic timer. Pre-selecting the timing and length of each drain cycle minimizes compressed air loss. Compact, easy to install and fully automatic, the TWD is a cost-effective drain solution for compressed air filters and vessels.



| Type | Maximum working pressure | | Connections | | Dimensions | | | | | | Weight | |
|------|--------------------------|-----|-------------|-------|------------|------|-------|------|--------|------|--------|-----|
| | | | | | Height | | Width | | Length | | | |
| | bar(e) | psi | inlet | valve | mm | inch | mm | inch | mm | inch | kg | lbs |
| TWD | 16 | 232 | G ½-¼ | G ½ | 126.5 | 5 | 131 | 5.2 | 95 | 3.7 | 0.7 | 1.5 |

EWD ELECTRONIC DRAINS

The EWD range of electronic drains offers safe, dependable and efficient condensate drainage. The intelligent drain function monitors condensate build-up and removes the liquid only when necessary, avoiding compressed air loss. Special EWD drains are also available for oil-contaminated condensate. The range can be delivered with additional hard coating for oil-free and aggressive condensate.



| Type | Maximum compressor capacity * | | Maximum dryer capacity * | | Maximum pressure | | Dimensions | | | | | | Weight | |
|---------------|-------------------------------|-------|--------------------------|-------|------------------|-----|------------|------|-------|------|--------|------|--------|------|
| | | | | | | | Height | | Width | | Length | | | |
| | l/s | cfm | l/s | cfm | bar | psi | mm | inch | mm | inch | mm | inch | kg | lbs |
| EWD 50** | 65 | 138 | 130 | 275 | 16 | 232 | 115 | 4.5 | 70 | 2.8 | 171 | 6.7 | 0.7 | 1.5 |
| EWD 50 A*** | 65 | 138 | 130 | 275 | 16 | 232 | 115 | 4.5 | 70 | 2.8 | 171 | 6.7 | 0.7 | 1.5 |
| EWD 50 B**** | 650 | 1380 | 1729 | 3640 | 16 | 232 | 115 | 4.5 | 70 | 2.8 | 171 | 6.7 | 0.7 | 1.5 |
| EWD 50 L***** | 650 | 1380 | 1729 | 3640 | 16 | 232 | 115 | 4.5 | 70 | 2.8 | 171 | 6.7 | 0.7 | 1.5 |
| EWD 75 | 98 | 208 | 194 | 411 | 16 | 232 | 141 | 5.6 | 65 | 2.6 | 150 | 5.9 | 0.8 | 1.8 |
| EWD 75 C** | 98 | 208 | 194 | 411 | 16 | 232 | 141 | 5.6 | 65 | 2.6 | 150 | 5.9 | 0.8 | 1.8 |
| EWD 75 CHP | 98 | 208 | 194 | 411 | 63 | 913 | 141 | 5.6 | 65 | 2.6 | 150 | 5.9 | 0.9 | 2.0 |
| EWD 330 | 433 | 917 | 866 | 1835 | 16 | 232 | 162 | 6.4 | 93 | 3.7 | 212 | 8.3 | 2.0 | 4.4 |
| EWD 330 C** | 433 | 917 | 866 | 1835 | 16 | 232 | 162 | 6.4 | 93 | 3.7 | 212 | 8.3 | 2.0 | 4.4 |
| EWD 330 CHP** | 433 | 917 | 866 | 1835 | 25 | 362 | 162 | 6.4 | 93 | 3.7 | 212 | 8.3 | 2.0 | 4.4 |
| EWD 1500 | 1950 | 4132 | 3900 | 8264 | 16 | 232 | 180 | 7.1 | 120 | 4.7 | 252 | 9.9 | 2.9 | 6.4 |
| EWD 1500 C** | 1950 | 4132 | 3900 | 8264 | 16 | 232 | 180 | 7.1 | 120 | 4.7 | 252 | 9.9 | 2.9 | 6.4 |
| EWD 16K C ** | 21670 | 45920 | 43340 | 91830 | 16 | 232 | 280 | 11.0 | 254 | 10.0 | 280 | 11.0 | 5.9 | 13.0 |

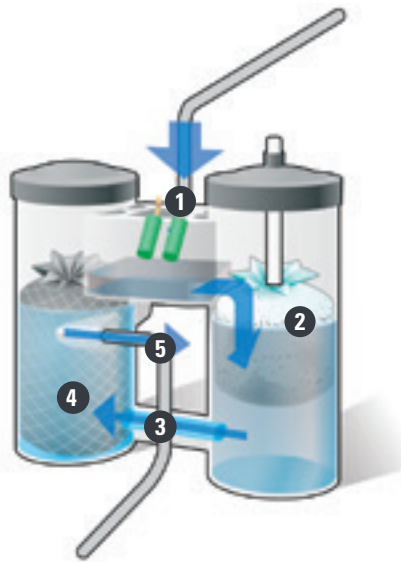
- * Climatic conditions:
- ambient temperature 35 °C (95 °F)
- relative humidity 70%
- ** Suitable for oil-free condensate.
- *** Standard + indicative LEDs and potential free alarm.
- **** With vario function: pause between detection of high condensate level and opening of valve (not oil-adjusted).
- ***** With vario function: pause between detection of high condensate level and opening of valve (oil-adjusted).

C = With anti-corrosion coating for oil-free condensate.
HP = High-pressure version.



OSC CONDENSATE TREATMENT

The state-of-the-art OSC range uses patented technology to separate compressed air condensate. The multi-stage separation process with buoyant oleophilic filters and activated carbon ensures exceptional performance, long filter lifetime and trouble-free operation.



- 1 Condensate enters through the mufflers and depressurizes in the expansion chamber.
- 2 The oil-water mixture continues on to tower A and seeps through the white oleophilic filter. The filter adsorbs the oil, but not the water.
- 3 Significantly cleaner condensate flows from tower A to tower B.
- 4 Tower B contains a bag of activated carbon, absorbing any residual oil from the condensate.
- 5 Clean condensate exits from tower B with almost no residual oil content, which means it can be discarded safely.



RELIABILITY

- 1 Advanced oleophilic filtration media ensure stable and reliable performance, extended activated carbon lifetime.
- 2 The discharge condensate contains so little residual oil, that it can be drained without environmental risk or infringing on strict pollution regulations.
- No oil collection bottle, eliminating the possibility of contamination of previously separated condensate.

EASE OF USE

- 3 The simple yet robust design enables easy installation without special set-up and fast, effortless and clean filter replacement.
- Multiple oil condensate sources can be connected.

ROBUSTNESS

- 4 The large capacity chambers reduce the risk of spillage if the unit becomes blocked, or if there is a sudden increase in inlet flow.
- 5 The unit is easily withstands vibrations, shocks and splashes. As a result, performance is better and more stable and there is no need to use electronic “no loss” drains upstream.

FLEXIBILITY

- Most condensate emulsions can be separated. Polyglycol condensate can be separated, although some unit deration is necessary (capacity should be halved) in order to maintain filter lifetime.
- Model selection is straightforward and unit sizes are kept small for a low capital investment.
- The system is based on filtration rather than gravitational forces and weir separation. As a result, oil density is no longer a factor.

PEACE OF MIND

- Accurate indication of filter replacement through maintenance and blockage indicators, removing the need to run special tests.
- No standing water while the unit is running, eliminating all potential health risks and limiting cleaning intervals.

OSC technical specifications

INSTALLATION WITH COMPRESSORS - AIR RECEIVERS - DRYERS & FILTERS

Capacity is based on the compressor running at 7 barg/100 psig or 12 hours per day, with all condensate from the compressor, the air receiver, the filters and refrigerant dryer piped into the unit.

| Type | Cold climate system FAD | | Mild climate system FAD | | Hot climate system FAD | |
|----------|-------------------------|------|-------------------------|------|------------------------|------|
| | l/s | cfm | l/s | cfm | l/s | cfm |
| OSC 35 | 65 | 138 | 35 | 75 | 17 | 36 |
| OSC 95 | 180 | 382 | 95 | 201 | 45 | 95 |
| OSC 145 | 270 | 572 | 145 | 307 | 70 | 148 |
| OSC 355 | 665 | 1410 | 355 | 753 | 170 | 360 |
| OSC 600 | 1150 | 2438 | 605 | 1283 | 290 | 615 |
| OSC 825 | 1550 | 3286 | 825 | 1749 | 400 | 848 |
| OSC 1200 | 2220 | 4706 | 1180 | 2502 | 570 | 1208 |
| OSC 2400 | 4440 | 9413 | 2360 | 5003 | 1145 | 2427 |

* All capacities are based on an outlet oil content of 15 mg/l.

** Climatic conditions:

Cold conditions: ambient temperature 15 °C
relative humidity 60%
Mild conditions: ambient temperature 25 °C
relative humidity 60%
Hot conditions: ambient temperature 35 °C
relative humidity 70%

*** For polyglycol-based condensates, the capacity of each unit should be halved.

INSTALLATION WITH COMPRESSORS - AIR RECEIVERS - FILTERS ONLY

Capacity is based on the compressor running at 7 barg/100 psig for 12 hours per day, with all condensate from the compressor, the air receiver and filters piped into the unit.

| Type | Cold climate system FAD | | Mild climate system FAD | | Hot climate system FAD | |
|----------|-------------------------|-------|-------------------------|------|------------------------|------|
| | l/s | cfm | l/s | cfm | l/s | cfm |
| OSC 35 | 105 | 223 | 45 | 95 | 20 | 42 |
| OSC 95 | 280 | 594 | 118 | 250 | 50 | 105 |
| OSC 145 | 415 | 880 | 175 | 371 | 75 | 160 |
| OSC 355 | 1035 | 2194 | 435 | 922 | 190 | 403 |
| OSC 600 | 1800 | 3816 | 760 | 1611 | 330 | 700 |
| OSC 825 | 2410 | 5110 | 1020 | 2162 | 440 | 933 |
| OSC 1200 | 3450 | 7315 | 1455 | 3085 | 630 | 1336 |
| OSC 2400 | 6895 | 14620 | 2910 | 6170 | 1260 | 2671 |

RUNNING HOURS

Multiply the OSC FAD capacity by the appropriate correction factor to adjust for different running hours:

| Running hours per day | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|-----------------------|-----|-----|----|------|------|------|-----|------|-----|
| Correction factor | 1.5 | 1.2 | 1 | 0.86 | 0.75 | 0.67 | 0.6 | 0.55 | 0.5 |

SEPARATION PERFORMANCE

For an outlet oil carry-over of +10 mg/l instead of 15 mg/l, multiply the unit capacity by 2/3. 5 mg/l can also be achieved. Contact Atlas Copco for precise derating.

| Type | Dimensions | | | | | | Weight | | Connections (BSP/NPT) | |
|----------|------------|------|------|------|------|------|--------|-----|--------------------------|---------|
| | A | | B | | C | | | | Inlet | Outlet |
| | mm | inch | mm | inch | mm | inch | kg | lbs | inch | inch |
| OSC 35 | 470 | 18.5 | 165 | 6.5 | 745 | 29 | 4 | 9 | 1 x 1/2 | 1 x 1/2 |
| OSC 95 | 680 | 27 | 255 | 10 | 940 | 37 | 13 | 29 | 2 x 1/2 | 1 x 1/2 |
| OSC 145 | 680 | 27 | 255 | 10 | 940 | 37 | 15 | 33 | 2 x 1/2 | 1 x 1/2 |
| OSC 355 | 750 | 30 | 546 | 21.5 | 1100 | 43 | 25 | 55 | 2 x 3/4 | 1 x 3/4 |
| OSC 600 | 750 | 30 | 546 | 21.5 | 1330 | 41 | 26 | 57 | 2 x 3/4 | 1 x 3/4 |
| OSC 825 | 945 | 37 | 650 | 26 | 1450 | 57 | 28 | 62 | 2 x 3/4 | 1 x 3/4 |
| OSC 1200 | 945 | 37 | 695 | 27 | 1450 | 57 | 30 | 66 | 2 x 3/4 | 1 x 3/4 |
| OSC 2400 | 945 | 37 | 1185 | 47 | 1450 | 57 | 60 | 132 | 2 x 3/4 | 1 x 1 |



OSCi CONDENSATE TREATMENT

To reduce the cost of condensate management, the OSCi oil-water separator offers a unique solution integrated into Atlas Copco GA 37+-55, GA 55+-90 compressors. It efficiently removes and collects oil from the condensate and drains harmless water. The OSCi is available as an option or as a retrofit kit.

| Type | Maximum inlet flow | | Weight | | Oil outlet content | Outlet drain inner diameter |
|------|--------------------|-----|--------|-----|--------------------|-----------------------------|
| | l/s | cfm | kg | lbs | | |
| OSCi | 315 | 667 | 20 | 44 | <15 | 19/G 3/4 |



The first oleophilic filter uses gravity to adsorb the oil. The second filter breaks stable emulsion and prevents bacteria growth. The third carbon filter eliminates any remaining oil before condensate disposal.

OSS CONDENSATE TREATMENT

The OSS offers absorption-based condensate management for oil-injected piston and rotary screw compressors below 30 l/s (60 cfm). The oil-water separator uses a new, advanced filter medium to remove oil traces to concentrations below 15 ppm. Easy to install, use and replace, the OSS is the affordable condensate treatment solution for smaller air systems.



The OSS oil-water separator discharges clean condensate with almost no residual oil content into the sewage drain.

RECOMMENDED PRODUCT REPLACEMENT

| Cold climate system FAD | 15 l/s - 30 cfm | 25 l/s - 50 cfm | 30 l/s - 60 cfm |
|--|-----------------|-----------------|-----------------|
| Recommended product replacement in running hours * | 6000 | 4000 | 3000 |
| Mild climate system FAD | 15 l/s - 30 cfm | 25 l/s - 50 cfm | / |
| Recommended product replacement in running hours * | 6000 | 4000 | |
| Hot climate system FAD | 15 l/s - 30 cfm | / | / |
| Recommended product replacement in running hours * | 4000 | | |

* Climatic conditions:

Cold conditions: ambient temperature 15 °C
relative humidity 60%
Mild conditions: ambient temperature 25 °C
relative humidity 60%
Hot conditions: ambient temperature 35 °C
relative humidity 70%

In very hot and humid climates, more condensate is generated during compression. The presence of extra condensate shortens the contact time in the OSS, leaving less time for the media to absorb the oil.

The OSS is designed for mineral-based lubricants. It should not be used with synthetic polyglycol lubricants due to its increased solubility in water.

YOUR BENEFITS:

- **Clean water** - After separation, oil-in-water concentrations are below 15 ppm.
- **Environmentally friendly** - All materials are 100% recyclable.
- **Small footprint** - Compact and lightweight design, optimized for small compressor installations.
- **Excellent performance** - Thanks to the use of advanced absorption media.
- **Easy installation and replacement** - A wall or plate mounting bracket is included.

COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us.
We make performance stand the test of time. This is what we call – Sustainable Productivity.



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Read all safety instructions in the manual before usage.

Atlas Copco