

# *Air treatment solutions*

Aftercoolers & condensate treatment

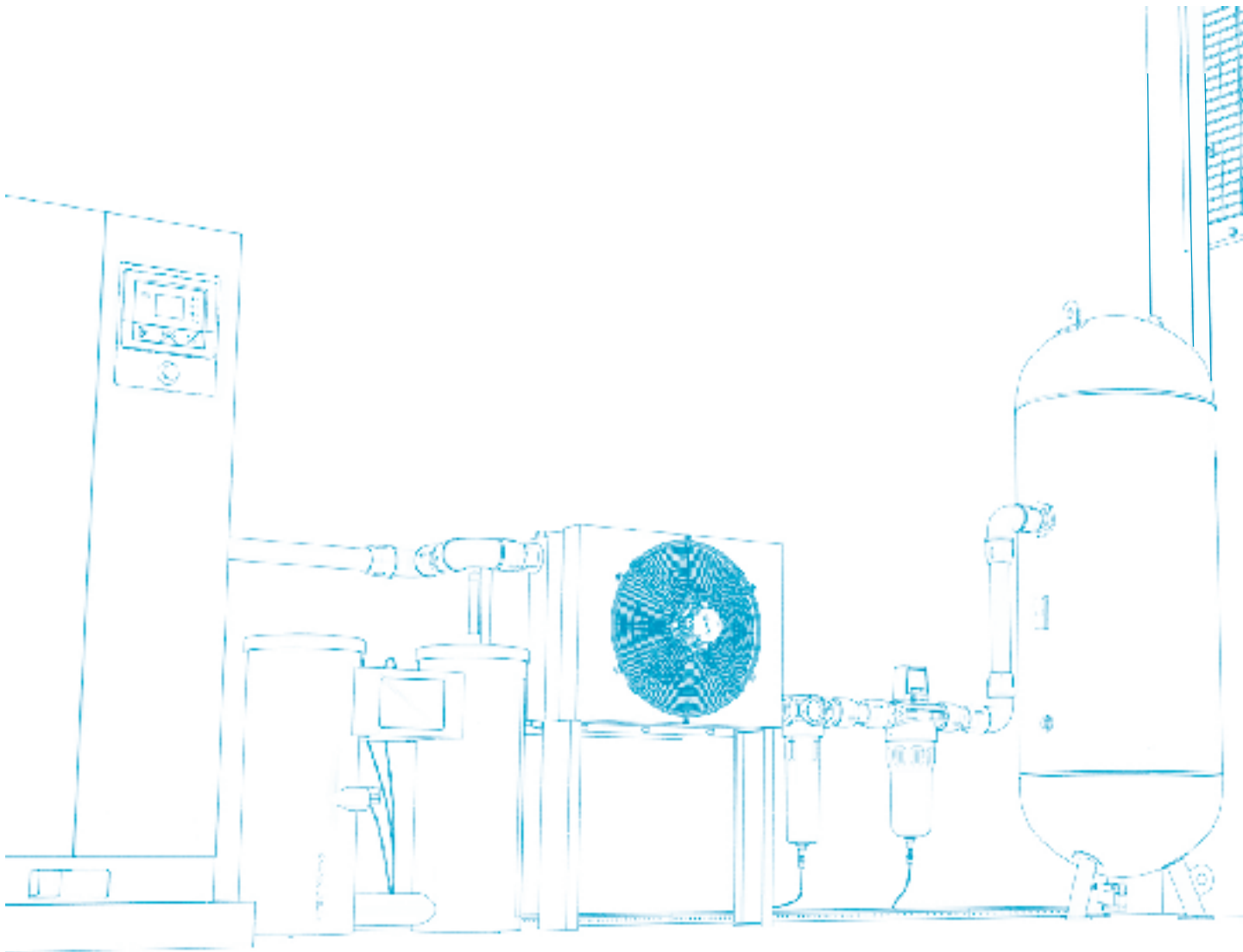
Atlas Copco



# ***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**

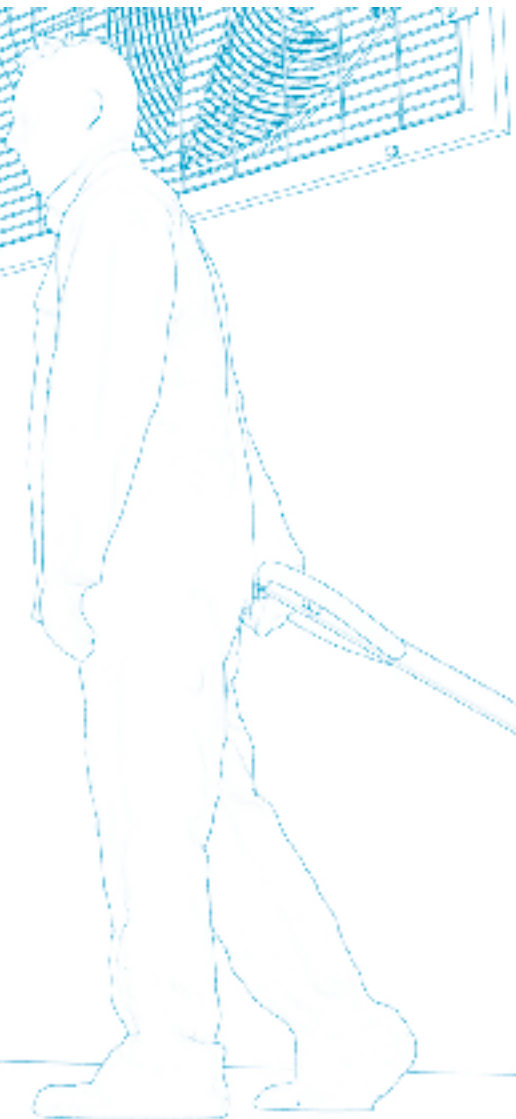
All Atlas Copco compressors are equipped with an aftercooler. It cools the air, turning up to 70% of the humidity into water, which is then immediately drained. However, production facilities with extremely high ambient temperatures might need additional cooling. Atlas Copco's add-on aftercoolers prevent 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	m <sup>3</sup> /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
			Height		Width		Length				inlet outlet
	inlet	outlet	mm	inch	mm	inch	mm	inch	kg	lbs	
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 inlet/outlet	Dimensions						Weight	
						Height		Width		Length			
	l/s	cfm	bar(e)	psi		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	
	bar(e)	psi	inlet	valve	Height		Width		Length		kg	lbs
					mm	inch	mm	inch	mm	inch		
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	
	l/s	cfm	l/s	cfm	bar	psi	Height		Width		Length		kg	lbs
							mm	inch	mm	inch	mm	inch		
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 (for oil-free applications).

\*\*\*\*\* With vario function: pause between detection of high condensate level and opening of valve (for oil injected applications).

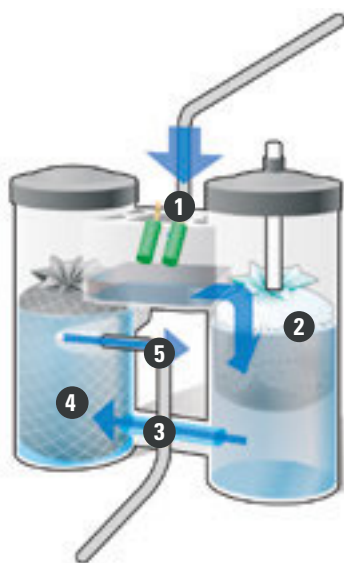
C = With anti-corrosion coating for oil-free condensate.

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 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 for 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		kg	lbs	Inlet	Outlet
	mm	inch	mm	inch	mm	inch			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.

### 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.

### 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.

## ***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***