

# Atlas Copco

## Condensate management



### OSC & OSD

Oil/water separator series



*Atlas Copco*



## Total capability, total responsibility

Right at the heart of your business, Atlas Copco delivers quality compressed air for superior operational capacity. From compressed air generation to point of use, you can choose from our wide range of products to create a complete compressed air system tailored to your specific needs. All Atlas Copco products are engineered to integrate seamlessly, ensuring the highest level of reliability and energy efficiency. As a result, Atlas Copco can take full responsibility for your compressed air infrastructure with a guarantee of best-in-class quality. With a global presence in over 150 countries, we can provide an unrivalled service to maintain and continually improve your compressed air system performance.

Backed by 100 years at the forefront of compressed air, Atlas Copco products offer the finest quality and efficiency. Our goal is to be First in Mind—First in Choice®. That is why Atlas Copco's pursuit of innovation never ceases, driven by the dedication to meet and exceed your demands. Always working with you, we are committed to providing the customized air solution that is the driving force behind your business.

***Atlas Copco:***  
***Customized Quality Air Solutions through***  
***Innovation, Interaction and Commitment.***

First in Mind—First in Choice®

# Condensate treatment: respect the environment, save costs

## ▶ Respect the environment

As efficient as the process may be, a compressor inevitably produces more than compressed air alone. One of its by-products is a large volume of condensate, generally an emulsified combination of oil and water that poses a serious environmental risk. Only by treating this condensate in the right way, can we make sure it brings no harm to the environment.



## ▶ Our clean and cost-efficient solution

If treated in the right way, condensate is nothing to worry about. The Atlas Copco range of condensate separators efficiently separate the oil from the water. The harmless water can be drained away and the oil disposed of in an environment-friendly manner.

Based on our years of experience with air treatment products, we suggest only the equipment that is right for your setup.



- ▶ The unique **OSD** offers a condensate treatment package fully **integrated** into the compressor, reducing both installation costs and complexity. Clean water is discharged from the compressor outlet drain valves whilst the separated oil is collected in a generously sized oil can.
- ▶ The new patented **OSC** technology brings a whole series of new advantages to the market. These **free standing** units, with multi-stage oleophilic filtration, can separate all kinds of condensate from all compressor technologies, giving unparalleled performance and reliability for minimal maintenance.

# OSD – a unique, high efficiency integrated package



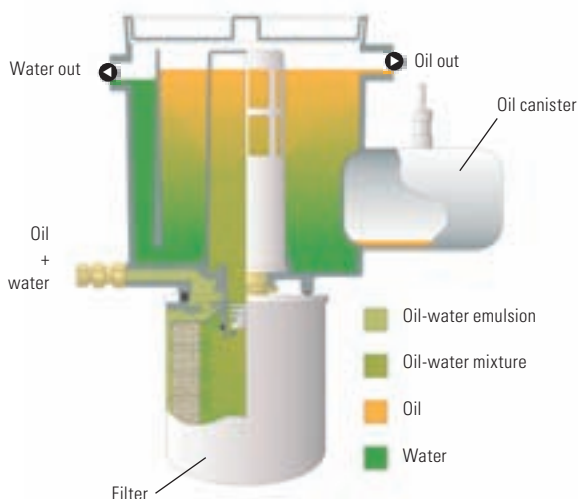
The OSD is a complete condensate management system integrated into the GA compressor. The unique device removes the oil from the discharged condensate, and with it the worries of polluting the environment and contravening strict environmental regulations.

The oil and water are separated through a process of de-emulsification and gravitational separation. Condensate containing fine oil droplets enters the coalescing filter which retains much of the oil. The semi-processed mixture then enters the water tank, where, due to the specific mass difference, the remaining oil separates from the water. The oil rises and flows through the oil outlet and into the oil canister, whilst the clean water is discharged through a pipe terminated at the edge of the machine.

Monitoring and maintenance is simplicity itself. When the inlet pressure, which is clearly displayed on a gauge, reaches 2 bar, the easy access screw-on filter cartridge needs to be replaced. Typically this occurs once per year.



GA 22+ with integrated OSD



## Benefits of an integrated solution are:

- ▶ High efficiency separation for worry free condensate discharge (10 mg/l)
- ▶ Performance independent of filter age
- ▶ No installation required, saving time and money
- ▶ Zero footprint, saving space and simplifying placing
- ▶ Minimal maintenance, reducing lifetime costs
- ▶ Simple, fast and clean cartridge exchange

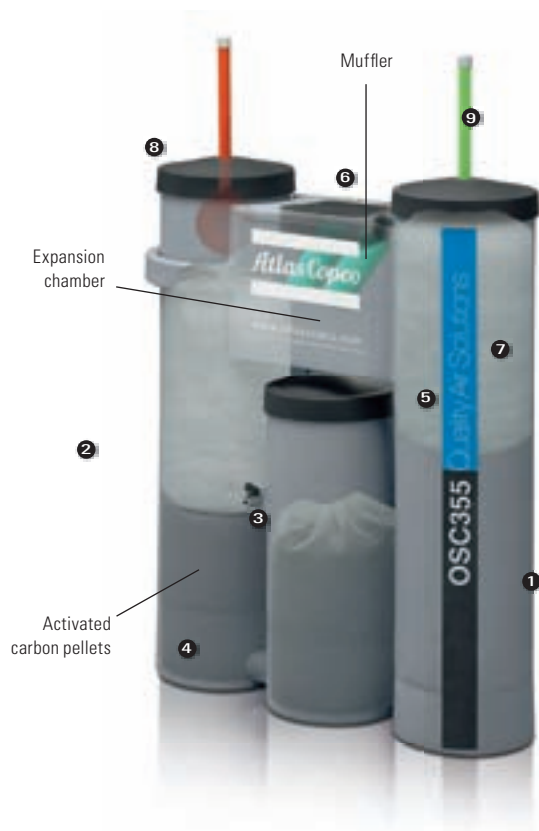
With a separation performance of 10 mg of residual oil per litre of condensate, the OSD offers outstanding efficiency combined with minimal installation work and lowest running costs.



# OSC – advanced technology for all compressed air condensates



The new and extensive OSC range from Atlas Copco uses patented technology to separate all kinds of compressed air condensate. The multi-stage separation process, using both buoyant oleophilic filters and activated carbon, ensures exceptional performance, long and known filter lifetime and trouble free operation.



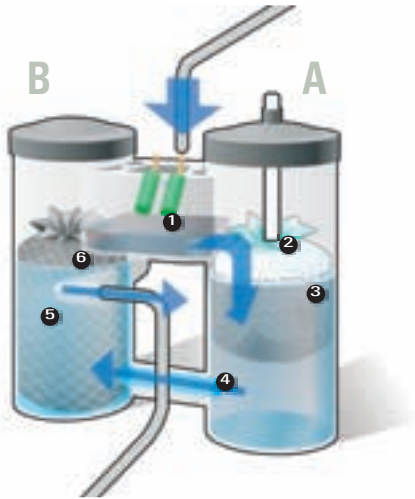
## The key benefits of this are:

- ▶ No oil collection bottle required, so no chance to ruin previously separated condensate if system malfunctions
- ▶ Multiple oil condensate can be easily separated
- ▶ Polyglycol condensate can be separated, although some unit deration is necessary in order to maintain filter lifetime
- ▶ Most condensate emulsions can be separated

- 1 No standing or stagnant water eliminates all potential health risks and requires less regular cleaning.
- 2 The unit does not rely on gravitational separation and is therefore insensitive to vibrations, shocks and splashes. As such, performance is both better and more stable and there is no requirement to use electronic "no loss" drains up stream of the machine.
- 3 The discharge condensate contains so little residual oil, that it can be drained away without damaging the environment or contravening strict pollution regulations.
- 4 The large capacity chambers reduce the risk that spillage occurs if the unit becomes blocked, or if there is a sudden increase in inlet flow.
- 5 The system is based on filtration rather than gravitational forces and weir separation – meaning that oil density is no longer a key factor.
- 6 No deration required for synthetic oil based condensates. Meaning model selection is simplified and unit size is reduced for low capital investment.
- 7 The advanced oleophilic filtration media used ensure stable and reliable performance, extended activated carbon lifetime and can eliminate all bacteria with an optional treatment.
- 8 The simple but robust design enables easy installation with no special set-up and fast, easy and clean filter changeover.
- 9 The maintenance indicator accurately identifies when the filter needs to be changed, eliminating the need for special tests.

# OSC – benefits from the best technology

## ▶ Complete reliability from total simplicity



- 1 Condensate enters through the mufflers and depressurizes in the expansion chamber.
- 2 The emulsified oil water mixture then enters tower A and seeps through the white oleophilic filter. The filter absorbs the oil but not the water.
- 3 The oleophilic filter floats on the water and absorbs any remaining oil from the surface.
  - The additional weight of the oil causes the filter to gradually sink as it gets more saturated, which ensures that clean filter material is always in contact with the surface of the water.
  - The indicator stick at the top of tower A shows the status of the filter; as the filter is consumed, the stick sinks.
  - The filter has to be changed just before it's fully submerged.
- 4 Significantly cleaner condensate flows from tower A to tower B.
- 5 Tower B contains a bag of activated carbon pellets which absorb any residual oil from the condensate.
- 6 Clean condensate exits from tower B with almost no residual oil content, enabling it to be discarded easily and safely.

## ▶ Make life easy with genuine OSC service kits

For assured performance and maximum maintenance intervals the specially designed OSC service kits should be used.

In addition to the buoyant oleophilic and activated carbon bags needed for one year of normal operation, the kit includes inlet mufflers and diffusion filters

Atlas Copco also offers a full set of spare parts for each machine in the range, and a series of options for multiple installations and for operation in extreme climates.

Dedicated kits have been developed for condensate with high oil content. Specific kits are available for treating efficiently condensate containing glycol or silicon based oils.



### Factory options to suit all requirements

The following options are available and can be fitted on site:

- ▶ low temperature environment kit – consisting of tower heating and insulation
- ▶ multiple inlet manifold for easy connection of several condensate lines into one unit
- ▶ anti-bacteria kit
- ▶ electronic alarm sensors for condensate overflow and filter replacement

# Technical data

## ▶ OSD 22-90

Model	Maximum compressor capacity	Weight		Oil content in effluent	Oil canister volume
	l/s	kg	lbs	mg oil/l	l
OSD 22	60	8	18		1
OSD 90	250	9	20	< 10	2



## ▶ OSC 35-2400

**Installation with:**  
compressors - air receivers - dryers and 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 fridge dryer being piped into the unit.

Model	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

### Notes

- All capacities are based on an outlet oil content of 15 mg/l.
- Climatic conditions used in the table above are defined as follows:
  - ▶ 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 being piped into the unit.

Model	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:

Hours run 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 carryover over 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.

Model	Dimensions						Weight		Connections (BSP/NPT)	
	A		B		C		kg	lbs	Inlet	Outlet
	mm	inch	mm	inch	mm	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





In order to be First in Mind—First in Choice® for all your compressed air needs, Atlas Copco delivers the products and services that help increase your business' efficiency and profitability.

Atlas Copco's pursuit of innovation never ceases, driven by your need for reliability and efficiency. Always working with you, we are committed to providing you the customized quality air solution that is the driving force behind your business.



Never use compressed air as breathing air without prior purification in accordance with local legislation and standards.