

Oil Water Separators

OWS



Removal Of Contaminants in Compressed Air Condensate.

Atmospheric air contains large amounts of water vapour and dust particles. These contaminants are mixed with the hot oil during the compression process to form an acidic, abrasive outlet contaminant. Following the compression process the air is cooled causing large amounts of contaminated condensate to be formed. To conform with current legislation this contaminated condensate must be treated before disposal.

Relative humidity
14,7 m3/min at 7,5 bar (LARGO 75)
Temperature: 30°C
Humidity: 60 %
Atmospheric dust
Smaller than 2 µm.

Condensate volume in



Water vapour/humidity
Water as liquid form
Oil
Dust

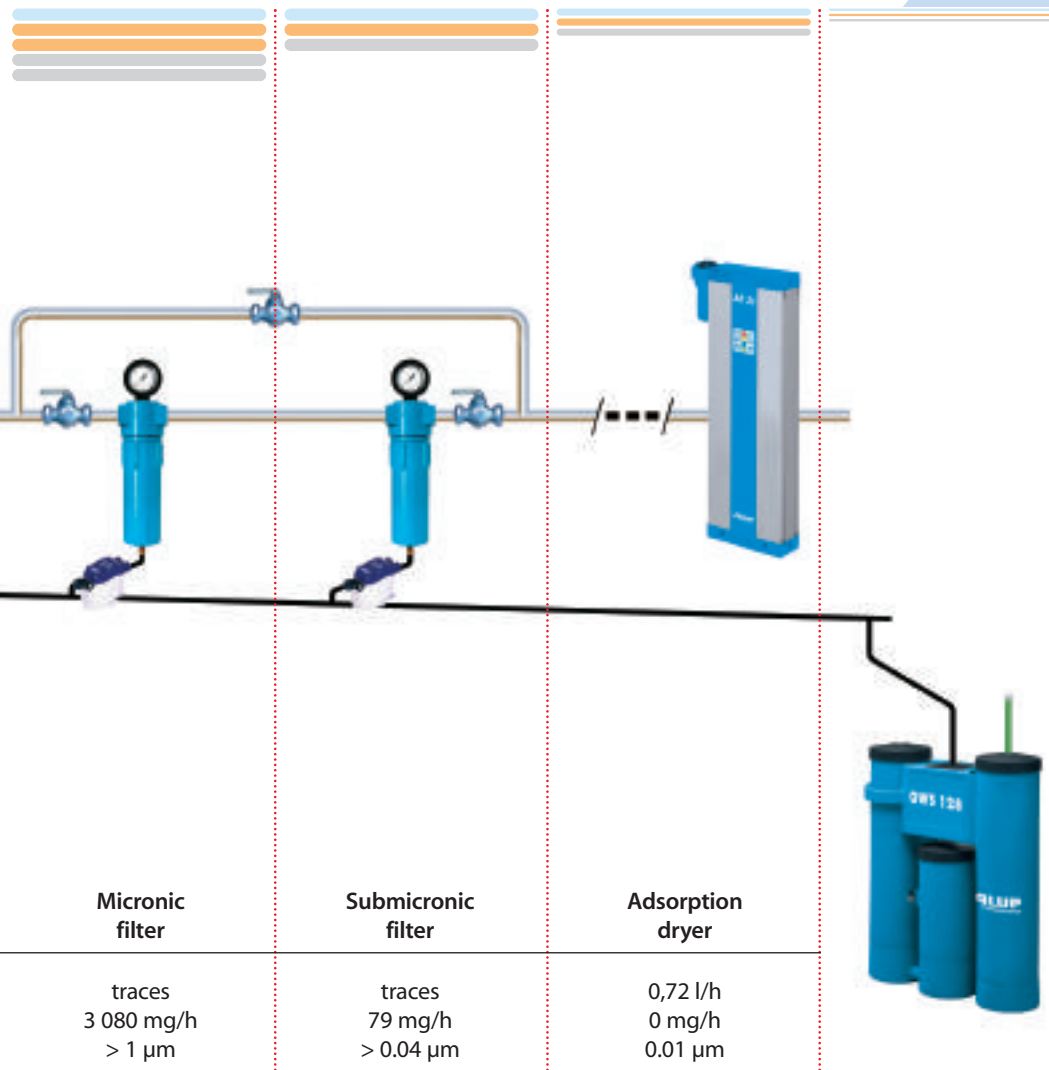
This drawing illustrates that during the air treatment process, 15.47 litres of water per hour, plus dust, and 3159 mg/hr of oil are produced.

The OWS Condensate Separator will reduce this oil content to 15 mg/litre, almost 14 times less.

Using an oil water separator, such as our OWS range, it is possible to separate and remove this contamination leaving water that can be simply discharged into the foul sewer. Our goal is to offer you a condensate treatment system that is easy to install, with minimal operating costs, in order to minimise your "compressed air waste" treatment costs. The ALUP OWS range of oil water separators will ensure that you care for the environment by complying fully with the most stringent environmental regulations



Compressed Air



Residual pollutants
in the compressed air

Condensate
separator range

With such a small residual amount, it is possible to discharge the condensate into the foul drain, with no risk to the environment.

Simple concept, compact and easy to use

The ALUP OWS condensate separator range minimises the collection and treatment cost of compressed air waste products.

Compatible with all compressed air condensate, this universal system can easily be integrated into any compressed air installation.

Two filtration stages (oleophilic filtration and activated carbon filtration) give a guarantee of minimum oil content in the condensate before disposal. OWS separator technology is patented.

Universal system that controls residual oil level

Universal system that controls residual oil level

The ALUP OWS range of separators eliminates oil through multi stage filtration rather than the conventional gravity systems which have limitations on the type of condensate that can be treated.

As a result the OWS separator capacity is not linked to the type of emulsion collected, since it can treat the same volume of condensate whether saturated with mineral oil, semi synthetic oil or polyglycol.

1- Collection of any type of condensate including a mix of different oils

6- When the filter is totally saturated, there is indication that the filter needs to be changed.

2- Condensates are collected through mufflers located in an expansion chamber where first stage separation takes place by depressurization.

7- Only cleaned condensate from the bottom of column A flows to column B.

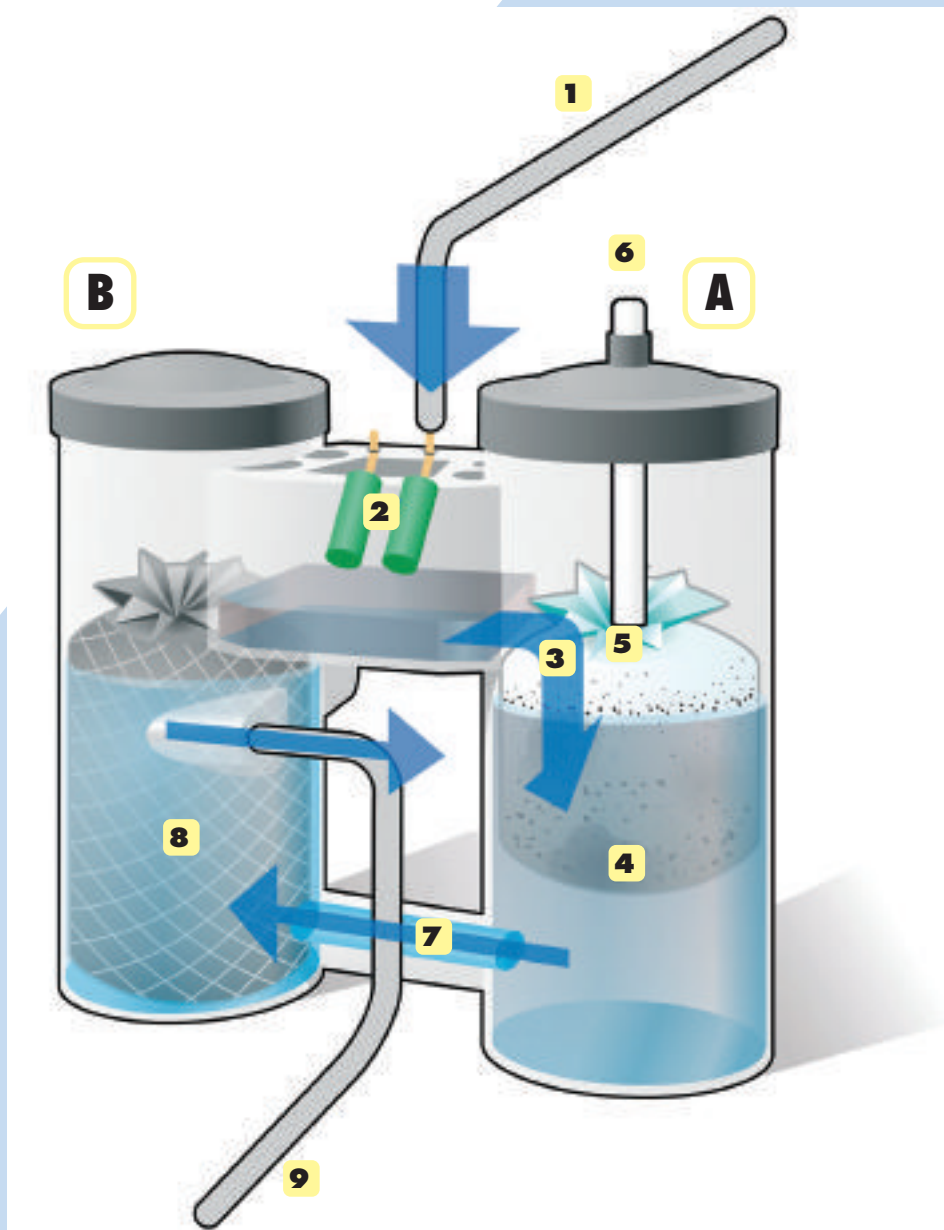
3- Water/oil emulsion enters column A and passes through an oleophilic media, made of oil absorbing fibres which allow water to pass through.

8- Column B contains activated carbon, and absorbs the remaining oil in the condensate. The large capacity of the system prevents any risk of spillage in case of blockage of the system or if the system produces excessive quantities of condensate.

4- The oleophilic filter floats in column A. This is advantageous for absorbing residual oil floating on the surface.

5- The weight of the filter increases as oil saturation increases. Oil progressively begins to reach the service indicator. Part of the filter that is not saturated keeps in contact with the water surface.

9- Oil content is approximately 15mg/l, at reference conditions, at the outlet, a level that allows disposal of the condensate into the foul drain without risk to the environment.



A clean way to eliminate condensate

- **An universal system**

By using oleophilic oil filtration, the system is able to deal with an extensive range of condensates, and pre analysis of the condensate is unnecessary.

Oleophilic filtration captures the oil even in an unstable emulsion, which cannot normally be separated using gravity separation.

- **Easy to use**

OWS condensate separators are resistant to vibration, shock and splashes that might occur during condensate injection.

This treatment system is therefore compatible with all types of drains (timer, level detection...)

- **Reliable design**

Large volume of the expansion chamber ensures reduced emulsion of condensate.

Oil is captured in the oleophilic filter. An oil can is therefore not required: oil collection is safe and reliable.

- **Condensate disposal of controlled quality**

Residual oil is captured in the filter which is a guarantee of constant quality of the condensate even in the case of an unstable system (condensate emulsion).

Life time of the cartridges is known.

- **Economic and simple maintenance**

A service indicator is available for filter change before saturation.



Cartridge exchange can be done quickly by removing the separator cap. A bucket is provided in the filter kit, so that old filters can be removed without spillage in the compressor room.

“IS” condensate treatment : Integrated Separation in the LARGO range

As an option, IS can be installed in some models of our LARGO range. This simplifies your compressed air installation by minimising installation costs and space requirements. The efficiency of the IS separator is equivalent to the OWS range, with residual oil reaching 10 mg/l.



Technical data



Treatment capacity in an installation WITH DRYER

Condensates are collected from compressor(s), air receiver(s), dryer(s), filter(s) for a daily operation of 12 hours.

	Cold climate			Temperate climate			Hot climate	
	5	10	15	20	25	30	35	40
Ambient temperature (°C)	5	10	15	20	25	30	35	40
Relative humidity	60 %			60 %			70 %	
	in m ³ /h							
OWS 13	494	336	237	171	126	95	62	48
OWS 34	1341	913	643	465	342	257	169	131
OWS 52	2046	1394	981	710	522	392	257	200
OWS 128	5010	3412	2403	1738	1278	959	630	489
OWS 218	8538	5815	4095	2962	2178	1634	1074	833
OWS 297	11642	7930	5584	4039	2970	2228	1464	1136
OWS 425	16652	11342	7986	5777	4248	3186	2094	1625
OWS 850	33304	22684	15972	11555	8496	6372	4189	3250



Treatment capacity in an installation WITHOUT DRYER.

Condensates are collected from compressor(s), air receiver(s), filter(s) for a daily operation of 12 hours.

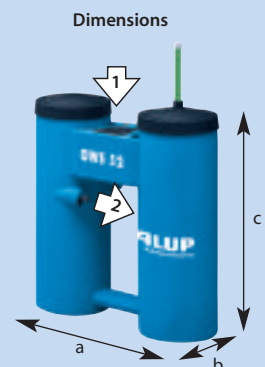
	Cold climate			Temperate climate			Hot climate	
	5	10	15	20	25	30	35	40
Ambient temperature (°C)	5	10	15	20	25	30	35	40
Relative humidity	60 %			60 %			70 %	
	en m ³ /h							
OWS 13	635	433	305	220	162	122	80	62
OWS 34	1665	1134	799	578	425	319	209	162
OWS 52	2470	1682	1184	857	630	473	311	241
OWS 128	6139	4181	2944	2130	1566	1175	772	599
OWS 218	10725	7305	5144	3721	2736	2052	1349	1047
OWS 297	14394	9804	6903	4994	3672	2754	1810	1405
OWS 425	20533	13985	9847	7124	5238	3929	2582	2004
OWS 850	41066	27971	19695	14247	10476	7857	5165	4007

Capacity based on a residual oil content of 15 mg/l.

Service rate	hours	8	10	12	14	16	18	20	22	24
			1.50	1.20	1.00	0.86	0.75	0.67	0.60	0.55

Relative humidity	%	20	30	40	50	60	70	80	90
Corrective factors		3.38	2.12	1.54	1.21	1.00	0.85	0.74	0.66
Oil content of 10 mg/l		Multiply below capacity by 2/3							
Condensate made of poly-glycol		Capacity is half							

	Dimensions (mm)			Weight kg	Connections	
	a	b	c		Inlet	Outlet
OWS 13	470	165	600	4	1 x 1/2	1 x 1/2
OWS 34	680	255	750	13	2 x 1/2	1 x 1/2
OWS 52	680	255	750	15	2 x 1/2	1 x 3/4
OWS 128	750	546	900	25	2 x 3/4	1 x 3/4
OWS 218	750	546	1030	26	2 x 3/4	1 x 3/4
OWS 297	945	650	1100	28	2 x 3/4	1 x 3/4
OWS 425	945	695	1100	30	2 x 3/4	1 x 3/4
OWS 850	945	1185	1100	60	2 x 1	1 x 3/4



Products, Concepts, Solutions

Built on the needs of the customer

For almost 100 years, we at ALUP have produced quality air compressors.

With our innovative system concepts we offer customised solutions for almost all applications.

Our endeavour lies not only in supplying compressors, we offer ourselves as a

competent system provider, who is able to offer solutions to all users of compressed air.

That does not only apply to the consultation and installation phase of your new compressor(s), but naturally continues in all areas of service, maintenance and visualisation.

Made by Experience!



Screw compressors



Piston compressors



Blower



Turbo compressors



Complete accessories



Control, regulate, monitor

- constant speed
2.2 – 500 kW
4 – 13 bar
- variable speed controlled and direct drive
5.5 – 260 kW
4 – 13 bar
- oil-free, with water injection
11 – 55 kW
4 – 13 bar

- oil-free,
up to 10 bar
0.75 – 12 kW

- for normal pressure up to 10 bar
1.5 – 15 kW
- for medium pressure up to 15 bar
1.5 – 15 kW

- for high pressure up to 40 bar
2.2 – 45 kW
- as a booster for an input pressure up to 15 bar and an output pressure up to 40 bar
2.2 – 30 kW

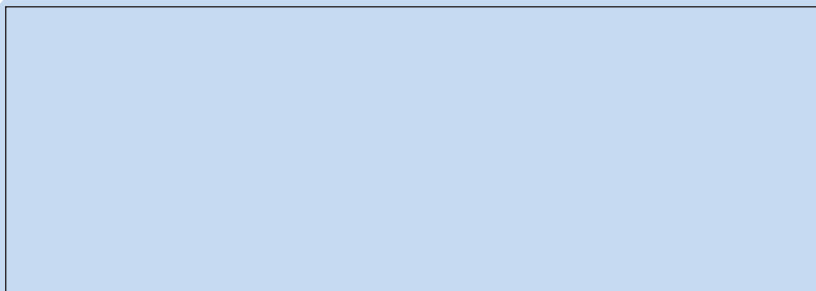
- at constant and variable speed
0.1 – 250 kW
50 – 1000 mbar

- upon request

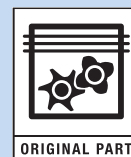
- refrigeration dryers
0.27 – 100 m³/min
- desiccant dryers
0.08 – 145 m³/min
- activated carbon adsorbers
0.08 – 145 m³/min
- filters,
all particle sizes
0.5 – 225 m³/min
- complete condensate management up to 120 m³/min

- lead-lag control
- consumption-dependant control
- visualisation (we bring your compressed air to the PC)
- tele-monitoring (the hotline of your compressed air station)

Your specialist



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