



**Worthington
Creyssensac**



**CONDENSATE
SEPARATOR RANGE S**



REMOVAL OF CONTAMINANTS IN 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.

CONDENSATE VOLUME IN COMPRESSED AIR

Relative humidity
 14.7 m³/min at 7 bar (ROLLAIR® 100A)
 Temperature: 30°C
 Humidity: 60 %
 Atmospheric dust
 Smaller than 2 µm.



- ▬ Water vapour/humidity
- ▬ Water as liquid form
- ▬ Oil
- ▬ Dust

Condensate volume

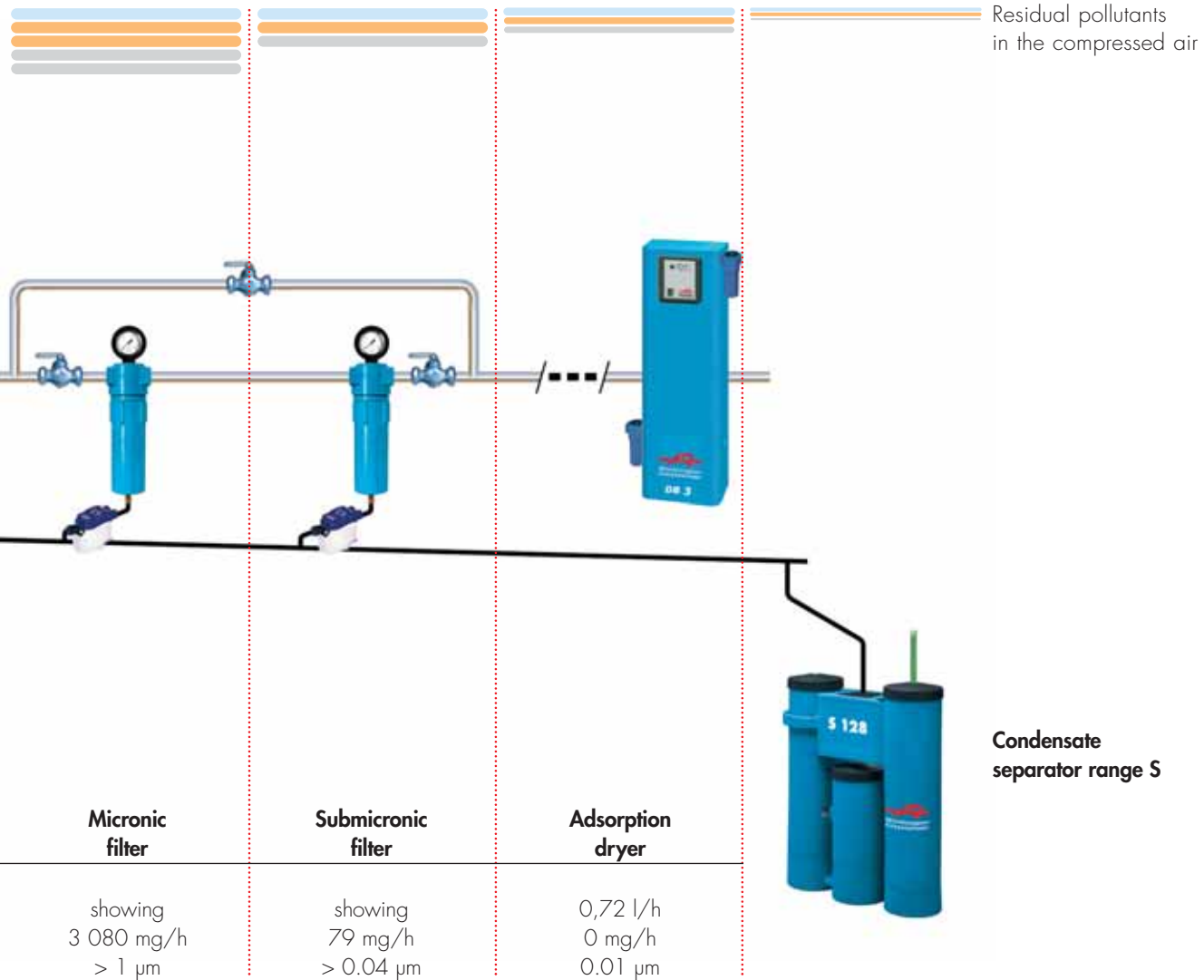
	Compressor Air receiver	Refrigeration dryer
Water	9.88 l/h	4.87 l/h
Oil	In emulsion	0 mg/h
Dust size	> 2 µm	> 1 µm

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

COMPRESSED AIR

Using a condensate separator, such as our S 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 Worthington S range of oil water separators will ensure that you care for the environment by complying fully with the most stringent environmental regulations



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 Worthington S 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.

S separator technology is patented.

Universal system that controls residual oil level

UNIVERSAL SYSTEM THAT CONTROLS RESIDUAL OIL LEVEL

The Worthington S 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 S 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

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

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

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

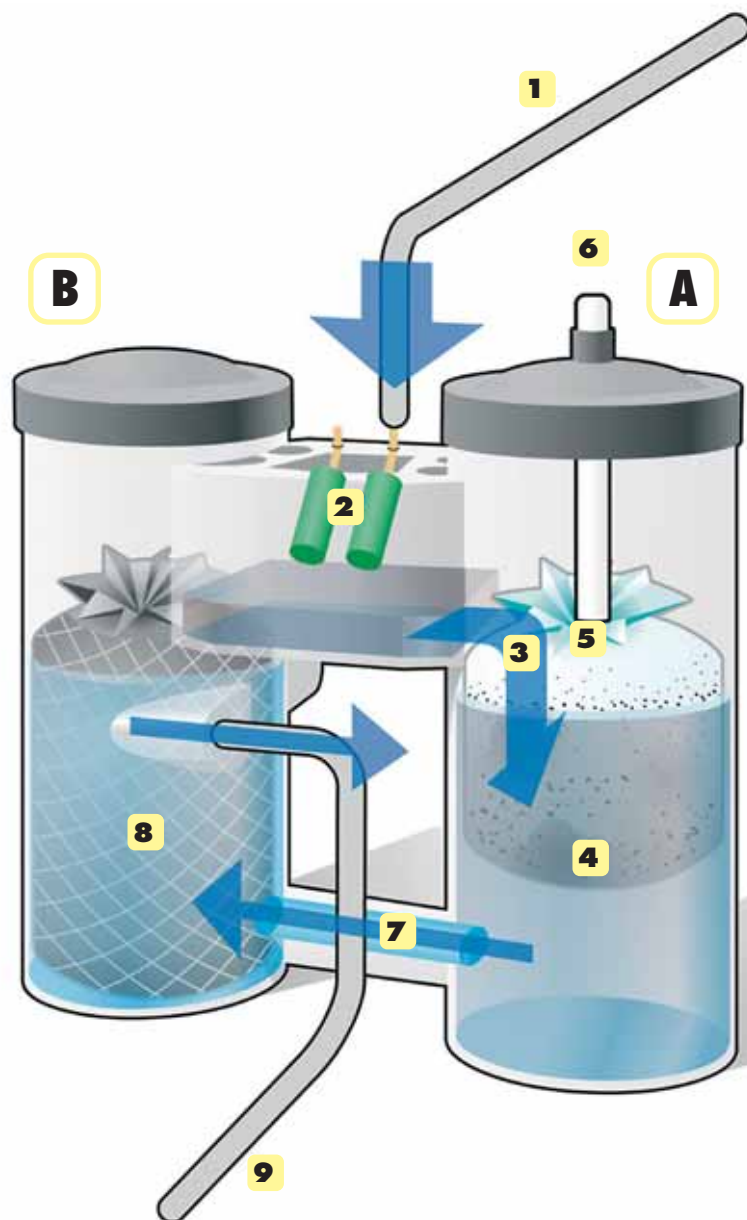
5- The weight of the filter increases as oil saturation increases. Oil progressively begins to reach the service indicator. Part of the filter that is not saturated keeps in contact with the water surface.

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

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

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.

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**

S 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

- **Options**

- Low temperature kit.
- Multiple connections for several condensate inlets.
- Anti bacteria oleophilic filter.
- Electronic alarm for filter exchange or condensate overcapacity.

"IS" CONDENSATE TREATMENT : INTEGRATED SEPARATION IN THE ROLLAIR® RANGE

As an option, IS can be installed in some models of our ROLLAIR® range. This simplifies your compressed air installation by minimising installation costs and space requirements.

The efficiency of the IS separator is equivalent to the S 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**.



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



Ambient temperature (°C)	Cold climate			Temperate climate			Hot climate	
	5	10	15	20	25	30	35	40
Relative humidity	60 %			60 %			70 %	
en m ³ /h								
S 13	635	433	305	220	162	122	80	62
S 34	1665	1134	799	578	425	319	209	162
S 52	2470	1682	1184	857	630	473	311	241
S 128	6139	4181	2944	2130	1566	1175	772	599
S 218	10725	7305	5144	3721	2736	2052	1349	1047
S 297	14394	9804	6903	4994	3672	2754	1810	1405
S 425	20533	13985	9847	7124	5238	3929	2582	2004
S 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
S 13	470	165	600	4	1 x 1/2	1 x 1/2
S 34	680	255	750	13	2 x 1/2	1 x 1/2
S 52	680	255	750	15	2 x 1/2	1 x 3/4
S 128	750	546	900	25	2 x 3/4	1 x 3/4
S 218	750	546	1030	26	2 x 3/4	1 x 3/4
S 297	945	650	1100	28	2 x 3/4	1 x 3/4
S 425	945	695	1100	30	2 x 3/4	1 x 3/4
S 850	945	1185	1100	60	2 x 1	1 x 3/4



SHARING OUR VALUES



PARTNERSHIP

Close working partnerships form the foundation of our corporate culture. This identity has grown from our strength in developing long term partnerships with our distribution and sales networks that have local knowledge and experience to provide a total compressed air solution service, tailored specifically to our customers' requirements.

Our business approach has earned us a reputation of trust and loyalty committed to achieving success through partnership.

COMPETENCE

Personnel skill development is a vital part of our success: by a continuous improvement process we improve the ability of our personnel to maintain and improve the service to our customers.

We carry this process through to our partner distributors to ensure that we create a motivated and enthusiastic team working together for the benefit of our customers.

EVOLUTION

Our strategy in product and service development is based on continuous improvement of our products and services in order to meet the requirement of the market and our customers. Continued investment in the design of new products and the use of innovating technologies keep our compressed air solutions amongst the most competitive in the industry. This is our mission to guarantee the satisfaction and trust of our customers.

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