motivair™

Oil/Water Separators for Compressed Air Condensate

8 Sizes

75 - 3,600 SCFM

motivair™

OIL/WATE

Compressor Condensate

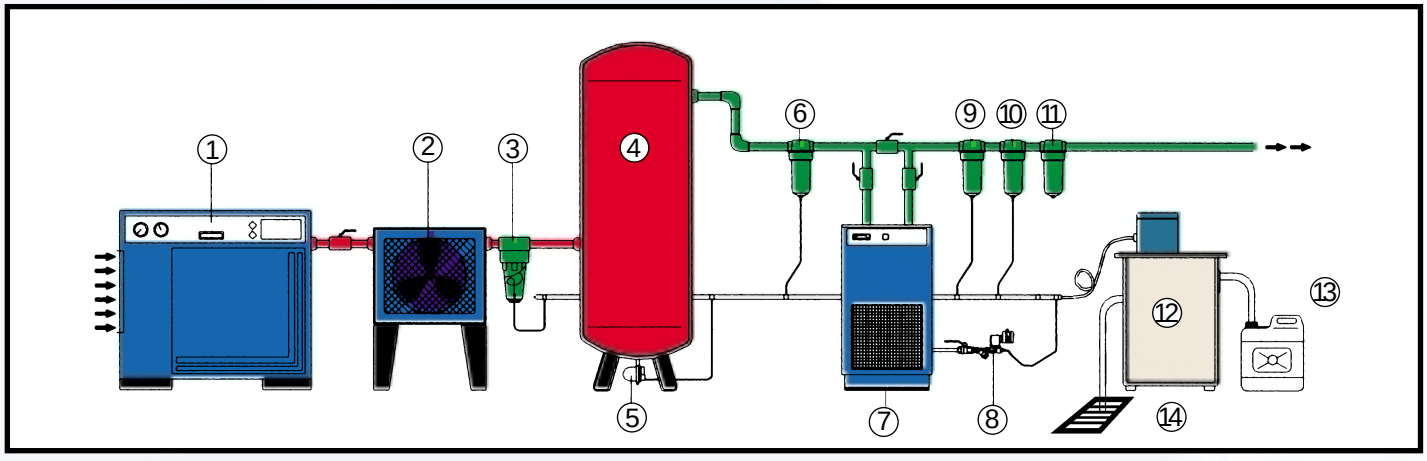
All air compressors create condensate. The quantity depends on ambient temperature, humidity and operating pressure. When atmospheric air is compressed to 100 PSIG, its volume is reduced 8 times; therefore its ability to suspend water vapor is reduced proportionally. Conversely, during the act of compression, the air temperature is raised which increases the air's moisture holding capacity and prevents condensation. However, when the compressed air cools in the aftercooler, air-receiver, piping, refrigeration dryer, etc, the dew point is reached and condensation occurs. In an ambient of 85F and 70% relative humidity, there are 130 grains of moisture per pound of dry air. In these conditions, a 1,000 SCFM compressed air system, operating at 100 PSIG, with a refrigeration dryer installed, will discharge approximately 9.7 gallons of condensate per hour, or 84,972 gallons per year.

Oil Contamination

90% of all industrial air compressors are lubricated piston, or oil-flooded screw designs. The oil carryover from a well-maintained air compressor represents as low as 0.1% of the total condensate removed from the system, but it is illegal in most municipalities to discharge this to the sewer system, or to the ground, rivers or streams. The maximum permissible oil content, which may be discharged to the sewer is usually around 15 parts per million. Compressor oils are not biodegradable, and they also slow down and impair the sewage fermentation process. In addition to the legal consequences, there is a growing international conscience, in all developed countries, to preserve and protect our environment for future generations. The cost of responsible disposal without an oil/water separator is an expensive proposition. Hauling truckloads of 55 gallon drums, containing <1% oil and >99%water is also unnecessary, as well as expensive.

The Motivair Solution

A correctly sized and installed Motivair Oil/Water Condensate Separator will separate compressor oil into a small, manageable container, reduce the residual oil content of the condensate to 10 PPM, and allow legal discharge of the condensate to the sewer.



1) Compressor
2) Motivair aftercooler
3) Motivair centrifugal separator
4) Receiver tank
5) Motivair SCM20 auto-drain
6) Motivair 3-micron particulate filter
7) Motivair refrigeration dryer
8) Motivair EDM20 solenoid drain
9) Motivair 1 micron coalescing filter
10) Motivair 0.01 miocron coalescing filter
11) Motivair 0.005 micron carbon filter
12) Motivair OSW oil/water separator
13) Oil collection
14) Drain

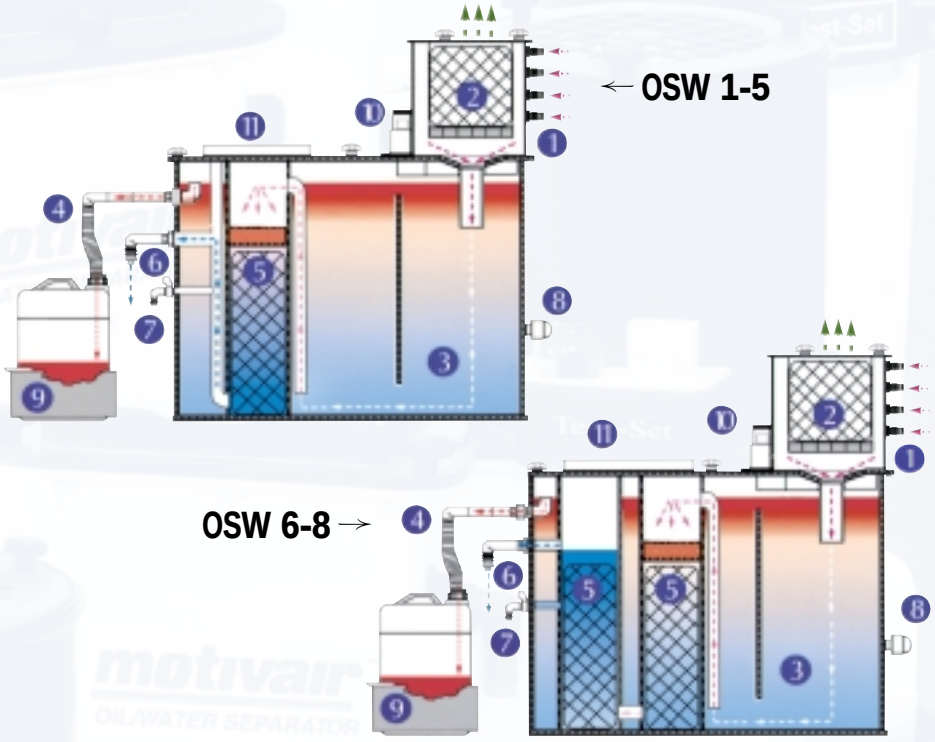
R CONDENSATE SEPARATORS

Motivair Oil/Water Separator Features

- 8 sizes to cover all applications at a very competitive price
- Quality construction in molded polyethylene with reinforcing ribs
- 4 inlet condensate connections for ease of installation
- Large vent/depressurizing chamber with carbon atmospheric filter
- OSW1-4 supplied with oversized charcoal filter beds for extended life
- Spare oil container
- OSW5-8 are supplied with woven polypropylene pre-filters
- External oil container, with connecting hose & overflow tray
- Molded document holder for accurate record-keeping
- Exclusive sample test-kit uses accurate test-paper method to detect traces of oil
- Options include heater for outside use & high level alarm

How They Work

1. **Condensate inlet**
2. **Expansion chamber and exhaust air filter**
3. **Gravity separation**
4. **Oil discharge**
5. **Carbon filter**
6. **Water discharge**
7. **Test valve**
8. **Heater** (Option)
9. **Oil collection**
10. **Test set**
11. **Document pocket**



Selecting the Correct Model

All selections should be made, based on the SCFM system capacity, type of compressor and oil. The SCFM capacities listed in the selection chart are based on maximum N. American moisture conditions, with a refrigeration dryer installed. We do not recommend smaller sizes for lower temperature/humidity areas. Always assume a refrigeration dryer may be installed in the future. Use the selection chart conservatively. Do not exceed the recommended maximum capacity. In marginal cases use the next larger model. No gravity separator will effectively separate emulsified oils, or polyglycol lubricants. Emulsification frequently takes place when the oil & condensate is violently mixed with compressed air in timer/solenoid, manual or disc-type traps. Replacing these traps with Motivair SCM20, ZLM20, or Mega-Drain zero-loss traps will reduce or eliminate emulsions created this way. When polyglycol oily condensate creates a disposal problem, the simplest solution is to change to mineral or synthetic oil, which is easily separated in a Motivair OSW separator, without the expense & maintenance of boiler, membrane or flocculation separators. Consult your compressor lubricant supplier for the correct choice.

Rated Capacities (SCFM) For Different Compressors & Oils

Oil-Flooded Rotary Screw & Vane Compressors

Model	OSW 1	OSW 2	OSW 3	OSW 4	OSW 5	OSW 6	OSW 7	OSW 8
Turbine	75	125	250	375	600	1200	2500	3600
Mineral - Rotary Oil	60	85	125	190	320	600	1700	2400
Mineral - Piston Oil	70	125	190	285	400	880	2100	3000
Synthetic Oil	60	85	150	190	320	700	1250	1800

1 & 2 Stage Piston Compressors

OSW 1	OSW 2	OSW 3	OSW 4	OSW 5	OSW 6	OSW 7	OSW 8
40	75	125	180	250	500	1000	1500
-	-	-	-	-	-	-	-
50	75	120	200	380	600	1000	1500
50	75	125	200	320	600	1200	1500

Physical Data

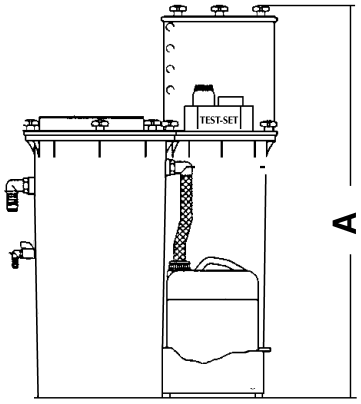
Model	Condensate Capacity	Dimensions				Connections		
		A	B	C	Weight	Condensate	Water	Oil
	Gallons	Inches			LBS	In	Out	Out
OSW 1	6	25.6	16.9	12.8	22	4 x 1/2”	1”	1”
OSW 2	11	35.7	17.2	12.8	33	4 x 1/2”	1”	1”
OSW 3	20	37.9	23.6	15.0	49	4 x 1/2”	1”	1”
OSW 4	32	37.9	24.4	20.5	55	4 x 1/2”	1”	1”
OSW 5	43	45.7	24.4	20.5	62	4 x 1/2”	1”	1”
OSW 6	61	45.9	33.5	20.5	121	4 x 1/2”	1”	1”
OSW 7	209	57.1	58.2	39.4	198	4 x 1/2”	2”	2”
OSW 8	251	63.0	59.0	47.2	242	4 x 1/2”	2”	2”

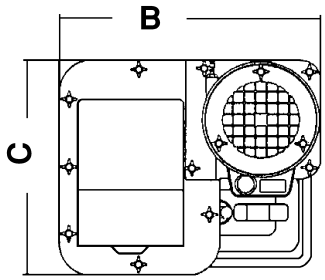
Replacement Carbon Filters

Activated Carbon		Prefilter	Spare Filter Set
Water	Air	Water	Total Wt. LBS
1 x WCA 1	1 x AAC 1	-	8
1 x WCA 2	1 x AAC 1	-	12
1 x WCA 2	1 x AAC 1	-	12
1 x WCA 2	1 x AAC 1	-	12
1 x WCA 2	1 x AAC 1	1 x WPF 1	13
2 x WCA 2	1 x AAC 1	1 x WPF 1	21
4 x WCA 2	1 x AAC 1	2 x WPF 1	38
6 x WCA 1	1 x AAC 1	3 x WPF 1	55.5

Notes

1) Capacities are based on maximum N. American ambient wet bulb conditions with a refrigeration dryer installed
2) Use chart conservatively - in marginal cases, or very hot/dirty conditions, use next larger size
3) Vehicle exhaust or chemical fumes aspirated by compressor may cause the oil to emulsify
4) Some oil additives may impair separator efficiency
5) These separators are not suitable for polyglycol lubricants or stable emulsions





Motivair reserves the right to change data & specifications without notice.

Motivair - Your complete one-stop supplier for:

Compressed Air Treatment

- Cycling refrigeration dryers
- Non-cycling refrigeration dryers
- Regenerative dryers
- Aftercoolers, separators & traps
- Drain valves & timer/solenoids
- Particulate & oil coalescing filters

Industrial Water Cooling Systems

- Packaged refrigeration water chillers
- Dry-type closed loop cooling systems
- Evaporative closed loop, cooling systems
- Plate and Frame cooling systems
- Shell & tube cooling systems
- Liquid pumping systems

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