

Condensate Treatment AQUAMAT Series

For compressor capacities up to 105 m³/min



Why treat condensate?

Condensate is an unavoidable result of air compression. It is a chemically aggressive fluid that mainly consists of water, but also contains oil and dirt particles. This combination of substances can consequently cause serious environmental harm if released in its raw state. Water resource legislation stipulates that contaminated water must be treated to achieve prescribed safety levels regarding purity. AQUAMAT condensate treatment systems do precisely that: They ensure that contaminant levels are kept well within regulation limits (e.g. max. 10 or 20 mg/litre for hydrocarbons).

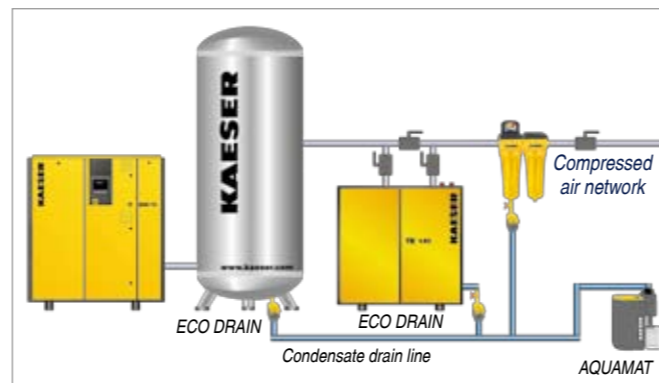
How the AQUAMAT system works

Under pressure, the oil-containing condensate passes into the expansion chamber (1). The pressure is therefore released without leading to turbulence in the downstream separation container (2). Larger contaminant particles are held back by the removable particle-catcher (3). In the separation container, oil rises to the top through gravitational separation. The oil then flows into the overflow-safe oil container (4). The partially cleaned condensate then flows through to the filter stage. The pre-filter (5) then binds the remaining oil particles within its material. Condensate flows through the filter from the inside outwards in order to achieve optimum separation results. Any remaining oil is captured by the main filter cartridge (6). All that remains is clean water that can be safely drained away. The treated condensate is drained from the AQUAMAT via the water outlet (7).



- 1 Expansion chamber
- 2 Separation container for pre-separation stage
- 3 Removable particle-catcher
- 4 Oil container
- 5 Pre-filter
- 6 Main filter cartridge
- 7 Water outlet
- 8 Drain for reference condensate cloudiness test

Reduce costs with Aquamat



All collection points must be fitted with a reliable means of draining condensate. Best results are achieved with an electronically controlled condensate drain.

Cost-saving treatment

The KAESER AQUAMAT system enables the compressor user to carry out in-house condensate treatment and thereby greatly reduce the overall cost of hazardous waste treatment and disposal. Condensate treatment with the KAESER AQUAMAT system saves up to 90 % of the disposal costs that would be required for a specialist company to dispose of the condensate.



Tip:
Always have a maintenance package comprising a pre-filter and main filter cartridge readily available. In some countries this is a legal requirement.



High performance filter material

All pre- and main-filter cartridges feature high performance filter material (not activated charcoal). Furthermore, the upstream separation reservoir with gravitational pre-separation enables maintenance intervals to be significantly extended and enhances reliability (not applicable to CF3 model).



Clearly visible alarm indicator

The level sensor clearly indicates the degree of filter contamination. The filter should be changed as soon as this indicator becomes obvious. The user can check operation of the AQUAMAT by referring to the cloudiness test containers and consequently schedule maintenance as necessary (Recommendation: Check operation 1 x per week).



Clean filter change

Removal of the main filter cartridge is made simple via the convenient handle. The filter can then be easily fixed to the AQUAMAT casing to drain. Filter changes are therefore quick and clean. Pre-soaking of the new filter is not necessary.



Multiple condensate inlets

Up to four condensate lines can be connected as standard (from AQUAMAT CF 9 upwards). Plastic plugs for blocking off unused connections are included within the scope of delivery.

Tested and certified condensate treatment

Tested and certified by the Berlin Institute for Design and Technology, the AQUAMAT system provides state-of-the-art condensate treatment. This not only assures outstanding system performance coupled with significantly reduced waste treatment costs, but also provides considerable benefits for the environment.

Technical Specifications

Condensate treatment systems ¹⁾	AQUAMAT CF3	AQUAMAT CF6	AQUAMAT CF9	AQUAMAT CF19	AQUAMAT CF38	AQUAMAT CF75	AQUAMAT CF168
Treatment performance according to climate zones ²⁾	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3
Oil-cooled screw and rotary compressors							
...with SIGMA FLUID S 460 m ³ /min	2.1 / 1.9 / 1.6	4.2 / 3.8 / 3.2	6.5 / 5.6 / 4.8	13.0 / 11.3 / 9.6	25.9 / 22.5 / 19.1	51.8 / 45.0 / 38.3	120 / 105 / 60
...with SIGMA FLUID MOL, VCL oil m ³ /min							80 / 70 / 40
...with VDL oils m ³ /min	2.8 / 2.4 / 2.1	5.5 / 4.9 / 4.2	8.5 / 7.3 / 6.2	16.9 / 14.6 / 12.5	33.6 / 29.3 / 24.9	67.3 / 58.5 / 49.7	100 / 90 / 50
1- and 2-stage reciprocating compressors							
...with VDL oil m ³ /min	1.9 / 1.7 / 1.5	3.8 / 3.4 / 2.9	5.9 / 5.1 / 4.3	11.7 / 10.1 / 8.7	23.3 / 20.3 / 17.2	46.6 / 40.5 / 34.4	Climate zone 2: 17 – 52
...with PAO oil m ³ /min	1.6 / 1.4 / 1.2	3.2 / 2.8 / 2.4	4.9 / 4.2 / 3.6	9.8 / 8.4 / 7.2	19.4 / 16.9 / 14.3	38.8 / 33.8 / 28.7	–
...with ester oil m ³ /min	1.8 / 1.6 / 1.4	3.7 / 3.2 / 2.8	5.6 / 4.9 / 4.1	11.2 / 9.7 / 8.3	22.3 / 19.4 / 16.5	44.6 / 38.8 / 33.0	–
Container capacity l	10.0	18.6	30.6	61.3	115.5	228.4	720
Filter capacity l	1 x 2.0 / 1 x 2.5	1 x 4.7 / 1 x 3.7	1 x 2.5 / 1 x 5.4	1 x 6.7 / 1 x 10.4	1 x 18.5 / 1 x 20.2	1 x 36.5 / 2 x 40.3	1 x 30 / 2 x 45
Condensate inlet	2 x G½	2 x G½	3 x G½ / 1 x G1	3 x G½ / 1 x G1	3 x G½ / 1 x G1	3 x G½ / 1 x G1	3 x G½ / 1 x G1
Water outlet (hose size)	DN 10	DN 10	DN 13	DN 25	DN 25	DN 25	DN 30
Oil outlet DN	–	–	DN 25	DN 25	DN 40	DN 40	DN 30
Oil pre-separation	–	–	•	•	•	•	•
Weight, empty kg	3.5	5.8	13.5	18.5	36.5	53	90
Width mm	290	375	350	410	530	659	1000
Depth mm	222	205	544	594	764	939	1200
Height mm	528	595	702	872	1090	1160	1560
Thermostat-controlled heating (option)							
Power kW	–	0.4	0.4	1	1	1.4	2 x 1.4
Weight kg	–	0.7	0.7	1	1	1.1	2 x 1.1
Power supply V	230 V – 50-60 Hz – 1 Ph						

1) Factors such as compressor type and oil should be taken into consideration when selecting AQUAMAT condensate treatment systems.

PLEASE NOTE: Fresh-oil lubricated compressors and multi-stage reciprocating compressors are prone to emulsion build up. Please inform KAESER regarding the technical specification of your compressor(s) to obtain an individual AQUAMAT recommendation.

2) Climate zone: **1 = Dry/cool** (Northern Europe, Canada, Northern USA, Central Asia), **2 = Temperate** (Central and Southern Europe, some parts of South America, North Africa), **3 = Humid** (South-East Asian coastal regions, Central America, Oceania, Amazon and Congo regions)

Dimensions

