



Oil-Water Separators

AQUAMAT i.CF

Effective. Clean. Modular
For compressor flow rates from 400 to 3300 scfm

kaeser.com

A better way to manage condensate

With the AQUAMAT i.CF, KAESER has taken condensate management to the next level to improve separation, maximize cartridge capacity, simplify service and eliminate contact with oily condensate. The AQUAMAT i.CF is available in multiple configurations for flow rates from 400 to 3300 scfm.

Increased effectiveness

The innovative AQUAMAT CONTROL on AQUAMAT i.CF 15 through 90 models monitors the condensate level and activates light pulses of compressed air to promote the even distribution of condensate throughout the cartridge(s). This optimizes the adsorptive capacity of the cartridges, and combined with “always wet” operation, prevents the formation of channels and impermeable layers which may result in poor performance and spillage. As a result, AQUAMAT i.CF units make complete use of the filtration media and have higher capacities than simple gravity flow condensate filters.

AQUAMAT i.CF grows with you

Thanks to its innovative modular design, the capacity of AQUAMAT i.CF models 10 to 60 can be expanded with additional cartridges as your compressed air system grows. Since all models use the same cartridge type, spare parts management is simple. The AQUAMAT i.CF 10 model can easily be retrofitted with the AQUAMAT CONTROL to become the AQUAMAT i.CF 15.

Cleaner and easier handling

The AQUAMAT i.CF design sets new standards when it comes to cleanliness. The drip-stop valve at the bottom of every cartridge prevents leaks and spills. No contact with the condensate is necessary when changing the cartridges, protecting both service personnel and work site. For added convenience, the AQUAMAT CONTROL purges water from the cartridges before replacement. This saves time and makes the emptied cartridges lighter and easier to handle.

Monitored operation

The AQUAMAT CONTROL tracks system functions and sensors to provide operating status information as well as service reminders. It continuously displays the remaining cartridge capacity for better maintenance planning. Operating parameters can also be externally monitored via Modbus TCP or WLAN.



Liquid condensation is an unavoidable by-product of compressed air systems. It is mostly water, but also contains small amounts of compressor fluids and other contaminants that may not be directly discharged into groundwater, storm sewers or sanitary sewers. Some type of oil-water separator is required to remove contaminants to ensure the discharged water meets local regulations.

The intelligent condensate treatment process

The oil-laden condensate flows into the pressure relief chamber (1), and is depressurized to atmospheric pressure. It then flows through the piston valve (2) into the measuring chamber (3), that is continuously monitored by the AQUAMAT CONTROL (4). When the maximum level is reached, the piston valve closes and the chamber is pressurized with a controlled pulse of compressed air through the distributor (5) into the cartridge(s) (6). The filter material inside the cartridges traps oils and other contaminants and the purified discharge water flows into the collector (7) and from there through a riser channel (8) to the outlet (9) of the AQUAMAT i.CF. When the AQUAMAT CONTROL detects the minimum fill level in the measuring chamber, pulsing is stopped, the piston valve is opened, and condensate inflow is restored.



The brains of active separation

The AQUAMAT CONTROL is the brains of the AQUAMAT i.CF that continuously monitors the flow and fill level. It activates light bursts of compressed air to push condensate through the capturing filter media. This active process maximizes absorption and cartridge life. If power is interrupted, the AQUAMAT i.CF continues to operate as a gravity separator.



Service indicator

AQUAMAT CONTROL continuously monitors condensate flow to track remaining cartridge life based on sensor and process data to help you schedule replacement without doing it too early.



WLAN

The AQUAMAT CONTROL provides wireless access, allowing service personnel to access information regarding system configuration, process data and notifications on mobile devices without a network connection..



Predictive warning

AQUAMAT CONTROL detects and reports malfunction and possible condensate backup conditions, and alerts personnel of possible overflow.



Network capable

AQUAMAT CONTROL transmits operating status and alarms via Modbus TCP (Ethernet) connection (equipped as standard), enabling process control from a SIGMA AIR MANAGER® 4.0 or other centralized control center.

Clean and ergonomic cartridge changes



Drainage at the push of a button

When it's time to change cartridges, AQUAMAT CONTROL purges water out of the filter cartridge. This eliminates the time spent waiting for water to drain and makes the filter cartridge much lighter and easier to handle, with a maximum weight of 55 lbs.



Dripless filter changes

The drip-stop valve at the bottom of the filter cartridge securely prevents any drips or leakage.



Entire oil volume contained

Unlike other gravity systems, these AQUAMAT i.CF cartridges are completely sealed to protect the person changing the filter and keep the area clean.

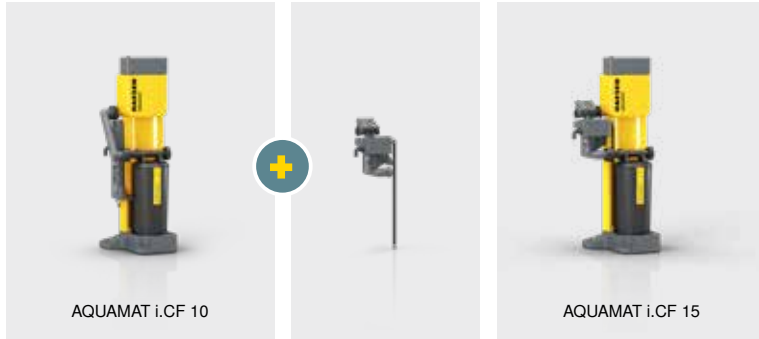


Ergonomic cartridge replacement

The cartridge is easily removed out of the bayonet fitting with a 45° turn of the top handle.

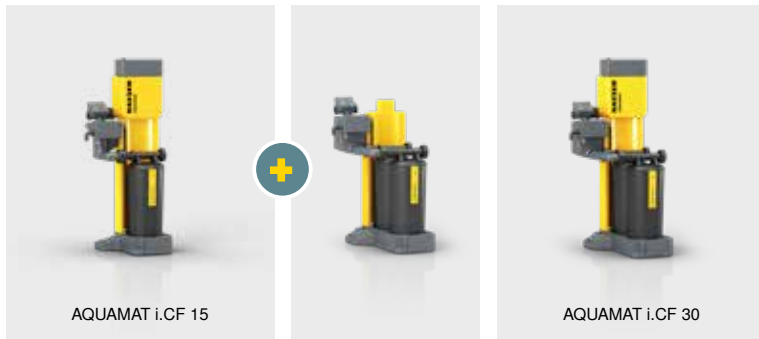
Easy expansion as your system grows

The modular AQUAMAT i.CF grows with your business. You can start with the smallest model and simply add modules as your system capacity increases. All AQUAMAT i.CF models use the same cartridge to simplify replacement and logistics.



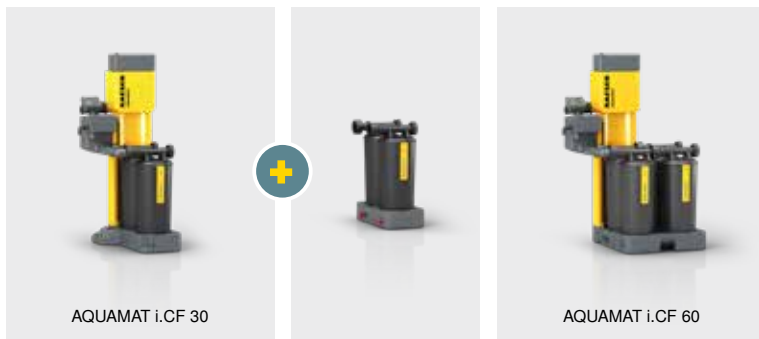
From 10 to 15

The first level expansion kit adds the AQUAMAT CONTROL and the measuring chamber. These enable active separation and increases capacity as much as 35%. The retrofit kit also includes a matching riser channel and a new cartridge.



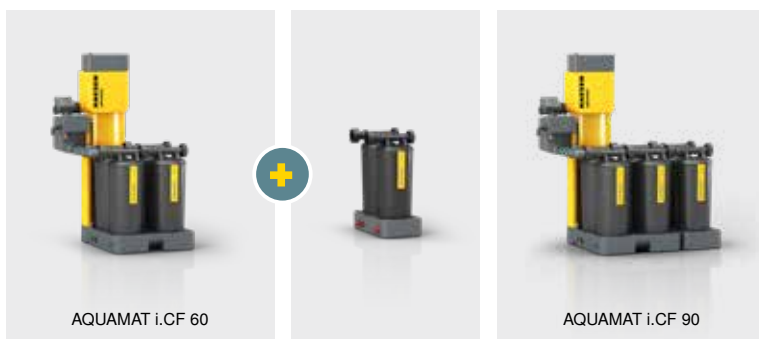
From 15 to 30

The expansion kit includes two new cartridges, the matching collector, the corresponding distributor pipe and a larger measuring chamber. This doubles the original capacity.



From 30 to 60

The kit includes two new cartridges for the base unit and an add-on module. The module includes a collector and the two corresponding cartridges. It is simply attached to the side of the AQUAMAT i.CF 30.



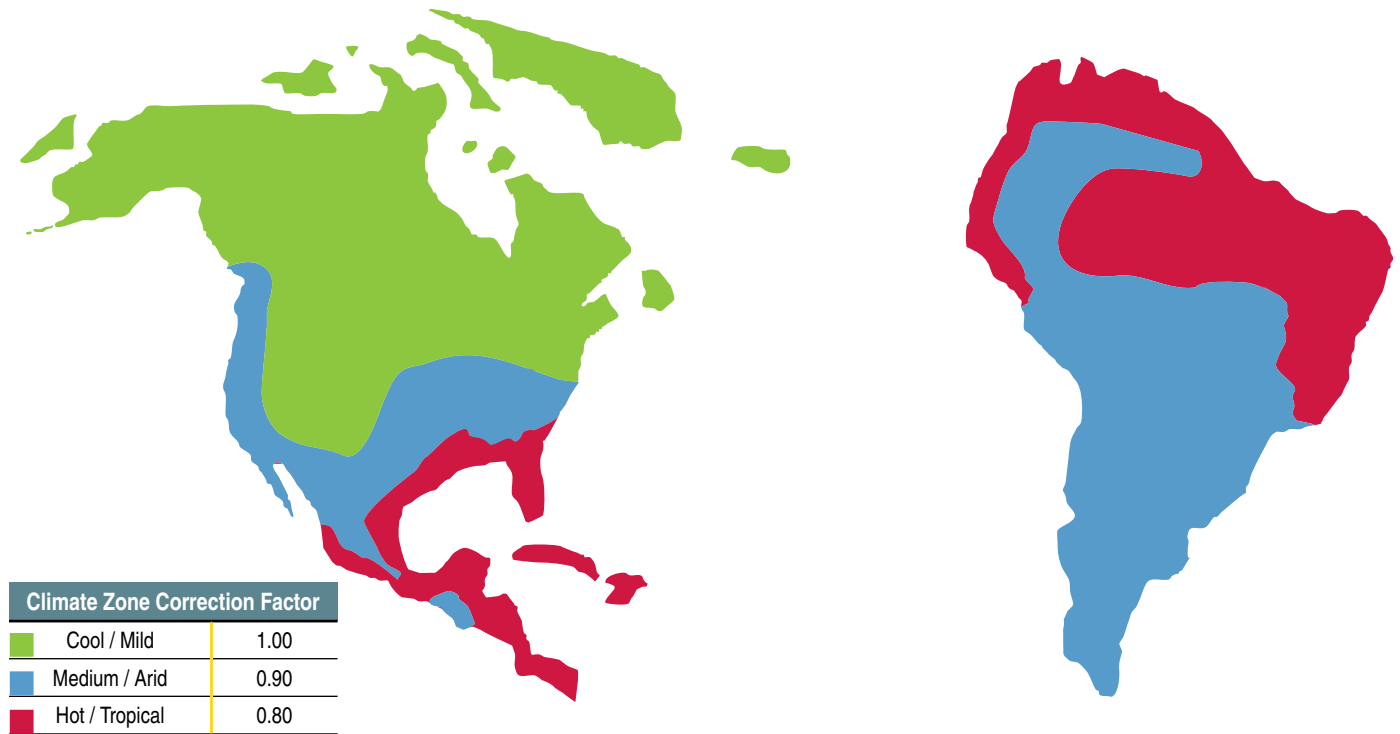
From 60 to 90

The kit includes four new cartridges for the base unit and an add-on module. The module includes a collector and the two corresponding cartridges, which attaches to the side of the AQUAMAT i.CF 60.

Sizing Guidelines

Higher temperature and humidity levels directly increase condensate volume. For this reason, condensate treatment size selection must take your climate zone into account. Calculate your maximum flow (cfm) and divide that number by the geographical correction factor shown below. Then select the AQUAMAT with at least that flow rating to ensure you are fully protected in the most severe conditions.

Climate zones



Options

KAESER Condensate Manifold (KCM)

For systems with more than four condensate lines, the KCM expands the number of possible condensate lines feeding the AQUAMAT i.CF. KCM collects condensate from multiple sources and safely diffuses residual air pressure to maximize separation effectiveness of the AQUAMAT i.CF. Available in two models that vent up to 4 and 8 condensate lines with pressures up to 232 psig.

High-pressure relief chamber

Allows high pressure condensate-air mixtures up to 40 bar (580 psig) to vent to atmospheric pressure through an activated carbon mat, so that depressurized condensate can be safely fed into the AQUAMAT i.CF

Condensate distribution

For distribution of the condensate volume to up to four AQUAMATs, if multiple oil-water separators are required in parallel for large systems.

AQUAMAT i.CF Technical Specifications

Model	AQUAMAT i.CF				
	10	15	30	60	90
Max. compressor volume flow	400 scfm	550 scfm	1100 scfm	2200 scfm	3300 scfm
Max. hydrocarbon concentration discharge water	≤ 20 ppm				
Max. pressure at the condensate inlet	232 psig				
Connection for condensate inlet	3 x ½" and 1 x 1" (1 x ½" and 1 x 1" hose barb included)				
Connection for water discharge	1" barbed hose nozzle (included)				
Min / Max temperatures for condensate, control air, and ambient	+41 – +122°F				
Control air pressure	—	43 – 218 psig			
Electrical power supply	—	90 – 264 VAC 1 Ph 50 – 60 Hz or 24 VDC			
Electrical power consumption	—	10 W			
Protection class	—	IP 54			
Connection for control air	—	¼" hose			
Connection for electrical power supply	—	M12 plug connector and cord (included)			
Connection for Modbus TCP (Ethernet)	—	M12 plug connector (user provided)			
Operating weight	110 lbs	121 lbs	220 lbs	397 lbs	551 lbs
W x D x H (inches)	25 x 21 x 58	29 x 21 x 58	29 x 31 x 58	37 x 31 x 58	50 x 31 x 58



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