KAESER COMPRESSORS®

Built for a lifetime.

Heatless Regenerative Desiccant Dryers

DC-HF Series

7 to 40 cfm

kaeser.com

Superior moisture removal in low flow applications

DC-HF Series

Twin tower desiccant dryers deliver the low pressure dew points needed for the most moisture sensitive applications or when the compressed air piping will be exposed to cold temperatures. Since desiccant dryers are more expensive to operate, it makes sense to only use them for the application that requires them. DC-HF series desiccant dryers make it possible to dry smaller flows just where you need them. They are ideal for point of use applications.

High efficiency – ultra-low pressure dew points

Optimized flow conditions ensure maximum desiccant regeneration capacity for minimal air demand. Even at sustained high load levels, the required pressure dew points (-40°F/-94°F) are reliably achieved with minimal pressure loss, either in fixed cycles or via pressure dew point control. Multiple control modes offer further energy savings.

The towers are designed to limit the air velocity. This prevents bed fluidization, desiccant dusting, and ensures proper contact time between the air and desiccant.

Reliable drying and filtration

The durable design of DC-HF 2.0 – 11.3 series desiccant dryers is evident thanks to such high-quality features as long-lasting aluminum desiccant tubes, maintenance-free shuttle valves and cartridges filled with a pressure-resistant desiccant material that remains stable in the presence of liquid water. These dryers come standard with a coalescing pre-filter and a dust collecting after-filter to trap desiccant dust.

Convenient installation

DC-HF series dryers are furnished in ready-to-mount cabinets. They arrive completely assembled, piped, wired, and fully charged with desiccant. Simply make the utility connections and the air dryer is ready for operation.

Wall or floor mount options. Multiple filter connection configurations give you flexibility when facing limited space. For simple functional checks and swift element changes, efficient KAESER filters are mounted on the outside of the machine, The electronic Eco-Drain condensate drain is delivered fully wired. When service is needed, the front panel offers fast, convenient access to the desiccant cartridges, valves, and silencers.

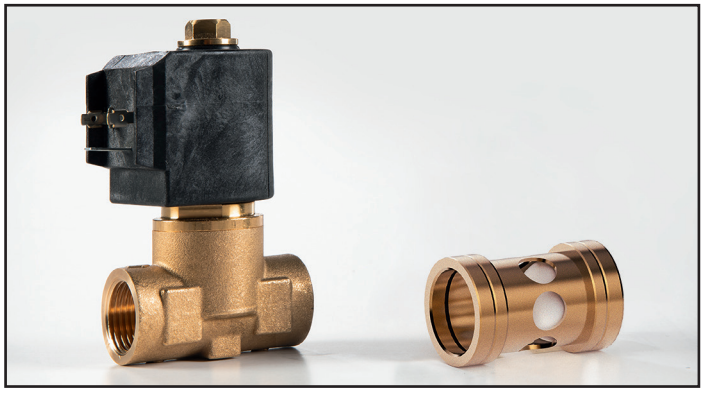
Network connection

The Eco Control Smart controller provides floating message contacts, and a Modbus TCP interface is standard. DC-HF series desiccant dryers can be connected to a SIGMA AIR MANAGER® 4.0 or other plant control systems. Operating parameters and messages can be monitored remotely in real-time.

Long-lasting, reliable design

Durable cartridge design

The cartridges, filled with water-resistant desiccant beads of activated alumina, are fixed in position using end caps. Inside, they feature an integrated stainless steel flow distributor and a coarse filter. Sized for a long service life, these cartridges benefit from a 2-year maintenance interval.

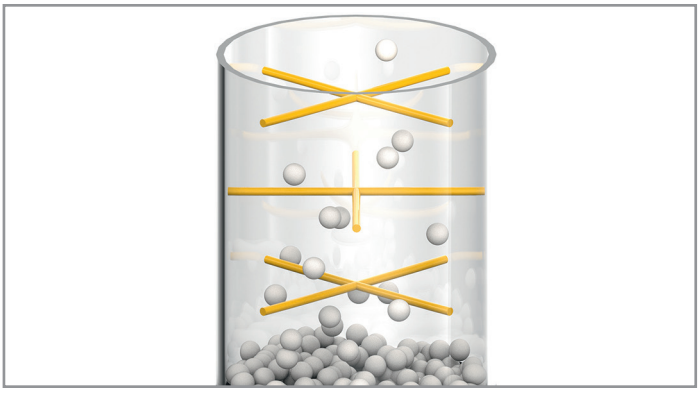


Maintenance-free shuttle valves

DC dryers are equipped with more durable shuttle valves specifically designed to cope with high pressure load changes. High-performance coils and large opening cross-sections for exceptionally efficient regeneration and a long service life. The recommended maintenance interval for these valves is 5 years – compared to other dryers requiring annual maintenance and replacement every two years

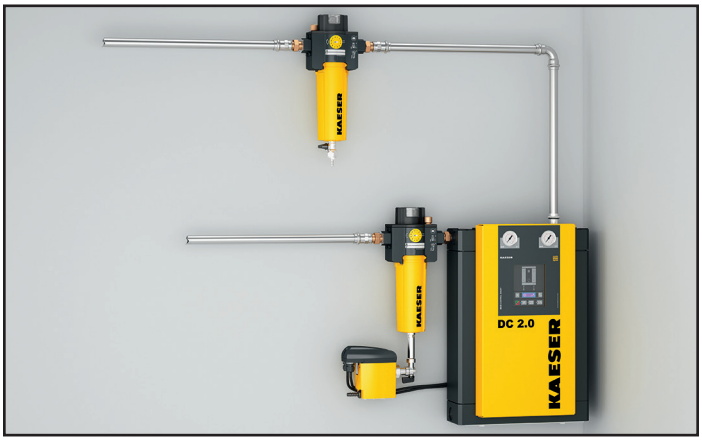
Maximum protection with KAESER filters

These dryers come standard with a coalescing pre-filter with a condensate drain to prevent contamination of desiccant from hydrophilic hydrocarbons–including traces of compressor fluids. This ensures proper adsorption in the dryer. A standard after-filter traps desiccant dust to protect downstream equipment.



Rain-filling

The desiccant cartridges are filled using a special process that evenly distributes and tightly packs the desiccant beads in the cartridge. This promotes even flow within the desiccant bed and prevents channeling. This ensures maximum contact between the desiccant beads and the compressed air, allowing the optimum amount of moisture to be absorbed and subsequently released.



Example: Space-saving wall installation in a corner

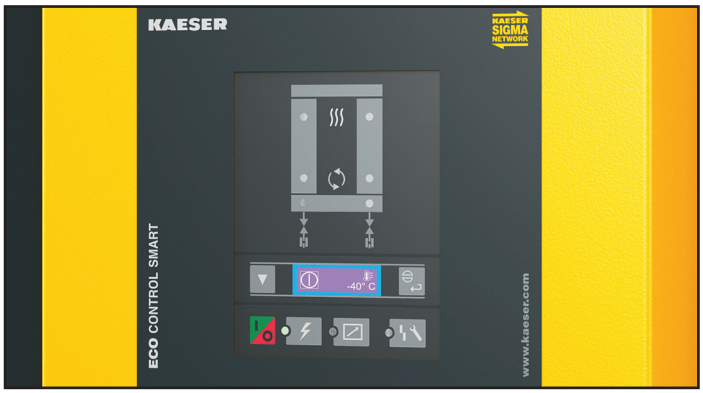
Variable connections

Side, back, and top connections are available to mount the filters. The dryers are fitted with floor-mounting brackets as standard.

DC-HF series

Flexible connection, excellent accessibility

DC-HF desiccant dryers are equipped with efficient KAESER filters mounted on the outside of the machine. Flexible connections allow them to be attached in variable positions to the upper valve block. The electronic Eco-Drain condensate drain is delivered fully wired. The front panel offers simple and convenient access to the valves, silencers, and Eco Control Smart controller.



Eco Control Smart

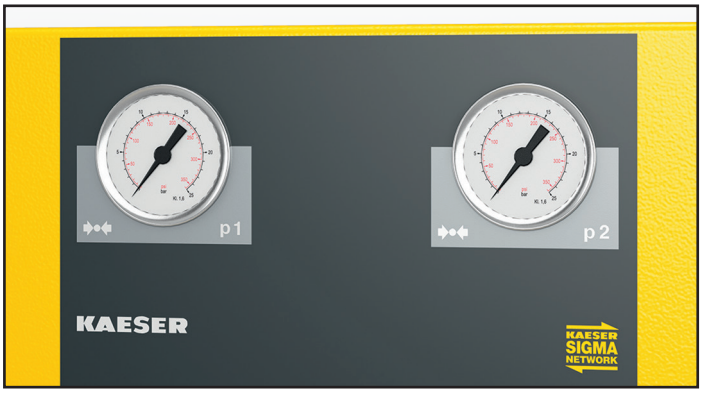
The Eco Control Smart controller offers different operating modes that can be used to achieve additional energy savings. Pressure dew point control is also an option (accessory required: PDP control kit). This creates additional energy-saving potential for larger models at fluctuating levels of air demand.

Quick access

For simple functional checks and swift element changes, the KAESER filters are mounted on the outside of the machine. The desiccant is stored in a cartridge featuring an integrated coarse filter. The front panel offers simple and convenient access to the valves and silencers.

Eco-Drain with message contact

DC-HF series desiccant dryers with the Eco-Drain electronic condensate drain, which is delivered from the factory with full electrical connections, including the message contact. This is supplied fully factory-wired and integrated into the Eco Control Smart controller.



Important pressure values at a glance

The front panel on DC-HF series dryers is equipped as standard with two pressure gauges for displaying the pressures in the desiccant tubes. This makes it simple to determine the current operating situation, as well as the pressure status when carrying out maintenance work.

Informative and intuitive controls

Pressure gauge

Working pressure at a glance.

Makes it simple to determine the current operating situation, as well as the pressure status when carrying out maintenance work.

Status LEDs

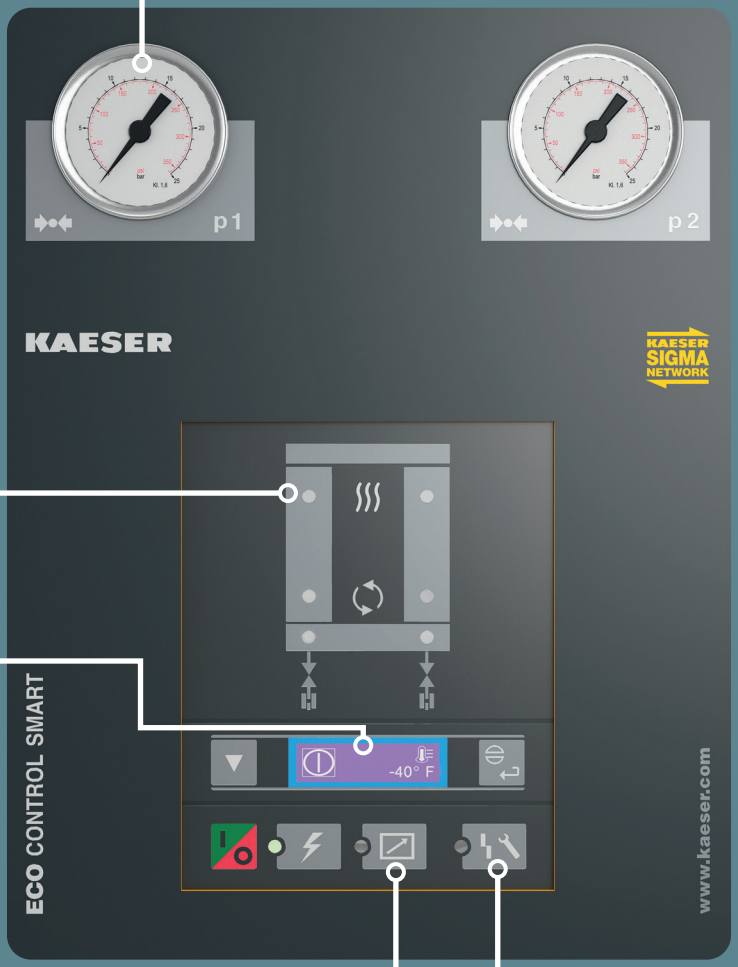
Animated functional diagram.

Multicolored LEDs visualize the process flow. Current status of the regeneration air valves is also displayed.

Operating panel

Intuitive operation.

Operation is language-neutral, thanks to the use of intuitive icons. Detailed message content is displayed using numerical codes.



Remote control

Flexible operating modes.

You can choose the -94°F or -40°F cycle. Controller operating mode can be selected between fixed cycle, compressor synchronization control and intermittent operation. Active remote control is also displayed.

Pressure dew point monitor

With the optional PDP sensor, you can set the target dew point (programed in the controller interface).

Network connection

Pathway to the SIGMA NETWORK.

The Eco Control Smart controller is equipped as standard with an Ethernet interface (Modbus TCP).

Configuration of the interface can be performed easily via the controller, allowing communication with master controllers such as the SIGMA AIR MANAGER® 4.0.

Available inputs/outputs

The direct connection.

The controller offers the following inputs: Remote control, Eco-Drain message contact (factory-wired), PDP sensor (PDP kit accessory required).

The following outputs are available: “Controller on/off” operating message, “Maintenance timer expired” warning, Eco-Drain warning, “PDP sensor wire break” alarm, “PDP set-point exceeded” alarm.

Messages

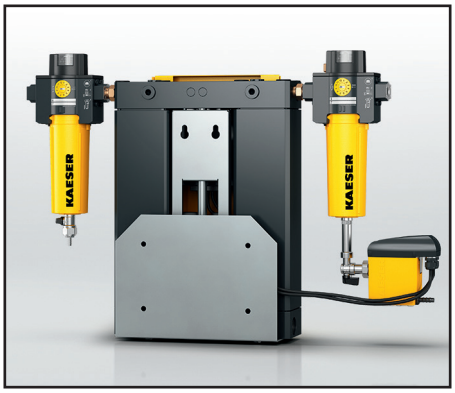
The essentials at a glance.

A LED indicates all necessary maintenance, warning and alarm messages. The last 20 warning and alarm messages can be recorded in the message archive with a time stamp.

Options

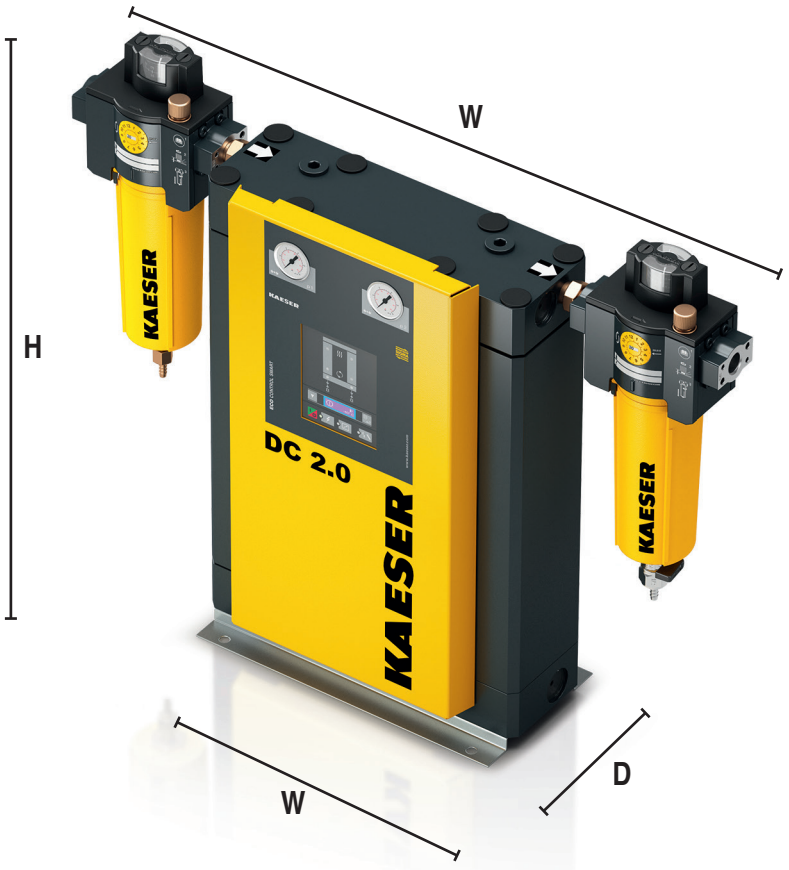
Silicone-free version

DC-HF models are available as a special, silicone-free version in accordance with VW testing standard PV 3.10.7.



Wall bracket

An optional wall-mounting kit includes a wall bracket and all necessary installation materials.



Technical specifications

Model	Inlet Flow (1) (scfm)	Purge Rate (scfm)		Power Supply (V/Ph/Hz)	Max. Inlet Air Pressure (psig)	Max Temp at Compressed Air Inlet (°F)	Compressed Air Connection at Filters (NPT)	Dimensions (2) W x D x H (in.)	Weight (lbs.)
		Avg	Max						
DC-HF 2.0	7	1.54	1.76	120/1/50-60	218	122	1/2" - 14	26.8 x 6.61 x 21.07	77
DC-HF 3.7	13	2.93	3.49					26.8 x 6.57 x 27.85	93
DC-HF 5.0	18	3.73	4.41					26.8 x 6.57 x 36.43	112
DC-HF 5.9	21	4.59	5.44				3/4" - 14	26.8 x 6.57 x 44.97	132
DC-HF 7.6	27	5.26	6.17					28.78 x 7.36 x 40.76	154
DC-HF 11.3	40	9.68	11.55					29.64 x 7.36 x 50.76	181

1) In accordance with ISO 7183 Option A2: Inlet temperature of 100°F; Inlet pressure of 100 psig; Relative humidity 100%, and Ambient air temperature of 100°F"

2) Including prefilter and afterfilter

Power supply for Eco-Drain: 95-240V ±10% / 1 Ph / 60 Hz

Specifications subject to change without notice.

Calculating flow rate

Capacity Correction Factor for Various Inlet Pressures

Inlet Pressure (psig)	Multiplier	Inlet Pressure (psig)	Multiplier
58	0.40	120	1.16
60	0.42	125	1.20
70	0.55	130	1.24
80	0.68	140	1.33
90	0.82	150	1.38
100	1.00	175	1.50
110	1.08	200	1.60
115	1.12	218	1.67

Purge Flow Correction Factor for Various Inlet Pressures

Inlet Pressure (psig)	Mulitiplier		Inlet Pressure (psig)	Multiplier	
	-40°F	-94°F		-40°F	-94°F
58	0.63	0.63	120	1.16	1.16
60	0.65	0.65	125	1.20	1.20
70	0.73	0.73	130	1.24	1.24
80	0.82	0.82	140	1.33	1.33
90	0.91	0.91	150	1.09	1.18
100	1.00	1.00	175	1.20	1.29
110	1.08	1.08	200	1.35	1.45
115	1.12	1.12	218	1.46	1.57

Capacity Correction Factor for Various Inlet Temperatures

Inlet Temp. (psig)	Mulitiplier	
	-40°F	-94°F
85	1.07	1.20
90	1.07	1.10
95	1.07	1.00
100	1.00	—
105	0.92	—
110	0.86	—
115	0.80	—
120	0.74	—
122	0.72	—

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