



FILO
COMPRESSOR AND AIR DRYER

AIR DRYER

- FILO FK SERIES REFRIGERATION DRYER
- FILO CA SERIES ADSORPTION DRYER

SINCE
1997



FK Series

Refrigeration Dryer

Since the compressed air obtained in compressors is obtained from normal atmospheric air, it contains a certain amount of water vapor. This moisture comes out of the compressor at a certain pressure and temperature together with the air. Moisture starts to condense with the effect of pressure and temperature change. If this condensed water is not controlled, it liquefies in the compressed air installation and can cause problems in some sensitive devices.

Air dryers are needed at this point. Dryers are systems that dry the air by eliminating water that condenses with the heating and cooling of the compressed air and the water released during this process from the system.

Heat exchangers designed by Filo Compressor perform air-water separation at maximum efficiency with very low pressure difference.

Water separated in the heat exchanger is regularly discharged from the system with the help of automatic drainage.

With the help of our FF series line filters, which are additionally connected to the FK series air dryer, The dryer offers both dry and clean air to your business by removing particles that are invisible to the naked eye even in the air outside water.

Filo air dryers are designed to provide maximum thermal absorption with the gas it uses. It is preferred due to its easy operation and easy maintenance. Dryers to be used in all systems from 1.2 m³ to 100 m³ are available in our machine park.

Advantages of Filo Refrigeration Dryers,

- 100% heat transfer without loss and maximum savings are achieved with the high quality stainless aluminum heat exchanger,
- Zero loss in water discharge thanks to zero loss valves,
- Minimum pressure loss maximum performance thanks to our heat exchanger structure design,
- Low maintenance cost,
- High condensation with state-of-the-art engineering,
- Problem free compatibility with filo brand screw compressors.



FLOW RATE CALCULATION TABLE

Pressure Coefficient Table						
P Bar	7	8	10	12	14	16
F1	1	0,96	0,9	0,86	0,82	0,8

Inlet Temperature Coefficient Table						
Temperature °C	25	30	35	40	45	50
F2	0,61	0,85	1	1,18	1,39	1,67

Ambient Temperature Coefficient Table						
Temperature °C	25	30	35	40	45	50
F3	1	1,07	1,14	1,22	1,29	1,36

Example: Inlet temperature 40 °C, Ambient temperature 35 °C, Compressor pressure 12 bar, Air flow rate 10 m³/min Required dryer capacity = $10 \times F1 \times F2 \times F3 = 10 \times 0,86 \times 1,18 \times 1,14 = 11,56872$

In the above example, the minimum cooling capacity of the dryer required to cool the compressor air with an inlet temperature of 40 °C and an air flow rate of 10 m³/min at an ambient temperature of 35 °C at a dew point temperature of 3 °C should be 11.56 m³.

Technical Specifications

Model FK	Capacity			Air Connection	Voltage	Working Pressure		Dew Point	Cooling Gas	Maximum	
	Air Flow (m ³ /Min)	m ³ /Hr	Cfm	Inch	Volt/Hz	Min	Max			Ambient Temperature	Inlet Temperature
FK 1200	1,2	72	42	1/2"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 1600	1,6	96	56	3/4"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 2200	2,2	132	77	3/4"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 3000	3	180	105	1"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 3600	3,6	216	126	1"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 4500	4,5	270	157,5	1 1/2"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 6000	6	360	210	1 1/2"	220/50	5	16	3°C	R 404a	45°C	55°C
FK 8500	8,5	510	297,5	2"	380/50	5	16	3°C	R 404a	45°C	55°C
FK 10500	10,5	630	367,5	2"	380/50	5	16	3°C	R 404a	45°C	55°C
FK 12000	12	720	420	2"	380/50	5	16	3°C	R 404a	45°C	55°C
FK 16500	16,5	990	577,5	3"	380/50	5	16	3°C	R 407c	45°C	55°C
FK 20000	20	1200	700	3"	380/50	5	16	3°C	R 407c	45°C	55°C
FK 25000	25	1500	875	3"	380/50	5	16	3°C	R 407c	45°C	55°C
FK 30000	30	1800	1050	3"	380/50	5	16	3°C	R 407c	45°C	55°C
FK 40000	40	2400	1400	DN 100	380/50	5	16	3°C	R 407c	45°C	55°C
FK 50000	50	3000	1750	DN 100	380/50	5	16	3°C	R 407c	45°C	55°C
FK 60000	60	3600	2100	DN 100	380/50	5	16	3°C	R 407c	45°C	55°C
FK 80000	80	4800	2800	DN 100	380/50	5	16	3°C	R 407c	45°C	55°C
FK 100000	100	6000	3500	DN 150	380/50	5	16	3°C	R 407c	45°C	55°C

CA Series

Adsorption Dryer

Filo chemical dryers are designed and manufactured for applications requiring dry and clean air. Clean air without moisture and various particles is desired especially for pneumatic equipment, paint shops, at points that come into contact with products or are at risk of contact with products in the food industry, in the pharmaceutical industry, laser cutting, hospitals, and similar sectors. It is of great importance that the compressed air used in valuable equipment in such places is clean and dry.

Filo CA series chemical dryers are specially designed by taking technical values into consideration to counter the dry air needs of enterprises.

The constant dew temperature of $-40\text{ }^{\circ}\text{C}/-70\text{ }^{\circ}\text{C}$ ensures that the air is dry and the line filters installed at the inlet and outlet ensure that the air is cleaned.

Thanks to its improved technological design, Filo chemical dryers maximize efficiency by ensuring very low pressure losses.

Special silencers are used to reduce the noise level during discharge. Thanks to its compact design, the device has a special structure that occupies minimal space.

The dryer is specially designed for easy disassembly and assembly during maintenance and service to save time. Installing Filo filter products at the inlet and outlet is strongly recommended to extend the life of the dryer.



FLOW RATE CALCULATION TABLE

Pressure Coefficient Table						
P Bar	7	8	10	12	14	16
F1	1	1,08	1,2	1,29	1,37	1,5

Inlet Temperature Coefficient Table						
Temperature $^{\circ}\text{C}$	25	30	35	40	45	50
F2	1,1	1,06	1	0,93	0,8	0,75

Example: Inlet temperature $30\text{ }^{\circ}\text{C}$, Compressor pressure 8, Dryer flow rate $5\text{ m}^3/\text{min}$ $-40\text{ }^{\circ}\text{C}$ Drying capacity= Dryer flow rate $\times F1 \times F2 \times F3 = 5 \times 1,06 \times 1,08 = \underline{5,724}$

In the above example, the air flow rate that the compressor air with an inlet temperature of $30\text{ }^{\circ}\text{C}$ and a chemical dryer flow rate of $5\text{ m}^3/\text{min}$ can be dried by the chemical dryer at an ambient temperature of $30\text{ }^{\circ}\text{C}$ and a dew point temperature of $-40\text{ }^{\circ}\text{C}$ is $5,724\text{ m}^3/\text{min}$.

Technical Specifications

Model	Capacity			Air Connection	Voltage	Working Pressure		Dew Point	Cooling Gas	Maximum	
	Air Flow (m ³ /Min)	m ³ /Hr	Cfm			Inch	Volt/Hz			Min	Max
CA 12	1,2	72	42	3/4"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 20	2	96	70	1"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 26	2,6	156	91	1 1/4"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 30	3	180	105	1 1/4"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 40	4	240	140	1 1/4"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 50	5	300	175	1 1/2"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 65	6,5	390	227,5	1 1/2"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 90	9	540	315	1 1/2"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 105	10,5	630	367,5	2"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 120	12	720	420	2"	220/50	5	16	-40°C/-70°C	R 404a	50°C	35°C
CA 165	16,5	990	577,5	2 1/2"	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 200	20	1200	700	2 1/2"	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 250	25	1500	875	DN 80	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 300	30	1800	1050	DN 80	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 400	40	2400	1400	DN 100	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 500	50	3000	1750	DN 100	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 600	60	3600	2100	DN 150	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 800	80	4800	2800	DN 150	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C
CA 1000	100	6000	3500	DN 150	220/50	5	16	-40°C/-70°C	R 407c	50°C	35°C

CA Series

Adsorption Dryer

Standard Equipment

- Manual control
- Long life valve structure in european norms
- High performance and long life imported active aluminum
- Silencer

Optional Accessories

- Input filter
- Output filter
- A/C filters
- Dewpoint sensor
- Electronic control system

Standard Reference Conditions

- Operating pressure: 7 bar (5 bar per minute)
- Maximum input air temperature: 35 °C
- Dew temperature class 2
- Operation/discharge cycle: 5 min.
- Regenerated air consumption: 10/15% (Nominal flow rate percentage)
- Internal aluminum body structure design that prevents corrosion



Each of our products is designed in accordance with Industry 4.0.



Filo air filters are designed to provide maximum air quality by eliminating contaminated and structured air from the compressor and air tank. Filo air dryers provide clean, dry air that is minimized from contamination and corrosion.



Product performances and compliance with ISO7183-1 and ISO8573-1 certified with laboratory tests.



CE,UL,EAC,F-GAS certifications for customized solutions.



Filo air dryers prevent corrosion and pollution by increasing air quality. Thus, precise and complete solutions at affordable prices in many sectors are offered especially in the following sectors; Textile, automotive, petrochemistry, oil and gas, light processing, furniture, paint.



Internationally patented designs.



Always aiming for better and always producing better.



Filo offers dry air at ISO 7183 standards with a range of products designed to ensure a constant dew point at all air pressures and capacities.



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