

FR Series

Refrigerant Compressed Air Dryers



Industrial compressed air systems need to operate with clean and dry air to prevent damage to pneumatic plant, equipment and processes. The air discharged from a compressor contains excessive levels of water, particulate matter and oil that must be treated before the air can be used.

For example, a 100 cfm (2.83 m³/min) compressor operating for 8 hours in ambient conditions of 25°C temperature and 70% relative humidity will cause about 22 litres of moisture to condense downstream inside the compressed air system.

For most industrial applications, the best way of drying compressed air is to use a refrigerant-type dryer in which the incoming air is cooled to condense the moisture out. The cold dried air is then used to pre-cool the incoming air by means of a heat exchanger for optimal energy efficiency.

The Fusheng FR Series is a premium quality range of high efficiency refrigerant dryers offering superb moisture removal performance with maximum reliability. They are available for purchase separately to upgrade an existing compressed air system or can be included as part of an entire new compressed air system package.



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Unique Features

- Performance rated for the Australian climate
- High efficiency stainless steel heat exchanger
- Unobstructed low pressure loss air flow path
- Fan-forced air cooled refrigerant condenser
- Auto condensate drain with isolation valve
- Industrial grade 134a, 407c or 410a refrigerant
- Standard 240 Volt plug and play connection, except for model FR100A
- Corrosion resistant chassis and enclosure
- Auto capacity control and protection functions
- Manufactured to ISO 9001 quality standards

Installation

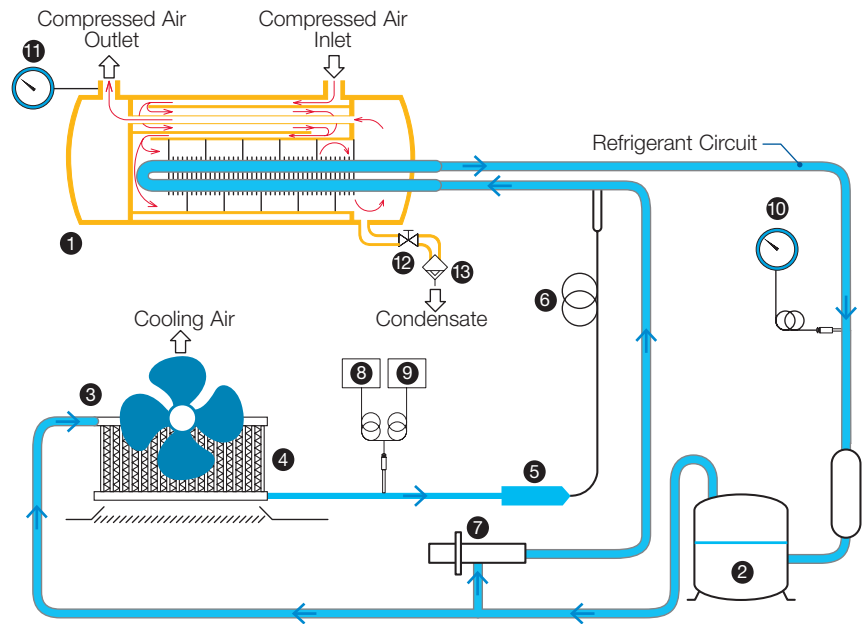
A refrigerant dryer should normally be installed downstream from the compressor and air receiver. It is also recommended to install a compressed air pre-filter upstream of the dryer to prevent build up of dirt and oil contaminants inside the heat exchanger.

Warranty

Fusheng refrigerant dryers are covered by a 2-year warranty against faulty materials and workmanship.

System Flow Chart

- ① Heat Exchanger
- ② Refrigerant Compressor
- ③ Electric Cooling Fan
- ④ Air-Cooled Condenser
- ⑤ Filter / Strainer
- ⑥ Capillary Tube
- ⑦ Capacity Control Valve
- ⑧ High Pressure Protection Switch
- ⑨ Fan Control Pressure Switch
- ⑩ Pressure Gauge (Evaporating Pressure)
- ⑪ Pressure Gauge (Air Outlet)
- ⑫ Ball Valve
- ⑬ Condensate Drain Valve



Specifications

		FR005A	FR010A	FR020A	FR030A	FR050A	FR075A	FR100A	
Air Flow Capacity *	m³/min (cfm)	0.6 (21.2)	1.2 (42.4)	2.4 (84.8)	4.4 (155)	7.0 (247)	11.0 (388)	14.0 (494)	
Inlet Air Temperature	°C	35 Nominal / 50 Maximum							
Ambient Temperature	°C	32 Nominal / 40 Maximum							
Pressure Dew Point	°C	2 Nominal / 10 Maximum @ 700 kPa (102 psi)							
Inlet Air Pressure	kPa (psi)	700 (102) Nominal / 1,000 (145) Maximum							
Refrigerant		R134a		R407c		R410a		R407c	
Power Consumption	kW	0.3	0.4	0.6	0.8	1.6	1.6	2.3	
Electrical Power Supply		240 V, 1-Ph, 50 Hz, 10 A							415 V, 3-Ph, 50 Hz, 4.7 A
Air Pipe Connections	BSP	1/2"	3/4"	1"	1"	1-1/2"	1-1/2"	2"	
Height	mm	478	543	705	705	984	988	1,220	
Width	mm	377	722	797	797	944	944	670	
Depth	mm	490	423	423	440	490	490	984	
Weight	kg	18	28	35	37	73	82	113	

* Refer to the separate Technical Guide for capacity correction factors.