

REFRIGERATION DRYERS

Compressed air treatment
for quality and efficiency



⇒ F2C – F1200C+

INTELLIGENT AIR TECHNOLOGY

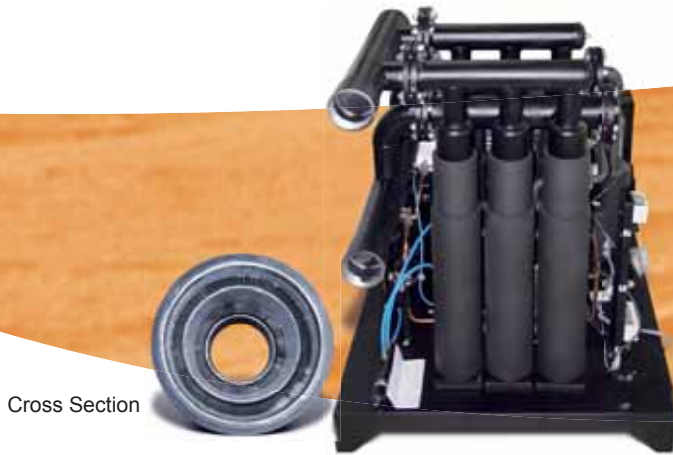
➔ WHY TREAT COMPRESSED AIR?

Modern production systems and production processes require high-quality compressed air which is defined in 10 classes in accordance with the ISO 8573.1:2001 international standard and can only be achieved by filtration, water separation and drying.

The intake air contains moisture which condenses as it cools and turns into water. This can not only lead to severe damage in the compressed air system, but can also be detrimental to the end product.

Compressed air quality and energy efficiency

Attention is often only paid to the quality of the air and not to the resultant running costs. CompAir not only delivers compressed air of the required quality, but also the energy efficient compressed air system, comprising compressor, filter, dryer and air receiver, at minimised running costs.



Cross Section



➔ MONO-BLOCK 3-IN-1 HEAT EXCHANGER

The compact dryers contain a unique Mono-Block 3-in-1 heat exchanger with

- ➔ Air to air heat exchanger to pre cool the entering warm air with the out flowing cold air
- ➔ Air to refrigerant heat exchanger cools the air to pressure dew point temperature
- ➔ Condensate cyclone separates the water from the air.

The durable, mono block heat exchanger is constructed with 3 concentric steel tubes specially treated to resist corrosion and perfectly insulated with heat proof stand and cover.

Its exceptional efficiency results from the specially designed louvered pleats on the copper fins which are welded to the steel tube using proprietary technology. This design creates a turbulent flow and allows almost 100% heat exchange between the air and the refrigerant.

The state-of-the-art design features very low pressure drop values, delivering real energy savings.

The integrated cyclone separator collects the condensed water and drains the condensate effectively even under partial load conditions by decelerating and reversing the air flow.

➔ ASSURE™ EXTENDED WARRANTY – FREE OF CHARGE

CompAir offers comprehensive service and warranty programmes. All you need to do is: register to the programme, use genuine CompAir parts, adhere to the recommended service schedule.

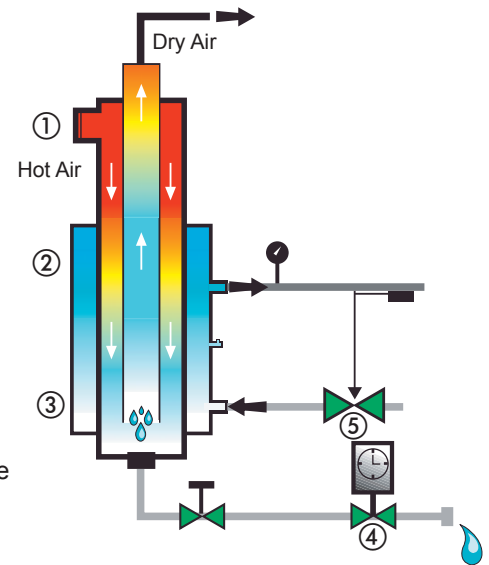


⇒ AIR DRYERS SCHEMATIC DIAGRAM

All dryers are equipped with an expansion valve working constantly to maintain the optimum liquid refrigerant quantity in the heat exchanger and is adjusted to the pressure dew point.

The hot gas bypass valve in the refrigerant circuit and the expansion valve allow a constant dew point temperature of 3°C and a very fast reaction time.

- ① Air/air heat exchanger
- ② Air/refrigerant exchanger
- ③ Moisture separator
- ④ Automatic condensate drain
- ⑤ Expansion valve controlled by refrigerant pressure or temperature



⇒ CONDENSATE DRAIN

The dryer type F2C to F84C have an electronic, timer controlled solenoid valve which optionally can be replaced by a no-loss drain BEKOMAT®.

⇒ NO-LOSS CONDENSATE DRAIN +

The dryer F105C+ to F1200FC+ are equipped with an electronic level controlled condensate drain BEKOMAT® effectively preventing any loss of air and ensuring a considerable reduction in energy consumption.



A pre filter with a condensate drain of the CF_NB series must be connected upstream to guard against contamination and to ensure efficiency, on all refrigeration dryers type F2C to F84C.

F105C+ to F1200C+ dryers all have integrated 25 micron pre filter and BEKOMAT® drain.

⇒ CONTROL SYSTEM

The control system is designed for constant running

- ⇒ F2C to F84C with an On / Off button and dew point indicator
- ⇒ F105C to F1200C with main switch for heater and condensate drain, On / Off switch and digital dew point indicator, and monitoring drain indicator, potential free alarm contact.

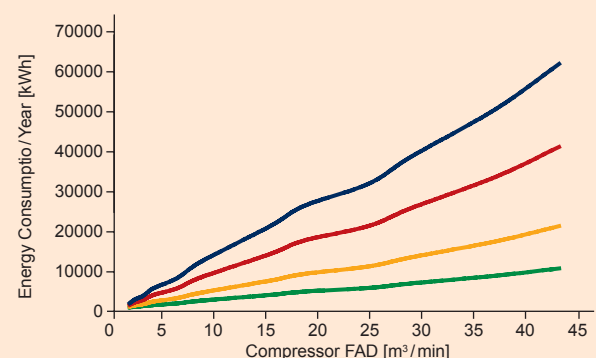
⇒ FEATURES – BENEFITS

- ⇒ Highly efficient heat exchanger with low pressure loss
- ⇒ High level of efficiency for maximum energy saving
- ⇒ Environmentally-friendly R134a and R404a refrigerant
- ⇒ Pressure dew point reliably low
- ⇒ Optimum condensate separation
- ⇒ Minimum space requirements
- ⇒ Easy installation, operation and maintenance

Energy Consumption by Pressure Drop

@ 6000 Working Hours, 7 bar g

— 50 mbar — 100 mbar — 200 mbar — 300 mbar



REFRIGERANT COMPRESSED AIR DRYER; AIR COOLED, 50Hz

MODEL	F2C	F3C	F5C	F7C	F11C	F16C	F22C	F26C	F36C	F45C	F54C	F72C	F72CT	F84C	F84CT	
Air flow at 20°C, 1 bar (a) according ISO 1217,C	m³/min	0.183	0.264	0.480	0.732	1.14	1.62	2.22	2.58	3.60	4.50	5.40	7.20	7.20	8.40	8.40
	cfm	6.5	9.3	17.0	25.9	40.3	57.2	78.4	91.2	127.2	159.0	190.8	254.4	254.4	296.8	296.8
Total power	kW	0.25	0.25	0.25	0.25	0.28	0.35	0.58	0.66	0.80	1.10	1.30	1.10	1.00	1.30	1.30
Pressure drop	mbar	10	10	19	28	19	50	61	80	90	140	180	214	214	214	214
Compressed air connection RP		1/2"				3/4"				1 1/4"			1 1/2"	1 1/2"	2"	2"
Dimensions	Width mm	360				407				490			570	570	770	770
	Height mm	460				535				640			850	850	1095	1095
	Depth mm	500				715				640			690	690	720	720
Weight	kg	30	30	30	30	57	58	60	60	86	88	91	116	116	151	151
Electric supply	V/Ph/Hz	230/1/50											400/3/50	230/1/50	400/3/50	

MODEL	F105CM+	F105C+	F144C+	F156C+	F183C+	F210C+	F240C+	F285C+	F348C+	F384C+	F444C+	F522C+	F678C+	F780C+	F930C+	F1050C+	F1200C+	
Air flow at 20°C, 1 bar (a) according ISO 1217,C	m³/min	10.5	10.5	14.4	15.6	18.3	21.0	24.0	28.5	34.8	38.4	44.4	52.2	67.8	78.0	93.0	105.0	120.0
	cfm	371	371	512	551	647	742	848	1007	1230	1357	1569	1845	2396	2756	3286	3710	4240
Total power	kW	1.30	1.30	1.80	1.80	2.30	2.30	3.00	3.70	4.70	5.20	6.10	6.74	9.20	9.75	12.00	14.00	16.00
Pressure drop	mbar	221	221	227	220	227	234	241	248	225	262	262	262	262	276	276	276	276
Compressed air connection RP/Flange		2"			3"				4"				DN150					
Dimensions	Width mm	770			820				1020				1420	1500	1840	2180		
	Height mm	1095			1320				1420				1450	1450	1450	1810		
	Depth mm	720			720				1140				1140	1520	1520	1520		
Weight	kg	194	194	222	249	253	290	420	426	460	469	490	490	600	800	1100	1350	1450
Electric supply	V/Ph/Hz	230/1/50							400/3/50									

Volume flow correction factors for different operating conditions

Working pressure bar (g)	5	7	8	9	10	11	12	13
A)	0.86	1.00	1.04	1.02	1.11	1.14	1.16	1.19
Inlet temperature °C	30	35	40	45	50	55	60	
B)	1.18	1.00	0.85	0.72	0.60	0.57	0.48	
Ambient temperature °C	22	25	30	35	40	45	50	
C)	1.00	1.00	0.90	0.81	0.73	0.66	0.59	
Pressure dewpoint °C	3	4	5	6	7	10		
D)	1.00	1.01	1.03	1.06	1.09	1.10		

To obtain the required air flow multiply the air flow by the above correction factors (ie. Air flow x A x B x C x D).

The above correction factors are approximative. The CompAir dryer selection software ensures that the correct dryer is chosen to meet the criteria of the customer.

Performances refer to air suction of FAD 20°C, 1 bar a, (ISO 1217, C) and the following operating conditions:

Ambient temperature 25°C, 60% rh, 7 bar g working pressure, 25°C cooling air temperature, 35°C compressed air inlet temperature.

All indicated data refer to DIN ISO 7183, 8573-1: 2001 (class 4, pressure dew point 3°C).

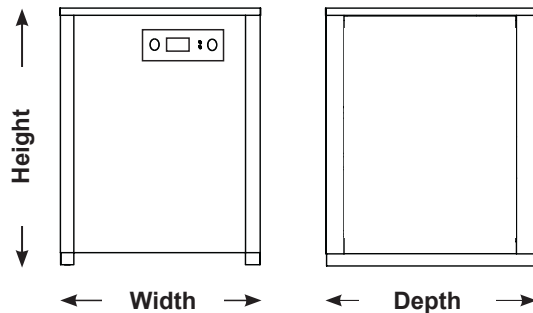
The performance of the dryer (dew point, power consumption, pressure drops, etc.) depends mainly on the flow rate and pressure of the compressed gas to be dried and on the condenser cooling fluid temperature (ambient temperature).

Type F2C –F285C+ supplied with R134a

Type F348C+ –F1200C+ supplied with R404a

Operation pressure max. 16 bar g

F105CW+ to F1200CW+ optionally with water cooling



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CompAir makes a point of continually improving its products and we therefore reserve the right to alter specifications and prices without prior notice. All products are sold subject to the Company's conditions of sale.

Ref. No. 91005-065E 11/08 B&N