

CompAir Refrigerant Air Dryers



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REFRIGERANT AIR DRYERS

Compressed air treatment
for quality and efficiency



⇒ F2C – F1200C+

INTELLIGENT AIR TECHNOLOGY

CompAir ➔ **REFRIGERANT DRYERS F2C – F1200C+**

➔ **WHY TREAT COMPRESSED AIR?**

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

Compressed air quality and energy efficiency

Often, attention is only paid to the quality of the air and not the resultant running costs. CompAir not only delivers compressed air of the necessary quality, but also supplies complete energy-efficient compressed air systems consisting of compressors, filters, dryers and air receivers, at minimal running costs.

NEW


➔ **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 incoming warm air with the outgoing cold air and in turn heat and further dry the outgoing compressed air
- ➔ Air-to-refrigerant heat exchanger which cools the air to pressure dew point temperature
- ➔ Integrated cyclone separator which effectively separates the condensate and collects the condensed water by slowing and reversing the air flow even when the machine is operating at part load

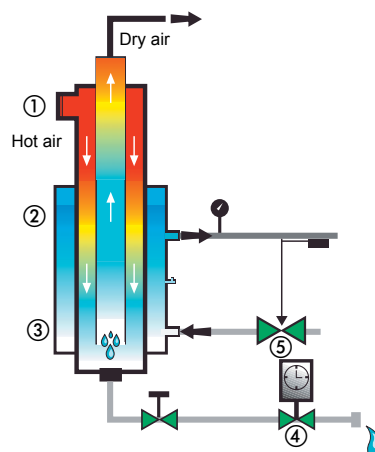
The state-of-the-art design features very low pressure loss, delivering real energy savings.

➔ **AIR DRYER SCHEMATIC DIAGRAM**

All dryers are equipped with an expansion valve which is working constantly to maintain the correct liquid refrigerant quantity in the heat exchanger to achieve the optimum 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 under varying operating conditions.

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

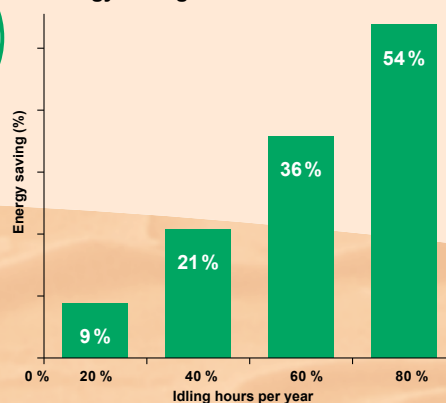


⇒ ESD ENERGY SAVING CONTROL

Like speed-regulated compressors, CompAir dryers with ESD control only use energy when the system actually needs compressed air – unlike conventional dryers which continue to consume energy even when the system is off load.



Energy saving with ESD control



With the ESD control if the dryer is off load, the energy consumption/year can be reduced by as much as 54 %. The ESD control is fitted as standard on all 3-phase dryers and is available as an option on all 1-phase dryers. Quite simply a reduction in air demand means a reduction of energy requirement. 3-phase dryers are also available with the optional ESD3 digital plain text display.

⇒ CONDENSATE DRAIN

The F2C to F84C models have a timer-controlled solenoid valve.

NO-LOSS CONDENSATE DRAIN +

The 3-phase dryers are equipped with a BEKOMAT® electronic level-controlled condensate drain. Also available as option for 1-phase dryers.

A pre-filter must be fitted upstream of all refrigerant dryers of types F2C to F84C. The models F105C+ to F1200C+ have an integrated 5 µm pre-filter.



⇒ FEATURES – BENEFITS

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



⇒ ASSURE WARRANTY – FREE OF CHARGE

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


CompAir


TECHNICAL SPECIFICATIONS

A Gardner Denver Company

⇒ REFRIGERANT COMPRESSED AIR DRYER, AIR-COOLED, 1-PHASE CONNECTION

| MODEL | F2C | F3C | F5C | F7C | F11C | F16C | F22C | F26C | F36C | F45C | F54C | F72C | F84C | F105C+ | F133C+ |
|----------------------------------|-----------------------------|-------|------|-------|------|------|------|------|--------|------|------|------|--------|--------|--------|
| Volume flow m ³ /min | 0.183 | 0.264 | 0.48 | 0.732 | 1.14 | 1.62 | 2.22 | 2.58 | 3.6 | 4.5 | 5.4 | 7.2 | 8.4 | 10.5 | 13.3 |
| Total power 50Hz kW | 0.25 | 0.25 | 0.25 | 0.25 | 0.28 | 0.35 | 0.58 | 0.66 | 0.80 | 1.10 | 1.30 | 1.17 | 1.37 | 1.48 | 1.95 |
| Total power 60Hz kW | 0.28 | 0.28 | 0.28 | 0.36 | 0.36 | 0.40 | 0.63 | 0.79 | 0.91 | 1.14 | 1.48 | 1.56 | 1.56 | 1.65 | 2.44 |
| Pressure drop at rated load mbar | 10 | 10 | 20 | 30 | 20 | 50 | 60 | 80 | 130 | 160 | 225 | 260 | 330 | 180 | 250 |
| Compressed air connection RP | 1/2" | | | | 3/4" | | | | 1 1/4" | | | | 1 1/2" | | 2" |
| Dimensions Length mm | 500 | | | | 715 | | | | 715 | | | | 570 | | 715 |
| Width mm | 360 | | | | 410 | | | | 490 | | | | 690 | | 765 |
| Height mm | 460 | | | | 535 | | | | 750 | | | | 985 | | 1235 |
| Weight, packaged in box kg | 30 | 30 | 32 | 32 | 53 | 54 | 56 | 59 | 86 | 93 | 93 | 127 | 163 | 214 | 233 |
| Electrical connection V/Ph/Hz | 230 / 1 / 50 & 230 / 1 / 60 | | | | | | | | | | | | | | |

⇒ REFRIGERANT COMPRESSED AIR DRYER, AIR-COOLED, 3-PHASE CONNECTION

| MODEL | | F72CT+ | F84CT+ | F105CT+ | F133CT+ | F156C+ | F183C+ | F210C+ | F240C+ | F285C+ | F348C+ | F384C+ | F444C+ | F522C+ | F678C+ | F780C+ | F930C+ | F1050C+ | F1200C+ | |
|-----------------------------|-----------|-----------------------------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--|
| Volume flow | m³/min | 7.20 | 8.40 | 10.5 | 13.3 | 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 | |
| Total power 50Hz | kW | 1.12 | 1.42 | 1.46 | 1.93 | 2.47 | 2.62 | 2.62 | 3.08 | 4.30 | 5.02 | 5.64 | 6.20 | 6.98 | 10.12 | 12.47 | 12.62 | 14.21 | 16.29 | |
| Total power 60Hz | kW | 1.39 | 1.73 | 1.77 | 2.44 | 3.20 | 3.29 | 3.29 | 3.84 | 5.56 | 6.44 | 6.88 | 8.14 | 8.54 | 13.10 | 15.30 | 15.30 | 17.20 | 19.69 | |
| Pressure drop at rated load | mbar | 260 | 330 | 180 | 250 | 320 | 380 | 280 | 360 | 380 | 380 | 420 | 400 | 380 | 400 | 420 | 400 | 400 | 420 | |
| Compressed air connection | RP/Flange | 1 1/2" | | 2" | | 3" | | | | 4" | | | | DN150 | | | | | | |
| Dimensions | Length mm | 570 | | 715 | | 720 | | | 1140 | | | | 1020 | | 1140 | | | 1520 | | |
| | Width mm | 690 | | 765 | | 820 | | | 1020 | | | | 1140 | | 1520 | | 1820 | | 2180 | |
| | Height mm | 985 | | 1235 | | 1440 | | | 1537 | | | | 1925 | | 2000 | | | 2039 | | |
| Weight, packaged in box | kg | 130 | 166 | 217 | 236 | 278 | 280 | 324 | 433 | 435 | 489 | 491 | 666 | 703 | 897 | 996 | 1489 | 1573 | 1770 | |
| Electrical connection | V/Ph/Hz | 400 / 3 / 50 & 440 / 3 / 60 | | | | | | | | | | | | | | | | | | |

Volume flow correction factors for different operating conditions

| Operating pressure bar (g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----------------------------|------|------|------|------|------|------|------|------|------|
| A) | 0.86 | 0.94 | 1.00 | 1.04 | 1.08 | 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 | | |

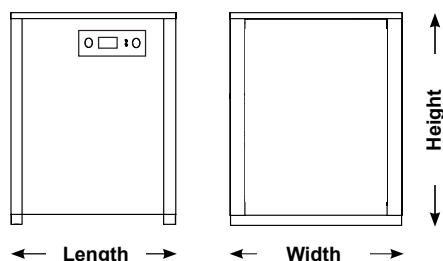
To obtain the necessary drying capacity, multiply the volume flow by the correction factors (volume flow x A x B x C).

The correction factors given here are guide values. To choose the right product for the installation conditions, please use the dryer selection program.

The performance of the dryer (pressure dew point, power consumption, pressure drop etc.) depends mainly on the volume flow and pressure of the compressed air to be dried and the condenser refrigerant temperature.

Volume flows refer to an intake temperature of 20°C, an intake pressure of 1 bar (ISO1217, C) and the following operating conditions:

Operating pressure 7 bar,
Inlet temperature 35°C,
Ambient temperature 25°C



Type F2C–F240C+ with refrigerant R134a
Type F285C+–F1200C+ with refrigerant R404a
Max. operating pressure 16 bar g
F105CW+–F1200CW+ optionally with water cooling



INTERNET:
www.compair.com
sales@compair.com



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.

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