



PDG

Refrigeration Dryers

7 - 110 m³/min



Compressed air contains water, oil and dirt

The problem

Compressed air is an essential power source that is widely used throughout industry. This safe, powerful and reliable utility can be the most important part of your production process. However, your compressed air will contain water, dirt, wear particles, bacteria and even degraded lubricating oil which all mix together to form an unwanted abrasive sludge. This sludge, often acidic, rapidly wears tools and pneumatic machinery, blocks valves and orifices causing high maintenance and costly air leaks. It also corrodes piping systems and can bring your production process to an extremely expensive standstill! Only compressed air that is totally clean and dry will ensure maximum savings.



Corrosion



Unwanted abrasive sludge



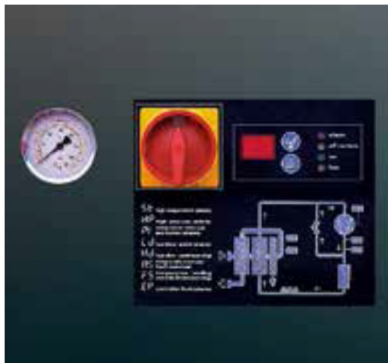
Damaged tools

The solution

All of these costly problems can be avoided by installing a Parker Hiross PDG compressed air refrigeration dryer package complete with Parker compressed air filtration. The packages are suitable for use with any compressor type and provide air quality to ISO 8573.1 Class 1.4.1.

Benefits

Clean, dry compressed air.



Sophisticated Control

This microprocessor control (standard from PDG1100) offers ease of use, accurate control and simplified maintenance. The Cold Mass function furthermore allows significant energy savings when operation in stand-by. The hot gas by-pass valve, with its modulating 0-100% operation, ensures that the dryer always works at optimum conditions, even under varying loads.



Easy to Use

PDG has been designed to be able to operate in even the most extreme conditions. This is backed by a 60°C maximum inlet temperature and a 50°C maximum ambient temperature. Dryer maintenance has been significantly simplified thanks to full frontal access to all major components, as well as a drain niche offering easy access to the condensate drain.



Easy to Install

PDG offers the most compact dimensions in its class, making it very easy to position and install. The dryer arrives pre-programmed, and once installed it is ready to operate, requiring no further programming.



High Reliability

PDG offers years of trouble-free operation. The robust aluminium heat exchanger stands up to the rigors of industry. The advanced compliant scroll compressors are notably more reliable than traditional solutions. The condenser pre-filter, standard from PDG2600, improves performance and reduces maintenance.

DRYPACK HEAT EXCHANGER

PDG offers the advanced DryPack heat exchanger.

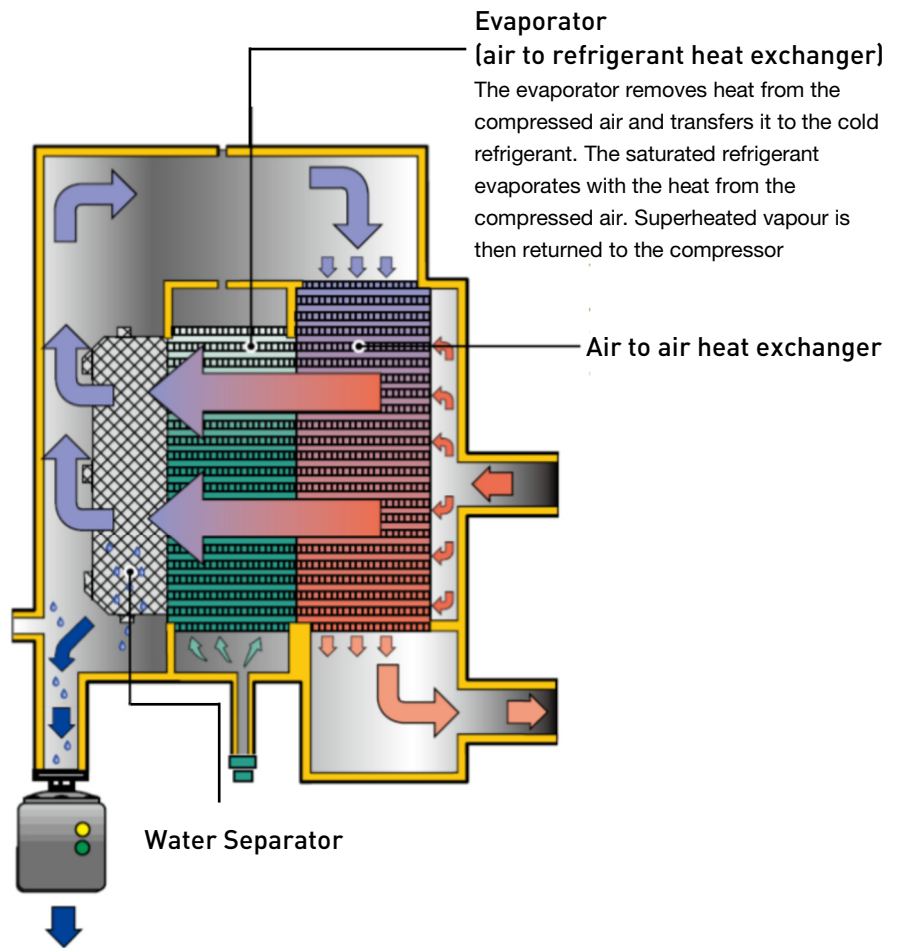
The unique all-in-one design, in corrosion resistant aluminium, is very compact reduces pressure drops and permits notably high reliability levels.

A modular design philosophy, using up to 6 DryPacks, offers high flexibility and reduces maintenance.

DryPack furthermore features a unique patented concept which positions the air-to-air, evaporator and demister stages in a row: This allows a process known as Continuous Active Separation, whereby the condensate is immediately removed, in a continuous manner, along the entire length of DryPack.

The benefit for the user is a guaranteed low dew point and maximum efficiency.

The oversized demister ensures that, unlike typical dryer solutions, a low dew point is maintained even at partial air flow conditions.



The Inside story



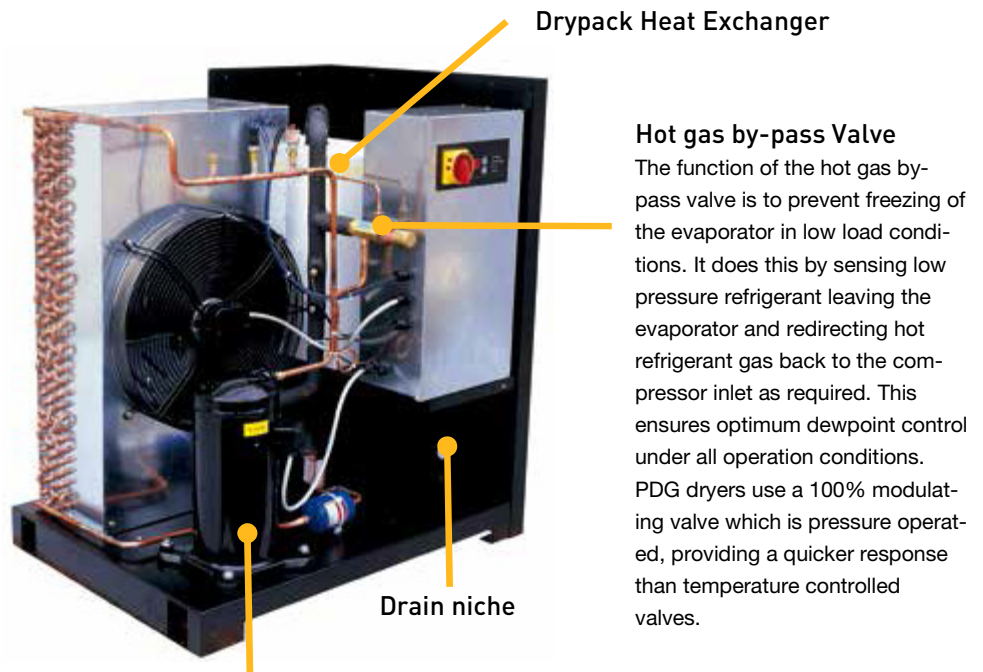
Electronic Controller

Models PDG1100 & above, are fitted with an electronic control system. A keypad provides total control of the dryer and allows access to performance and service functions. The digital display shows dryer performance and alarm conditions for high refrigerant pressure, high refrigerant temperature, high and low dewpoint and compressor faults. Manual, electrical isolation and a full refrigeration system mimic display is also included on the front panel.



Simple Controller

Fitted on Models PDG0700, the simple controller provides on/off operation and visual indication of dryer performance.



Compliant Scroll Compressors

A first in refrigeration drying, PDG features compliant scroll compressors (standard from PDG2600). The scroll design offers significantly lower power consumptions, leading to a notable reduction in running costs.

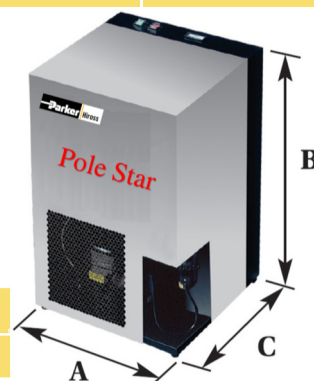
The patented compliant technology adds further benefits in the form of remarkably high reliability levels; compliant scroll compressors are nearly indestructible, even tolerating liquid returns; they feature 50% less moving parts reducing the chances of breakage; and the reduced vibration levels increase dryer longevity.

Scroll compressors are also very user friendly, as they are extremely quiet and ensure the dryer requires on pre-heating.

Product Selection and Technical Data

| Model | technical data | | | | dimensions (mm) | | | weight (kg) | Pre-filter | Post-filter |
|----------|----------------|--------|------------|-------------|-----------------|--------|-------|----------------|----------------|----------------|
| | air flow | | abs. power | air connec. | width | height | depth | | | |
| | m³/h | m³/min | kW | | A | B | C | | | |
| PDG0700 | 420 | 7 | 1.23 | 1 1/2" BSP | 615 | 791 | 552 | 70 | GP-080-FX | HE-080-FX |
| PDG1100 | 660 | 11 | 1.51 | 2" BSP | 920 | 1015 | 672 | 140 | GP-120-FX | HE-120-FX |
| PDG1400 | 840 | 14 | 1.86 | 2" BSP | 920 | 1015 | 672 | 144 | GP-150-FX | HE-150-FX |
| PDG1900 | 1140 | 19 | 1.88 | 2" BSP | 920 | 1015 | 672 | 150 | GP-210-FX | HE-210-FX |
| PDG2600 | 1560 | 26 | 3.45 | DN80 | 1010 | 1500 | 1310 | 420 | GP-350-FX | HE-350-FX |
| PDG3500 | 2100 | 35 | 3.99 | DN80 | 1010 | 1500 | 1310 | 450 | GP-350-FX | HE-350-FX |
| PDG4400 | 2640 | 44 | 5.48 | DN100 | 1010 | 1500 | 1310 | 470 | A0-1000F-C-DPK | A0-1000F-C-DPK |
| PDG6000 | 3600 | 60 | 7.04 | DN100 | 1010 | 1500 | 1810 | 550 | A0-1000F-C-DPK | A0-1000F-C-DPK |
| PDG7300 | 4380 | 73 | 9.65 | DN150 | 1010 | 1500 | 1810 | 580 | A0-1300F-C-DPK | A0-1300F-C-DPK |
| PDG9000 | 5400 | 90 | 10.71 | DN150 | 1010 | 1500 | 1810 | 590 | A0-1950F-C-DPK | A0-1950F-C-DPK |
| PDG11000 | 6600 | 110 | 12.42 | DN150 | 1010 | 1500 | 1810 | 660 | A0-1950F-C-DPK | A0-1950F-C-DPK |

Performances refer to air at FAD 20°C/1bar A, and the following working conditions: air suction 38°C/60%RH, 7 barg working pressure, pressure dew point in accordance with ISO8573-1, 38°C cooling air temperature, 42°C compressed air inlet temperature.
All models supplied with refrigerant R407C.



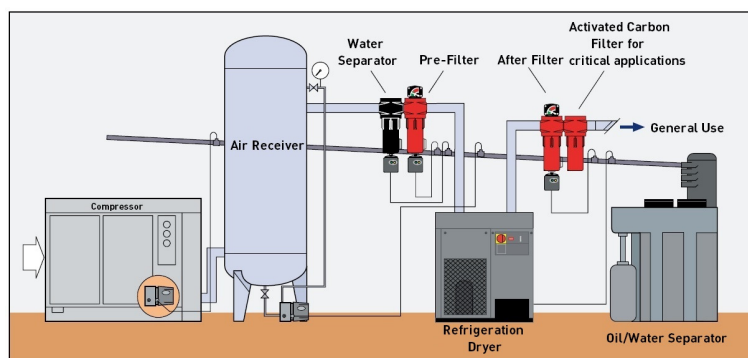
Air flow correction factors for differing working conditions

| | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|
| A) Working pressure | Barg | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| correction factors | | 0.69 | 0.79 | 0.88 | 0.95 | 1 | 1.05 | 1.09 | 1.12 | 1.15 | 1.18 |
| B) Air inlet temperature | °C | 30 | 35 | 40 | 42 | 45 | 50 | 55 | 60 | | |
| correction factors | | 1.48 | 1.29 | 1.08 | 1 | 0.90 | 0.75 | 0.63 | 0.52 | | |
| C) Ambient temperature | °C | 20 | 25 | 30 | 35 | 38 | 40 | 45 | 50 | | |
| correction factors | | 1.16 | 1.12 | 1.08 | 1.03 | 1 | 0.98 | 0.80 | 0.52 | | |

To obtain the actual air flow multiply the nominal air flow by the above correction factors (ie. Air flow x A x B x C). PDG dryers can operate up to ambient temperatures of 50°C and inlet temperature of 60°C.

For a precise selection always refer to the software selection program or contact your Parker partner.

| | | |
|--------------|---------------|---------------|
| Max. | 12 bar g | |
| Max. | 60°C | |
| Max. | 50°C | |
| Power Supply | PDG0700 | 230V/1Ph/50Hz |
| | PDG1100~11000 | 400V/3Ph/50Hz |



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