Refrigerant Dryers DRY with PDP Indicator
Refrigerant dryers range

From 333 Lt./min up to 21,000 Lt./min

PDP: 5° C at reference conditions

Whole range with the PDP indicator

Max. working pressure: 16 bar (A0-A4)

Max. working pressure: 13 bar (A5-A14)
1. Refrigerant compressor
2. Refrigerant condenser
3. Fan
4. Refrigerant filter
5. Capillary tube
6. Air/refrig. heat exchanger
7. Liquid separator
8. Hot gas by-pass valve
9. Air/air exchanger
10. Condensate separator
11. Automatic Condensate discharge
# Technical Data

**TECHNICAL DATA** (according to ISO 7183 and Cagi Pneupor PN8NFC2)

<table>
<thead>
<tr>
<th>Type</th>
<th>Bar</th>
<th>Psl</th>
<th>m³/h</th>
<th>cfm</th>
<th>W</th>
<th>V/Hz/Ph</th>
<th>gas/DN</th>
<th>L</th>
<th>W</th>
<th>H</th>
<th>Kg</th>
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<td>16</td>
<td>232</td>
<td>0.333</td>
<td>20</td>
<td>11.8</td>
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<td>350</td>
<td>500</td>
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<td>2&quot; F</td>
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<td>742</td>
<td>3568</td>
<td>2&quot; F</td>
<td>735</td>
<td>898</td>
<td>962</td>
<td>165</td>
</tr>
</tbody>
</table>

① Reference conditions:
- Operating pressure: : 7 bar (100 psi)
- Operating temperature: : 35°C
- Room temperature: : 25°C
- Pressure dewpoint: : +5°C +/- 1
- Available in different voltages and frequency

Limit conditions:
- Working pressure: : 16 bar (232 psi) DRY 20-130
- Operating temperature: : 55°C
- Min/Max room temperature: : +5°C; +45°C

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**Compressed air at your service**

**ABAC AIR COMPRESSORS**
Lay-out: DRY 20-130

- Instrumental panel
- Bypass valve
- Refrigeration condenser + motor fan
- Compressor
- Expansion capillary
- Automatic condensate discharge
- Condensate separator
- Air – Refrigerant evaporator
- Air – Air exchanger
Lay-out: DRY 165-530

- Bypass valve
- Refrigeration condenser + motor fan
- Control panel
- Air-Air exchanger
- Air-Refrigerant evaporator
- Condensate separator
- Refrigerant Compressor
Lay-out: DRY 690-1260

- Air-Air exchanger
- Air-Refrigerant evaporator
- Condensate separator
- Control panel
- Refrigerant Compressor
- Refrigerant filter
- Bypass valve
- Refrigeration condenser + motor fan
Key customer benefits

Heat exchanger with a high efficient thermal change. Integrated separator with a low pressure drop

Intelligent capacitive drain, discharge only water, not compressed air = energy saving; noise free

DRY 690-1260 range: Rotary compressor designed for R410A is highly efficient and performance = energy saving

Safety and reliable control panel. Easy access to all the electric components
Heat Exchanger

A0-A4
Brazed Plate

A5-A14
Aluminium Block Exchanger

- Higher efficiency (thermal exchange)
- Integrated separator
- Low pressure drop

All models include an air-to-air heat exchanger as standard, which prevents condensation forming on the outside of the pipe system.
Condensate Discharge

The collected water is discharged by an intelligent system.

- Discharge only water, **NOT** compressed air  = Energy saving
- Noise-free, no acoustic impact  = Health & Environmental protection
- Standard device for the whole range
**Control Panel**

a) green indicator of voltage – running

b) red indicator alarm for:
   - high pressure refrigerant gas (safety pressure switch failed)
   - fan motor protection (thermal protection activated)

c) red indicator alarm for condensate discharger
Ref. 1  Remote Start / Stop  A11 – A20

Ref. 2  One free contact for a Remote General Alarm  A11 – A20
   ( fan alarm; min/max pressure switch )

Ref. 3. One free contact for a Remote Drain Alarm  A15 – A20
PDP Indicator for DRY 20-1260

Introducing the new Electronic Controller on the dryer range will allow you to see various information about the status of the dryer: alarm, under voltage, fan running, general alarms.
The new Controller displays the Pressure Dew Point (A0-A20) and controls the Condensing Temperature (A3-A10) through the start/stop of the fan by the use of two NTC type temperature probes (one for the PDP value and one for the cycles of the fan).

The new device will be not connected to the Schrader Valve anymore, it will consider the condensing temperature instead of the condensing pressure; but basically the principle doesn’t change.

- **Reader temperature A0-A2**
  (there is not the fan pressure switch)

- **Controllers temperature A3-A10**
  (remove the fan pressure switch)

- **Reader temperature A11-A20**
  (keep the fan pressure switch)
PDP Indicator for DRY 20-1260

More sales argument, matching the market requirements → with improved look & feel

- Refrigerant compressor is running
  (it will be always light on because our compressors always runs)

- Fan is running

- PDP Alarm means (not flashing):
  - High PDP
  - Low PDP = freezing problems
PDP Indicator for DRY 20-1260

Leds & pictograms meaning:

For the range A3-A10:

<table>
<thead>
<tr>
<th>ICON</th>
<th>MODE</th>
<th>FUNCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALARM</td>
<td>OFF</td>
<td>No active alarms</td>
</tr>
<tr>
<td></td>
<td>FLASH</td>
<td>Probe failure alarm P1 / P2</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>High/Low temperature alarm H2 / L2</td>
</tr>
</tbody>
</table>

A0-A2 & A11-A20:

<table>
<thead>
<tr>
<th>ICON</th>
<th>MODE</th>
<th>FUNCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL</td>
<td>ON</td>
<td>Dryer on ( under tension )</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Dryer off</td>
</tr>
<tr>
<td></td>
<td>FLASH</td>
<td>Maintenance warning + SE (service)</td>
</tr>
</tbody>
</table>

- SE Service
  - A0-A10: after 2000 Hrs. under voltage
  - A11-A20: after 4000 Hrs. under voltage
  The service timing, can be reset

failure alarm P1
High/Low temp. alarm H1 / L1
Free contacts on request DRY 165-1260

Free Contacts (A5-A20 on request) with a dedicated part number

- Three probes connected to the PDP device for a remote:
  - ✓ High refrigerant temperature alarm out of refrigerant compressor (A5-A20)
  - ✓ High/Low temperature alarm → high/low PDP (A5-A20)
  - ✓ Fan probe alarm → there is a sensor problem about the Fan probe (A5-A10)

<table>
<thead>
<tr>
<th>High refrigerant temp. alarm</th>
<th>high temp. (PDP) alarm</th>
<th>low temp. (PDP) alarm</th>
<th>fan probe alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>non-blocking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>non-discriminatory (just a red light) but on the controller could appear the type of the alarm (A1-A2-P1/2)</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Option DRY 20-130

BY-PASS VALVE + FILTER SUPPORT

By-pass valve

FILTERS NOT included in the kit
Option DRY 20-130

FILTER SUPPORT

Copper tubes

FILTERS NOT included in the kit
Typical installation with filters

1. Compressor
2. G filter
3. C filter
4. V filter
5. Refrigerant dryer

Vertical Receiver is always recommended
## Benefits VS Features

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliable</td>
<td>Control test cells, experience team in refrigeration, audit, SQA team, internal Quality Control, etc.</td>
</tr>
<tr>
<td>Easy access and maintenance = lower maintenance cost</td>
<td>Easy access to the control panel, Simple lay-out,</td>
</tr>
<tr>
<td>Intelligent condensate drain discharge as standard for the whole range</td>
<td>Discharge only water, NOT compressed air = Energy saving</td>
</tr>
<tr>
<td></td>
<td>Noise-free = Health &amp; Environmental protection</td>
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</table>
Refrigerant gas R410A

DRY 690 - 1260
Refrigerant gas type

HFCs (hydrofluorocarbons):

These hydrofluorocarbons contain no chlorine and therefore have ZERO Ozone Depletion Potential (ODP) and in consequence are not controlled by the Montreal Protocol.

Examples are R410A, R134a, R404A.

Gas R134a → A0-A4
Gas R404A → A5-A10
Gas R410A → A11-A14
Customer key benefits

What’s New? ....... the new Rotary Refrig. Compressor

- Improved energy efficiency, operating savings
- Better energy efficiency = reduced energy cost
- Longer life time, reduced leakages risks, little vibration
- Rotary compressor designed for R410A is highly efficient thanks a good Coefficient of Performance (COP).
- Integrated liquid separator prevents liquid knock and risk of cracks at liquid separator pipe.
## Low GWP (Global Warming Potential):


<table>
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<th>Refrigerant</th>
<th>GWP</th>
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<tr>
<td>R134a</td>
<td>1300</td>
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<td>R404A</td>
<td>3260</td>
</tr>
<tr>
<td>R410A</td>
<td>1720</td>
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</table>

GWP is the measure of how much a given mass of greenhouse gas is estimated to contribute to global warming.

The GWP of the **R410A** is 50% less than R404A.
Only Quality Air Solution keep your air distribution in optimal shape
Compressed air at your service