ABAC
AIR COMPRESSORS

## Air treatment solutions from ABAC will protect your compressed air investment.

# COOL Refrigeration Air Dryers


www.abacaircompressors.com/en-us

# The Drying Process

Refrigeration dryers use a refrigerant gas in order to cool the compressed air. As a result the water from the air condenses and can be removed. With this technique we can reach in the COOL range a pressure dew point of 45°F. As a result, the refrigeration technology is by far the most used dryer technology, complying for more than 95% of industrial applications. Refrigerant dryers are commonly used with pneumatic applications and in the general industry (e.g. engineering, steel, paper, tannery, garage).


Footprint only 1.4 Ft.$^2$

## Main Benefits

- Remove Water Pollution from Network
- Refrigeration Dryer is a Simple, Low Maintenance Technology
- Extremely Easy Installation
- Compact Equipment
- Compatible with all Compressor Technology
- Low Energy Consumption
- Check Air Quality with Dew Point Indicator
- Higher Final Product Quality
- Increased Overall Productivity

## Risks to Avoid

### Humid air can cause:

- Corrosion, Pollution, Leakage and Rust of Air Net & Downstream Equipment/Tools
- Costly Interruptions of Production
- Extremely Easy Installation
- Decreased Efficiency
- Reduction of Life Span of all Equipment Involved
- Water Contamination within Air Net & Potential Freezing
- Increased Maintenance Costs
- Lower Quality Final Products & Potential Risk of Product Recalls
- Increased Overall Productivity

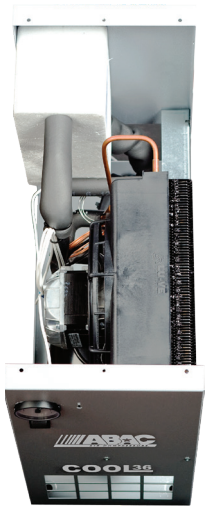
## Applications

- Pneumatic Tools & Equipment
- Pneumatic Control Systems
- Painting Application
- Packaging
- Injection Molding
- Car Shop
- Tire Inflation

## Compact & Efficient

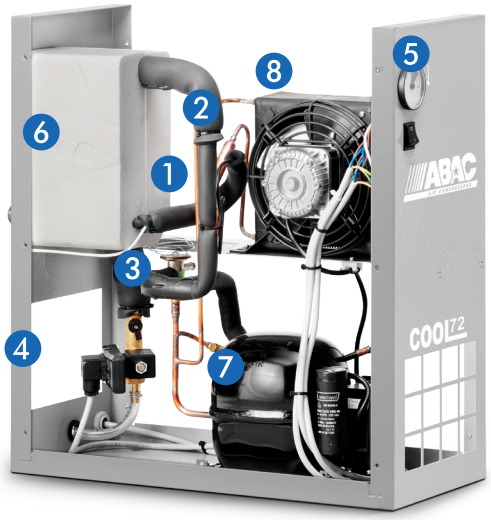
### The COOL range offers reliable components in a simple, vertical lay-out:

- Simple to Install & Easy to Operate
- Easy Access for Quick & Efficient Servicing
- Efficient Cooling System
- Flexible Transportation
- Small Footprint
- Stable Dew Point



# Components

1. **Capillary Tube** in order to considerable reduce the pressure & temperature of the refrigerant, improving the cooling process.
2. **Refrigerant Filter** in order to protect the capillary from possible dirty particles.
3. **Hot Gas By-Pass Valve:**
   - Injects hot gas from compressor discharge into suction/liquid separator.
   - Keeps refrigeration capacity in all load conditions.
   - Maintains constant pressure in the evaporator, avoiding freezing.
4. **Timer Drain** ensures a proper drain of the condensate.




5. **Control Panel:** PDP indicator (green zone) & main on-off switch.
6. **Air/Air & Air/Refrigerant Heat Exchange** with high thermal exchange and low load losses. Integrated water separator allows a highly efficient water-air separation.
7. **Refrigerant compressor** driven by an electric motor, cooled using refrigerant fluid and protected against thermal overload.
8. **Refrigerant condenser** air-cooled and with a large exchange surface for high thermal exchange.

| Type | Max Working Pressure | | Air Treatment Capacity | | | Nominal Electrical Power | Voltages | Inlet/Outlet Connections | Weight | Dimensions | Refrigeration Gas Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bar | PSI | l/min | mc/h | cfm | W | V/Ph/Hz | Type | lbs. | in. | |
| **COOL 15** | 16 | 232 | 350 | 21 | 15 | 159 | 115/1/60 | 1/2" F | 42 | 9 × 22 × 22 | |
| **COOL 25** | 16 | 232 | 600 | 36 | 25 | 159 | 115/1/60 | 1/2" F | 42 | 9 × 22 × 22 | |
| **COOL 35** | 16 | 232 | 850 | 51 | 35 | 163 | 115/1/60 | 1/2" F | 42 | 9 × 22 × 22 | |
| **COOL 50** | 16 | 232 | 1200 | 72 | 50 | 228 | 115/1/60 | 1/2" F | 44 | 9 × 22 × 22 | |
| **COOL 65** | 16 | 232 | 1825 | 110 | 65 | 321 | 115/1/60 | 1/2" F | 55 | 9 × 22 × 22 | R134A |
| **COOL 75** | 16 | 232 | 2150 | 129 | 75 | 366 | 115/1/60 | 3/4" F | 59 | 9 × 22 × 22 | |
| **COOL 100** | 16 | 232 | 3000 | 180 | 100 | 583 | 115/1/60 | 1" F | 66 | 9 × 22 × 22 | |
| **COOL 125** | 16 | 232 | 3600 | 216 | 125 | 687 | 230/1/60 | 1" F | 114 | 12 × 28 × 39 | |
| **COOL 150** | 13 | 188 | 4100 | 246 | 150 | 812 | 230/1/60 | 1" 1/2 F | 125 | 12 × 28 × 39 | |
| **COOL 200** | 13 | 188 | 5200 | 312 | 200 | 922 | 230/1/60 | 1" 1/2 F | 130 | 12 × 28 × 39 | |
| **COOL 250** | 13 | 188 | 6500 | 390 | 250 | 1102 | 230/1/60 | 1" 1/2 F | 158 | 12 × 28 × 39 | R404A |
| **COOL 275** | 13 | 188 | 7700 | 462 | 275 | 1292 | 230/1/60 | 1" 1/2 F | 176 | 12 × 28 × 39 | |

## Limit Conditions

- Working Pressure: 232 PSI COOL 15-125<br>188 PSI COOL 150-275
- Operating Temperature: 122 °F
- Min/Max Room Temp: +41 °F, + 104 °F

## Reference Conditions

- Operating Temperature: 95 °F
- Room Temperature: 77 °F
- Pressure Dewpoint: 50 °F
- Operating Remperature: 122 °F
- Min/Max Room Temp: +41 °F, + 104 °F

## Correction Factor for Conditions Differing from the Project K = A x B x C

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Room Temperature** | **°F** | 77 | 86 | 95 | 100 | | | | | | | | |
| | **A** | 1.00 | 0.92 | 0.84 | 0.80 | | | | | | | | |
| **Operating Temperature** | **°F** | 86 | 95 | 100 | 113 | 122 | | | | | | | |
| | **B** | 1.24 | 1.00 | 0.82 | 0.69 | 0.54 | | | | | | | |
| **Operating Pressure** | **PSI** | 75 | 85 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 200 | 215 | 230 |
| | **C** | .90 | .96 | 1.00 | 1.03 | 1.06 | 1.08 | 1.10 | 1.12 | 1.13 | 1.15 | 1.16 | 1.17 |

ABAC
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# Air. Anytime. Anywhere.

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LLOYD'S REGISTER QUALITY ASSURANCE ISO9001

LLOYD'S REGISTER QUALITY ASSURANCE ISO14001

ABAC ORIGINAL PART

## Original parts.
## Your quality assurance.

The 'original part' identification confirms that these components passed our strict test criteria. All parts are designed to match the quality air solution product and are approved for use on the specified quality air solution product. They have been thoroughly tested to obtain the highest level of protection, extending the quality air solution products' lifetime and keeping the cost of ownership to an absolute minimum. No compromises are made on reliability. The use of 'original part' certified quality components helps ensure reliable operation and will not impact the validity of your warranty, unlike other parts. Look for your quality assurance.

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