

# COOL Refrigeration air dryers



**Wear and corrosion  
threaten your  
air distribution  
network**

**Our COOL range of  
refrigeration dryers  
keeps your  
compressed air system  
in optimal shape**





# Cool Refrigeration air dryers

## 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).



## Main benefits

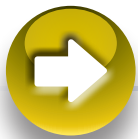
- Remove the water pollution from your network
- Refrigeration dryer is a simple, low maintenance technology
- Extremely easy to install
- Very compact equipment fits in a minimum space
- Low maintenance requirement
- Compatible with any compressor technology
- Very low energy consumption
- Check your air quality with the dew point indicator
- Higher final product quality
- Increase your overall productivity



## Risks to avoid

### Humid, unclean compressed air can cause:

- Corrosion, pollution, leakage and rust of the air net (pipes) and the downstream equipment/tools
- Costly interruptions of the production
- A decreased efficiency of the equipment/tools used
- Reduction of the life span of all equipment involved
- Risk of water contamination in the air network, with potential freezing in winter time
- Increased maintenance costs
- Lower quality of the final product and potential risk of product recalls



## Applications

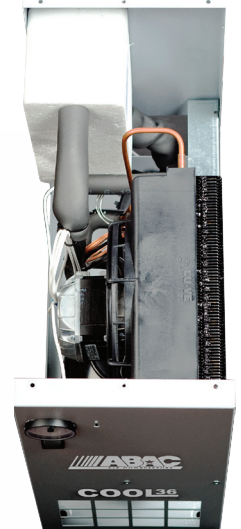
- Pneumatic tools and equipment
- Pneumatic control systems
- Painting application
- Packaging
- Injection molding
- Car shop
- Tire inflation



## Compact & efficient

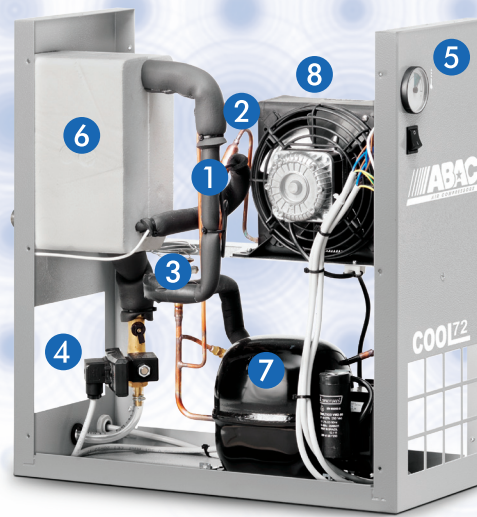
### The COOL range offers reliable components in a simple vertical lay-out:

- Simple to install and easy to operate
- Easy access for quick servicing resulting in low maintenance costs
- Efficient cooling system
- Flexible transportation
- Small footprint
- Stable dew point



# Components

- 1 **Capillary tube** in order to considerably reduce the pressure and temperature of the refrigerant, improving the cooling process.
- 2 **Refrigerant filter** in order to protect the capillary from some 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 and Air/Refrigerant Heat Exchanger** 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.

## Technical table

Type	Max. working pressure		Air treatment capacity <sup>1</sup>			Nominal electrical power <sup>1</sup>	Voltage	Inlet/Outlet connections	Dimensions (in.)			Weight	Refrigeration gas type
	bar	psi	l/min	mc/h	cfm	W	V / ph / Hz	Type	L	W	H	lbs.	
COOL 15	16	232	350	21	15	159	115/1/60	1/2" F	9	22	22	42	R134A
COOL 25	16	232	600	36	25	159	115/1/60	1/2" F	9	22	22	42	
COOL 35	16	232	850	51	35	163	115/1/60	1/2" F	9	22	22	42	
COOL 50	16	232	1200	72	50	228	115/1/60	1/2" F	9	22	22	44	
COOL 65	16	232	1825	110	65	321	115/1/60	1/2" F	9	22	22	55	
COOL 75	16	232	2150	129	75	366	115/1/60	3/4" F	9	22	22	59	
COOL 100	16	232	3000	180	100	583	115/1/60	1" F	9	22	22	66	
COOL 125	16	232	3600	216	125	687	230/1/60	1" F	12	28	39	114	
COOL 150	13	188	4100	246	150	812	230/1/60	1" 1/2 F	12	28	39	125	R404A
COOL 200	13	188	5200	312	200	922	230/1/60	1" 1/2 F	12	28	39	130	
COOL 250	13	188	6500	390	250	1102	230/1/60	1" 1/2 F	12	28	39	156	
COOL 275	13	188	7700	462	275	1292	230/1/60	1" 1/2 F	12	28	39	176	

### Reference conditions<sup>1</sup>

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

### Limit conditions:

- Working pressure: 232 PSI COOL 15 - 125  
188 PSI COOL 150 - 275
- Operating temperature: 122 °F
- Min/Max room temperature: +41 °F; +104 °F



### Correction factor for conditions differing from the project $K = A \times B \times C$

• Room temperature	°F	77	86	95	100	• Operating temperature	°F	86	95	100	113	122	
	A	1.00	0.92	0.84	0.80		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	0.90	0.96	1.00	1.03	1.06	1.08	1.10	1.12	1.13	1.15	1.16	1.17



## 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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