



## 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

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# 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 5°C. 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

# Compact & efficient

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

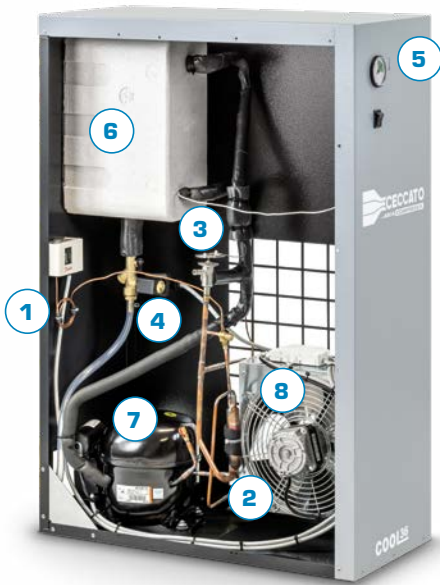
- Simple to install and easy to operate
- Easy access for quick servicing resulting in low maintenance costs
- Efficient cooling system
- Flexible transportation
- Small footprint
- Stable dew point



# Applications

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

# 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 (mm.)			Weight	Refrigeration gas type
	bar	psi	l/min	mc/h	cfm				W	V / ph / Hz	gas		
COOL 4	16	232	350	21	12,4	130	230/1/50	1/2 F	233	550	561	19	R513A
COOL 6	16	232	600	36	21,2	135	230/1/50	1/2 F	233	550	561	19	
COOL 9	16	232	850	51	30	167	230/1/50	1/2 F	233	550	561	19	
COOL 12	16	232	1200	72	42,4	286	230/1/50	1/2 F	233	550	561	20	
COOL 18	16	232	1825	110	64,4	323	230/1/50	1/2 F	233	550	561	25	
COOL 22	16	232	2150	129	76	297	230/1/50	3/4 F	233	550	561	27	
COOL 30	16	232	3000	180	106	419	230/1/50	1" F	233	559	561	30	
COOL 36	16	232	3600	216	127	675	230/1/50	1" F	310	706	994	52	R410A
COOL 41	13	188	4100	246	145	735	230/1/50	1" 1/2 F	310	706	994	57	
COOL 52	13	188	5200	312	184	702	230/1/50	1" 1/2 F	310	706	994	59	
COOL 65	13	188	6500	390	230	746	230/1/50	1" 1/2 F	310	706	994	80	
COOL 77	13	188	7700	462	272	954	230/1/50	1" 1/2 F	310	706	994	80	

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

- **Operating pressure:** 7 bar (100 psi)
- **Operating temperature:** 35 °C
- **Room temperature:** 25 °C
- **Pressure dewpoint:** 7 °C (+/-1 °C)
- Also available at 60Hz

### Limit conditions:

- **Working pressure:** 16 bar COOL 21-216 / 13 bar COOL 246-462
- **Operating temperature:** 50 °C
- **Min/Max room temperature:** +5 °C; +40 °C

Correction factor for conditions differing from the project **K = A x B x C**

Room temperature	°C	25	30	35	40
	A	1,00	0,92	0,84	0,80

Operating temperature	°C	30	35	40	45	50
	B	1,24	1,00	0,82	0,69	0,54

Operating pressure	bar	5	6	7	8	9	10	11	12	13	14	15	16
	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





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### CARE

Care is what service is all about: professional service by knowledgeable people, using high-quality original parts.

### TRUST

Trust is earned by delivering on our promises of reliable, uninterrupted performance and long equipment lifetime.

### EFFICIENCY

Equipment efficiency is ensured by regular maintenance. Efficiency of the service organization is how Original Parts and Service make the difference.