

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

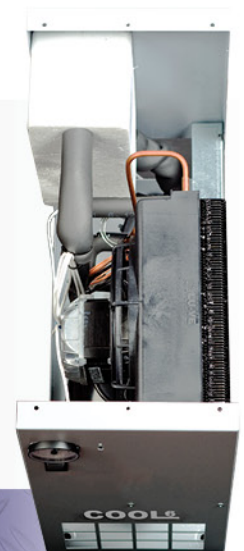
- Pneumatic tools and equipment
- Pneumatic control systems
- Painting application
- Packaging
- Injection molding
- Car shop
- Tire inflation



Compact & Efficient

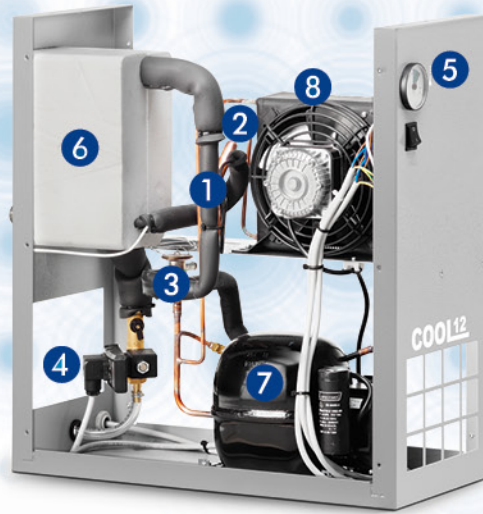
The COOL range offers reliable components in a simple vertical lay-out:

- 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 ¹			Nominal electrical power ¹	Voltage	Inlet/Outlet connections	Dimensions (in.)			Weight	Refrigeration gas type
	bar	psi	l/min	mc/h	cfm	W	V / ph / Hz	gas	L	W	H	lbs	
COOL 15	16	232	350	21	15	159	115/1/60	1/2" M	9	22	22	42	R134a
COOL 25	16	232	600	36	25	159	115/1/60	1/2" M	9	22	22	42	
COOL 35	16	232	850	51	35	163	115/1/60	1/2" M	9	22	22	42	
COOL 50	16	232	1200	72	50	228	115/1/60	1/2" M	9	22	22	44	
COOL 65	16	232	1825	110	65	321	115/1/60	3/4" M	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	115/1/60	1" F	12	28	39	144	
COOL 150	16	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	467	275	1292	230/1/60	1" 1/2 F	12	28	39	176	

Reference Conditions:

- a. Operating Temperature = 95°F
- b. Room Temperature = 77°F
- c. Pressure Dewpoint = 50°F
- d. Working Pressure = 232 PSI Cool 15-125
- e. Working Pressure = 188 PSI Cool 150-250
- f. Operating Temperature = 122°F
- g. Min/Max Room Temp = +41 F, +104 F

Limit Conditions:

- Working pressure: 232 PSI COOL 4-36
188 PSI COOL 41-77
- Operating temperature: 122°F
- Min/Max room temperature: 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	0.90	0.96	1.00	1.03	1.06	1.08	1.10	1.12	1.13	1.15	1.16	1.17

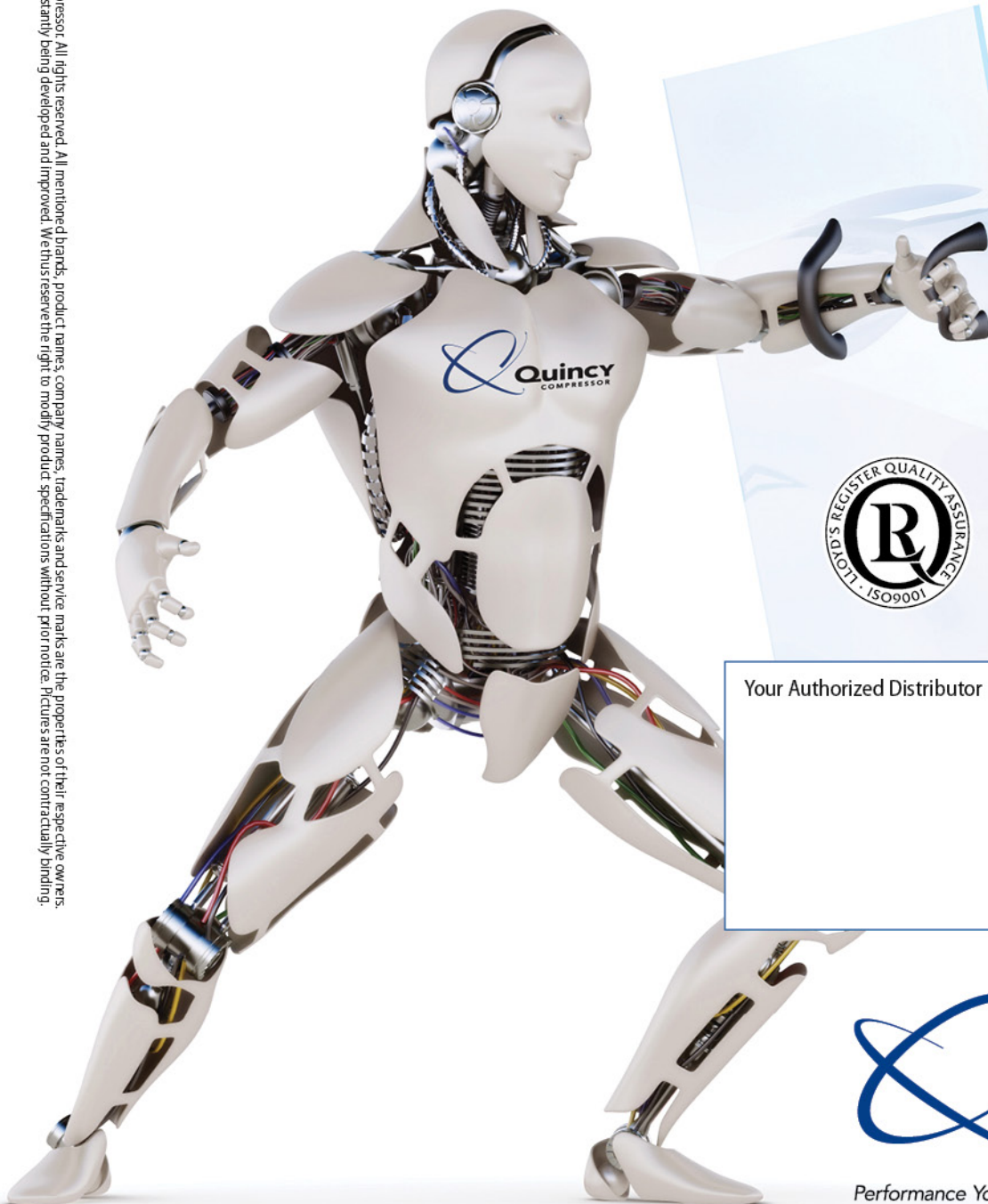


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