

Wear and corrosion threaten your air distribution network

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

ABAC
AIR COMPRESSORS

www.gonitro.com

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



Applications

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



Compact & efficient

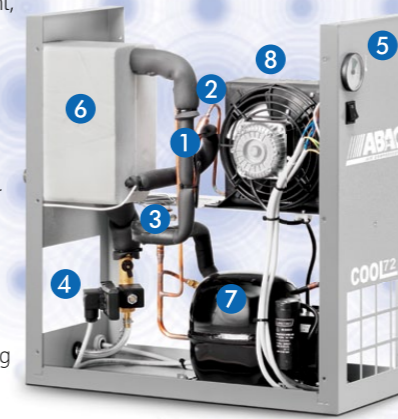
The **COOL** range offers reliable components in a simple vertical lay-out:

- 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 (mm.)			Weight	Refrigeration gas type
	bar	psi	l/min	mc/h	cfm				L	W	H		
COOL 21	16	232	350	21	12,4	126	230/1/50	3/4" M	233	559	561	19	R134a
COOL 36	16	232	600	36	21,2	126	230/1/50	3/4" M	233	559	561	19	
COOL 51	16	232	850	51	30,0	163	230/1/50	3/4" M	233	559	561	19	
COOL 72	16	232	1200	72	42,4	228	230/1/50	3/4" M	233	559	561	20	
COOL 110	16	232	1825	110	64,4	293	230/1/50	3/4" M	233	559	561	25	
COOL 129	16	232	2150	129	76	380	230/1/50	3/4" M	233	559	561	27	
COOL 180	16	232	3000	180	106	419	230/1/50	1" F	233	559	561	30	
COOL 216	16	232	3600	216	127	664	230/1/50	1" F	310	706	994	52	R404A
COOL 246	13	188	4100	246	145	767	230/1/50	1" 1/2 F	310	706	994	57	
COOL 312	13	188	5200	312	184	865	230/1/50	1" 1/2 F	310	706	994	59	
COOL 390	13	188	6500	390	230	1028	230/1/50	1" 1/2 F	310	706	994	80	
COOL 462	13	188	7700	462	272	1242	230/1/50	1" 1/2 F	310	706	994	80	

Reference conditions¹

- Operating pressure: 7 bar (100 psi)
- Operating temperature: 35 °C
- Room temperature: 25 °C
- Pressure dewpoint: +5 °C +/- 1
- 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	• Operating temperature	°C	30	35	40	45	50	
	A	1,00	0,92	0,84	0,80		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

