

Refrigerated Air Dryers

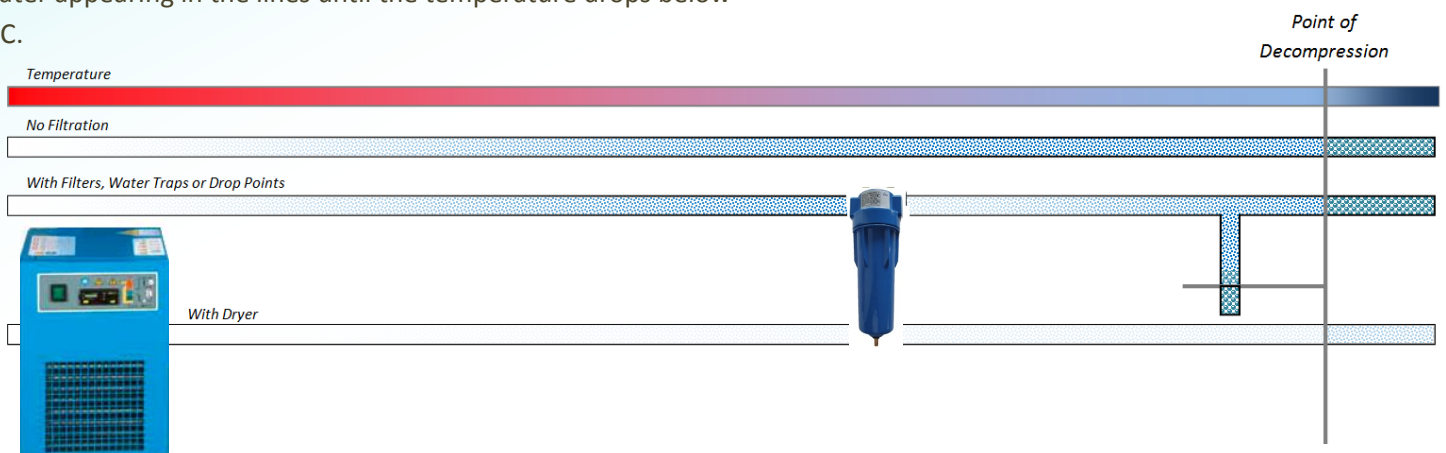
Refrigerated Air Dryers

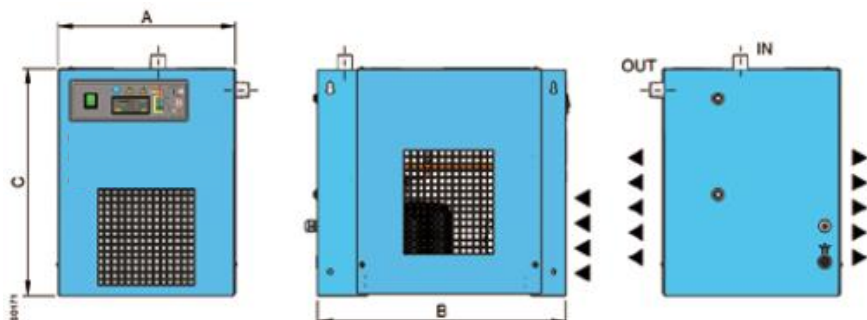
Moisture and water in compressed airlines is the biggest killer of machinery components, air tools and work-pieces.

“Water Traps” or “Drop Points” will only remove the water particulate in the air at that point. As the air cools further down the line, the remaining moisture will condensate again, resulting in water reappearing.

The air temperature decreases rapidly on decompression, which is therefore where a lot water appears. The only way to eliminate this moisture, is with the use of an air dryer.

A refrigerated air dryer operates as a refrigerator. As the air passes through its system, it is cooled down to 3°C. The water is removed at this temperature, then sent back into the airline at the working temperature. By doing this, there won't be any water appearing in the lines until the temperature drops below 3°C.





Dryer model	Technical data						Dimensions (mm)			
	air flow			Compressor	Air	Power Supply	Width	Depth	Height	Weight
	L/min	m3/hr	scfm	kW	Connc.	Ph/V/Fr	A	B	C	(kg)
APMD6	600	36	21	3	1/2"	1/230/50-60	370	515	475	25
APMD9	950	57	34	4	1/2"	1/230/50-60	370	515	475	26
APMD12	1.200	72	42	5.5	1/2"	1/230/50-60	370	515	475	28
APMD18	1.800	108	64	7.5	1/2"	1/230/50-60	370	515	475	32
APMD25	2.500	150	88	11	1"	1/230/50-60	345	420	740	34
APMD32	3.200	192	113	15	1 1/4"	1/230/50	345	445	740	39
APMD43	4.300	258	152	78.5	1 1/4"	1/230/50	345	445	740	40
APMD52	5.200	312	184	22	1 1/4"	1/230/50	485	455	825	49
APMD61	6.100	366	216	22*	1 1/2"	1/230/50	555	580	885	54
APMD75	7.500	450	265	30	1 1/2"	1/230/50	555	580	885	56
APMD105	10.500	630	371	37	2"	1/230/50	555	625	975	94
APMD130	13.000	780	459	55	2"	1/230/50	555	625	975	96
APMD168	16.800	1.008	594	55*	2 1/2"	1/230/50	665	725	1.100	144
APMD190	19.000	1.140	671	90	2 1/2"	3/400/50	645	920	1.100	189

Correction Factors									
Pressure	Pressure (bar)	4	5	6	7	8	10	12	14
	Factor	0.77	0.86	0.93	1.00	1.05	1.14	1.21	1.27
Ambient Temperature	Temperature (°C)	≤ 25		30		35		45	
	Factor	1.00		0.95		0.88		0.79	
Inlet Air Temperature	Temperature (°C)	≤ 30		35		40		50	
	Factor	1.11		1.00		0.81		0.67	
Dew Point	Dew Point (°C)	3		5		7		10	
	Factor	0.91		1.00		1.10		1.26	

REFRIGERATED AIR DRYERS – “FOUR LEAF CLOVER” SERIES

PMD dryers are represented by a “four leaf clover” which symbolise good luck, wealth and of reaching a point of evolution. The planning and design of this dryer range were not carried out in the original way, but all inalienable requirements were listed and then satisfied. The “four leaf clover” leaves that form the PMD dryers are a combination of applying technical solutions to original designs supported by extensive laboratory testing and achieving the goal of innovative development.

The PMD series has been designed and built to expedite inspection and maintenance operations. The easily removable panels offer immediate access to the operating components of the unit. The cleaning of the solenoid drain valve does not require the usage of service tools thanks to the quick bayonet valve system and innovative coil clamp.

1. PERFORMANCE

PMD dryers achieve excellence performance even in instances of high ambient and high inlet temperatures. The highly efficient and ultra-compact heat exchanger is able to operate effectively in ambient temperatures up to 45°C and inlet temperatures of 55°C, ensuring a reduced compressed air drop.



2. EFFICIENCY

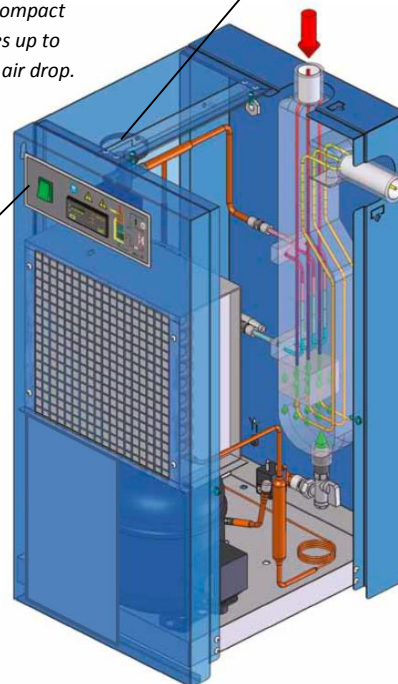
PMD dryers are sized to match standard compressor outputs. E.g. a 15kW (20HP) air compressor with theoretical output of 2,400L/min at 7 bar matches the PMD25 rated at 2,500L/min. It is therefore unnecessary to select a larger model: air compressor – dryer combination is tested and certified within operating limits shown on technical features.

3. FUNCTIONALITY

Operating of the PMD dryer is monitored by DMC15 electronic controller which indicates the dew point temperature digitally, controls the condensate drain via a timer and the condenser fan via a probe. From models PMD43 the fan is activated by a pressure switch. A hot gas by-pass valve allows the dryer to operate at part load and prevent the evaporator from freezing. The ALU-DRY aluminium module has a vertical flow layout ensuring the wet compressed air flows down to the automatic drain.



The circulation of the refrigerant in the system is by high efficient piston and rotary refrigerant compressor which, thanks to their innovative construction, have reduced energy consumption and high reliability levels.



4. ECOLOGY

All materials used in the construction of PMD dryers have a high recycling factor and only environmental friendly refrigerants are used. Components conform with 2002/95/CE “RoHS” (Restriction of Hazardous Substance) and 2002/96/CE “WEEE” (Wasted Electrical and electronic Equipment) directives.

