Air Dryer

Refrigerate air dryer - Aluminium Modular Dryer

MRD series

MRD dryers are represent by a four leaf clover which symbolises good luck, wealth and of reaching a point of evolution.

The planning and design of this dryer range were not carried out in the conventional way but all inalienable requirements were listed and then satisfied.

The "four clover leaves" that form the MRD dryers are a combination of applying technical solutions to original designs supported by extensive laboratory testing and achieving the goal of innovative development.

Control Panel

Operation of the MRD dryer is monitored by DMC15 electronic controller which indicates the DewPoint temperature digitally, controls the condensate drain valve via a timer and the condenser fan via a probe.

Performance

MRD dryers achieve excellent 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 temperature of 55°C, ensuring a reduced compressed air pressure drop.

Economic

MRD dryer are sized to match standard compressor outputs. E.g. a 15 kW (20HP) air compressor with theoretical output of 2400 l/min at 7 bar matches the MRD25 rated at 2500 l/min. It is therefore unnecessary to select a larger model: air compressor-dryer combination is tested and certified by M-PLUS, within operating limits shown on technical features.

Ecology

All materials used in the construction of MRD dryers have a high recycling factor and in compliance with the M-PLUS environmental policy, only environmentally friendly refrigerants are used. Components conform with 2002/95/CE "RoHS" (Restriction of Hazardous Substances) and 2002/96/CE "WEEE" (Waste Electrical and Electronic Equipment) European Directives.

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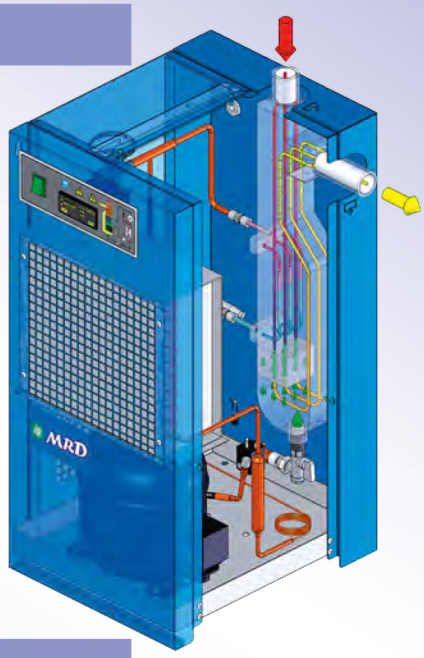
Functionality

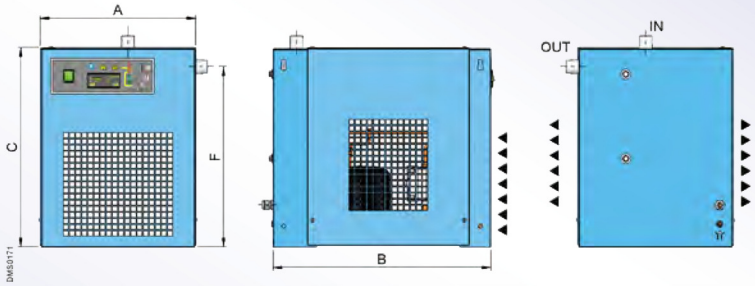
A hot gas by-pass valve allows the dryer to operate at part load and prevent the evaporator from freezing.



The ALU-DRY aluminium Module has a vertical flow layout ensuring the wet compressed air flows down to the automatic drain.

Technical Features

Data refer to the following nominal working condition: Inlet temperature 35°C, Inlet air pressure 7 barg, Ambient temperature 25°C, Pressure DewPoint 5°C Max. working condition: Inlet temperature 55°C, Inlet air pressure 14 barg, (16 barg for MRD3 to MRD18) Ambient temperature 45°C



MODEL	REFRIG.	FLOW-RATE			PRESSURE DROP	DIMENSIONS (mm)			CONN.	POWER SUPPLY	WEIGHT
	(Type)	Nl/min	Nm³/h	SCFM	(bar)	A	B	C	Ø	(Ph/V/Hz)	(+Kg)
MRD 3	R134a	350	21	12	0.15	310	345	435	3/8"	1/230/50-60	21
MRD 6	R134a	600	36	21	0.04	370	515	475	1/2"	1/230/50-60	25
MRD 9	R134a	950	57	34	0.09	370	515	475	1/2"	1/230/50-60	26
MRD 12	R134a	1200	72	42	0.14	370	515	475	1/2"	1/230/50-60	28
MRD 18	R134a	1800	108	64	0.32	370	515	475	1/2"	1/230/50-60	32
MRD 25	R134a	2500	150	88	0.24	345	420	740	1"	1/230/50-60	34
MRD 32	R134a	3200	192	113	0.16	345	445	740	1.1/4"	1/230/50	39
MRD 43	R404A	4300	258	152	0.24	345	445	740	1.1/4"	1/230/50	40
MRD 52	R404A	5200	312	184	0.34	345	445	740	1.1/4"	1/230/50	41
MRD 61	R404A	6100	366	216	0.19	555	580	885	1.1/2"	1/230/50	54
MRD 75	R404A	7500	450	265	0.25	555	580	885	1.1/2"	1/230/50	56
MRD 105	R404A	10500	630	371	0.14	555	625	975	2"	1/230/50	94
MRD 130	R404A	13000	780	459	0.20	555	625	975	2"	1/230/50	96
MRD 168	R404A	16800	1008	594	0.15	665	725	1105	2.1/2"	1/230/50	144

Correction factor for operating pressure changes:											
Inlet air pressure	barg	4	5	6	7	8	10	12	14	15	16
Correction	factor	0.77	0.86	0.93	1.00	1.05	1.14	1.21	1.27	1.30	1.33

Correction factor for ambient temperature changes:						
Ambient temperature	°c	≤ 25	30	35	40	45
Correction	factor	1.00	0.98	0.95	0.88	0.80

Correction factor for inlet air temperature changes:							
Inlet air temperature	°c	≤ 30	35	40	45	50	55
Correction	factor	1.15	1.00	0.84	0.71	0.59	0.59

Correction factor for dew point changes:					
Dewpoint	°c	3	5	7	10
Correction	factor	0.91	1.00	1.10	1.26