Direct expansion compressed air dryers

Dolomite Dryers

Save, without compromising

Superior reliability

- ✓ Proven electronic control with indication of performance
- ✓ Robust and reliable dryer
- ✓ FAN CONTROL (OMI patent) regulates the cooling capacity according to the load conditions of the dryer

Total Cost of Investment

- ✓ Lower purchase price
- ✓ Reduction of compressed air losses (with No Loss Drain option)
- ✓ New heat exchangers, with higher energy efficiency, for a lower power consumption

Versatility

- ✓ Customized painting available
- ✓ Marine painting (optional)
- ✓ No Loss Drain (optional)
- ✓ 60 Hz version (standard up to DD 216, optional for larger models)
- ✓ Refrigerant gas R513A standard for models up to DD 216

Performance improvement

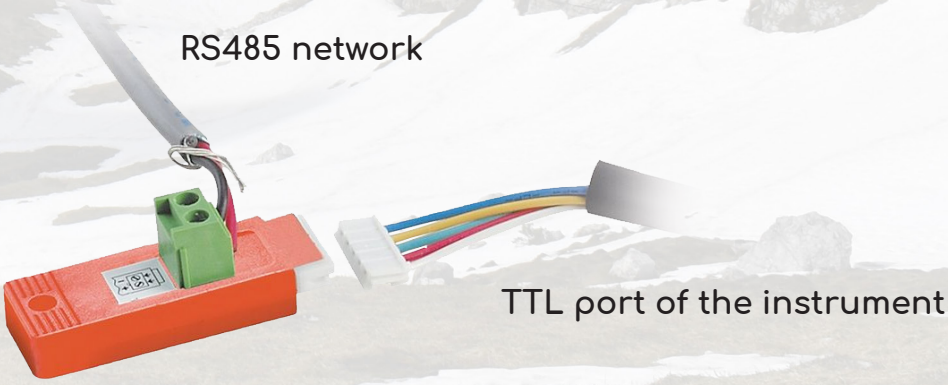
- ✓ Expansion of the range up to 1300 m³/h
- ✓ Single-phase power supply up to 1000 m³/h
- ✓ Class 5 Dew Point always guaranteed

Serviceability

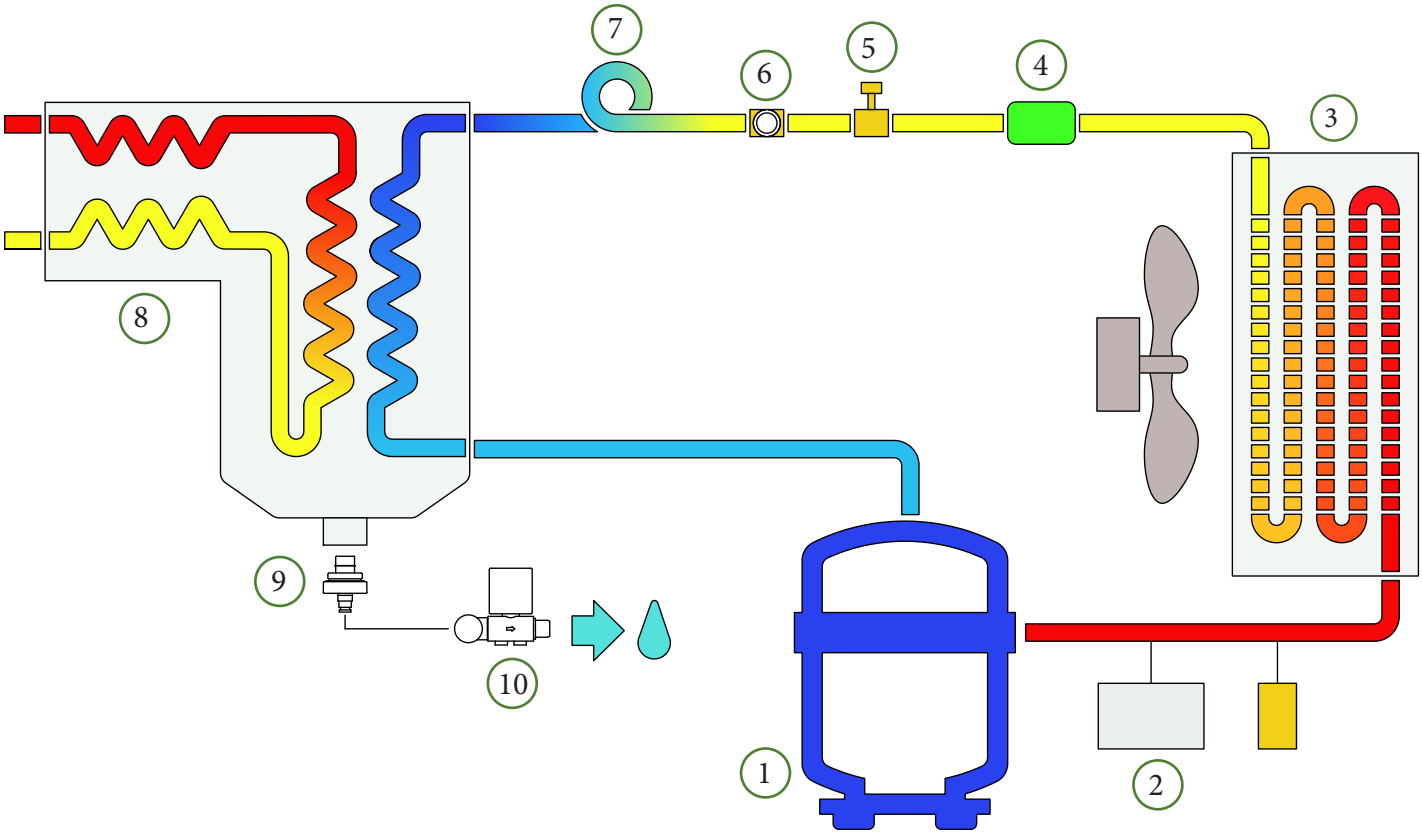
- ✓ Simplified maintenance
- ✓ Easily removable frame
- ✓ Remote alarm (optional)

Connectivity

- ✓ MODBUS RS485 interface for remote control and management of the dryer (optional version)



How does it work?



1 **Refrigerant scroll compressor**
It pumps refrigerant in the circuit assuring compressed air cooling

2 **Pressure switches**
High pressure safety and fan control devices of the refrigerant circuit

3 **Refrigerant condenser**
It discharges out from the system the heat absorbed from compressed air

4 **Filter drier**
It removes moisture to ensure the right operation of the refrigerant circuit

5 **Solenoid valve**
It allows the "Pump down", which avoids the migration of the refrigerant to the evaporator, when the dryer is off*

6 **Moisture indicator**
It indicates whether the refrigerant charge is circulating well free of moisture

7 **Capillary tube**
Freon lamination devices to reduce refrigerant pressure and temperature

8 **Heat exchanger**
It cools the compressed air, ensures the water/air separation and recovers heat

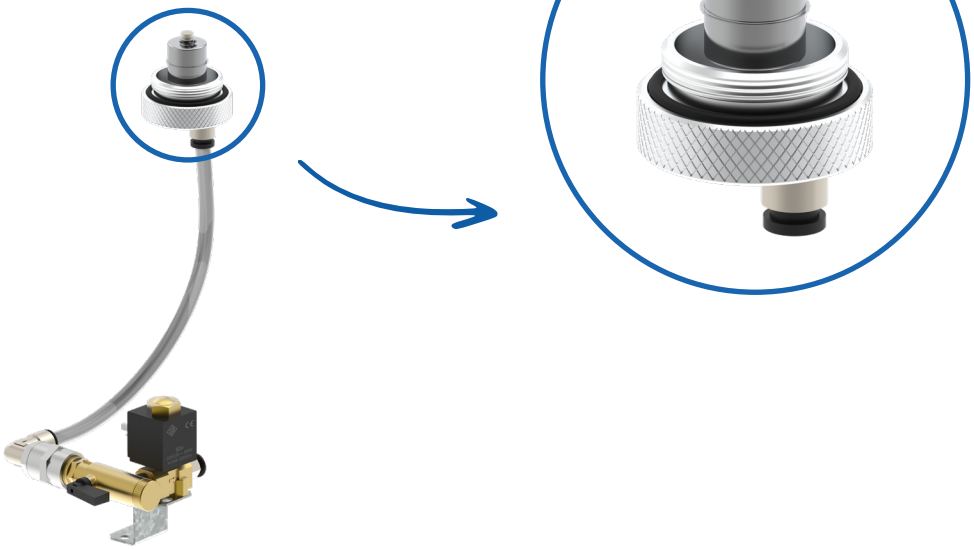
9 **No loss level sensor**
The float level rises with the accumulation of condensate. When it reaches the set level, the sensor sends a signal to the Control Panel to open the solenoid valve

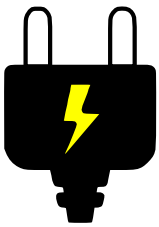
10 **Solenoid drain valve**
Controlled by the Control Panel, it drains the condensate when the float reaches the set level

Options

No-loss Drain

- ✓ **DD36 - DD340** Equipped with Electronic Level Control Condensate Drain: small size and highly reliable level sensor
- ✓ **DD500 - DD1300** Equipped with Intelligent Level Sensor thanks to a Self Test Algorithm, in case of sensor malfunction, the Timed drain mode is activated and an alarm is sent to the controller for a preventive maintenance;





Voltage 60 Hz

- ✓ Option for models from DD280 to DD1300, standard for the smallest models (DD36 - DD216);

Marine painting

- ✓ Treatment for greater resisance to corrosion in marine environments;

Industry 4.0

- ✓ Equipped with a controller including MODBUS RS48S interface for the control and remote management of the dryer;

Product Selection & Performance

Model	Connections	Flow rate			ISO8573-1:2010 Classification
	BSPP	m³/h	l/min	CFM	
DD36	⅜"	36	600	21,2	Class 5 Water content
DD54	½"	54	900	31,8	
DD72		72	1200	42,4	
DD108		108	1800	63,6	
DD144	¾"	144	2400	84,8	
DD180		180	3000	105,9	
DD216		216	3600	127,1	
DD280	1"	280	4667	164,8	
DD340		340	5667	200,1	
DD500	1" ½	500	8333	294,3	
DD610		610	10167	359,0	
DD750	2"	750	12500	441,4	
DD1000	2" ½	1000	16667	588,6	
DD1300		1300	21667	765,2	

Performances refer to air suction of FAD 20°C (68°F), 1 bar (14.5 psig), and the following operating conditions: 7 bar (100 psig) working pressure, 7°C (44.5°F) pressure dewpoint, 25°C (77°F) ambient temperature, 35°C (95°F) compressed air inlet temperature.

NPT connections are available on request.

Technical Data

Models	Operating pressure				Operating temperature				Ambient temperature			
	Min		Max		Min		Max		Min		Max	
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F	°C	°F
DD36 - DD610	3	43	16	232	10	50	55	131	5	41	45	113
DD750 - DD1300			14	203								

Models	Electrical supply		Refrigerant gas		Noise level
	Standard	Optional	Standard	Optional	
	V/ph/Hz	V/ph/Hz			dB(A)
DD36 - DD216	230/1/50-60	-	R134a	R513A	<70
DD280 - DD1000	230/1/50	230/1/60	R407C	-	
DD1300	400/3/50	460/3/60			

Controller Options

Models	Display indications					Alarms		Other features		
	On-Off	Compressor active	Condensate drain active	Fan active	Dryer load	High dew point temperature	Faulty probe	Manual drain activation	Drain timing setting	Remote on-off (optional kit)
DD36 - DD1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DD1300	✓	✓	✓	×	✓	✓	✓	✓	✓	✓

Correction Factors

FC1 - Correction factor for working pressure														
Minimum inlet pressure														
bar	3	4	5	6	7	8	9	10	11	12	13	14	15	16
psi	44	58	73	87	102	116	131	145	160	174	188,5	203	217	232
FC1	0,7	0,78	0,85	0,93	1	1,06	1,11	1,15	1,18	1,2	1,22	1,24	1,25	1,26

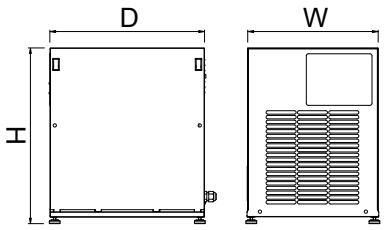
FC2 - Correction factor for ambient temperature										
Maximum ambient temperature										
°C	5	10	15	20	25	30	35	40	42	45
°F	41	50	59	68	77	86	95	104	107,6	113
FC2	1,16	1,12	1,08	1,04	1,00	0,96	0,92	0,88	0,85	0,80

FC3 - Correction factor for inlet air temperature										
Maximum inlet temperature										
°C	10	15	20	25	30	35	40	45	50	55
°F	50	59	68	77	86	95	104	113	122	131
FC2	2,00	1,80	1,60	1,40	1,20	1,00	0,85	0,71	0,58	0,49

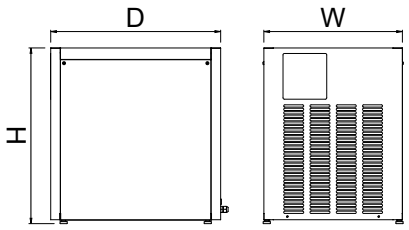
Calculation of the dryer REAL FLOW RATE = nominal dryer flow rate x FC1 x FC2 x FC3

Weights and Dimensions

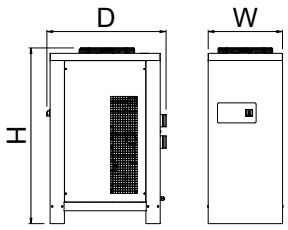
Model	Connections	Dimensions						Weight	
		Width (W)		Depth (D)		Height (H)			
	BSPP	mm	in	mm	in	mm	in	kg	lbs
DD36	⅜"	305	12,0	360	14,2	404	15,9	17	37
DD54	½"	325	12,8	430	16,9	445	17,5	24	53
DD72		325	12,8	430	16,9	445	17,5	25	55
DD108		325	12,8	430	16,9	445	17,5	26	57
DD144	¾"	395	15,6	486	19,1	565	22,2	31	68
DD180		395	15,6	486	19,1	565	22,2	36	79
DD216		395	15,6	486	19,1	565	22,2	40	88
DD280	1"	485	19,1	595	23,4	614	24,2	62	137
DD340		485	19,1	595	23,4	614	24,2	64	141
DD500	1" ½	500	19,7	658	25,9	967	38,1	84	185
DD610		500	19,7	658	25,9	967	38,1	87	192
DD750	2"	520	20,5	800	31,5	1195	47,0	117	258
DD1000	2" ½	520	20,5	835	32,9	1195	47,0	129	284
DD1300		520	20,5	835	32,9	1229	48,4	144	317



DD36-216



DD280-340



DD500-1300

Suggested Filtration

Dryer model		Suggested filter	
	Connections		Connections*
DD 36	⅜"	AF30	⅜"
DD 54	½"	AF75	¾"
DD 72			
DD 108		AF110	
DD 144	¾"	AF190	1"
DD 180			
DD 216		AF260	
DD 280	1"	AF260	
DD 340		AF400	1" ½
DD500	1" ½	AF500	
DD 610		AF800	2"
DD 750	2"		
DD 1000		AF1000	
DD 1300	2" ½	AF1560	3"

* You may need some adaptors in order to match dryers and filters connections.

Pre-filter (Filtration grade)		Dryer		Post-filter (Filtration grade)	Applications
QF	⇨	DD Series	⇨	PF	Machinery, metallurgy, construction
			⇨	PF	Painting, blasting
			⇨	PF + HF	Pneumatic transport
			⇨	PF + HF	Photography, publishing
			⇨	PF + HF + Sterile filter*	Laboratories, medical rooms, food industry
			⇨	PH + HF + CF	Packaging, pharmaceutical, process air, chemical

Filtration grades		ISO 8573-1 Max solid dimension intercepted		ISO 8573-1 Max oil concentration (included steam)	
		µm	Class	mg/m³	Class
QF	Pre-filter suitable for the removal of solid particles. The strong mechanical resistance makes this filter the ideal initial protection of a compressed air system to retain impurities.	1	3	-	-
PF	Interception type filters suitable for solid and oil particles. These filters, by means of the impact, interception and coalescing principles, compel the submicronic liquid particles, which from the inside strain through the element, to collide and thus become larger micro droplets, which will drip to the bottom of the filter housing.	0,1	2	0,1	2
HF		0,01	1	0,01	1
CF	The activated carbon filter through the adsorption process attracts all odors and vapors left after desoiling and keep them on the surface of the activated carbon grain molecules. The element is made by thick activated carbon layer covered by fiber coating kept in place by an inside and outside stainless steel wall.	-	-	0,003	1

* For further details on Sterile filters please contact our technical department

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