ESD SERIES 1500 - 1800 - 2250

REFRIGERATION AIR DRYERS

ENERGY SAVING

Higher Efficiency, Lower Cost

The high-efficiency design and construction of ESD 1500 - 2250 cycling dryers help you achieve better performances, while reducing energy consumption. The patented, high-efficiency heat exchanger combined with a thermal mass circuit helps save energy at partial load. The refrigerant compressor is automatically deactivated to save energy when not needed.

Reliability and Simplicity through Experience

Utilizing extensive dryer design experience, OMI ESD 1500 - 2250 dryers include features like microprocessor control and no-loss drain that increase reliability and saving. Features such as dryer self-regulation and plug-and-play installation make start-up convenient, while always-available parts make ongoing maintenance simple and easy.

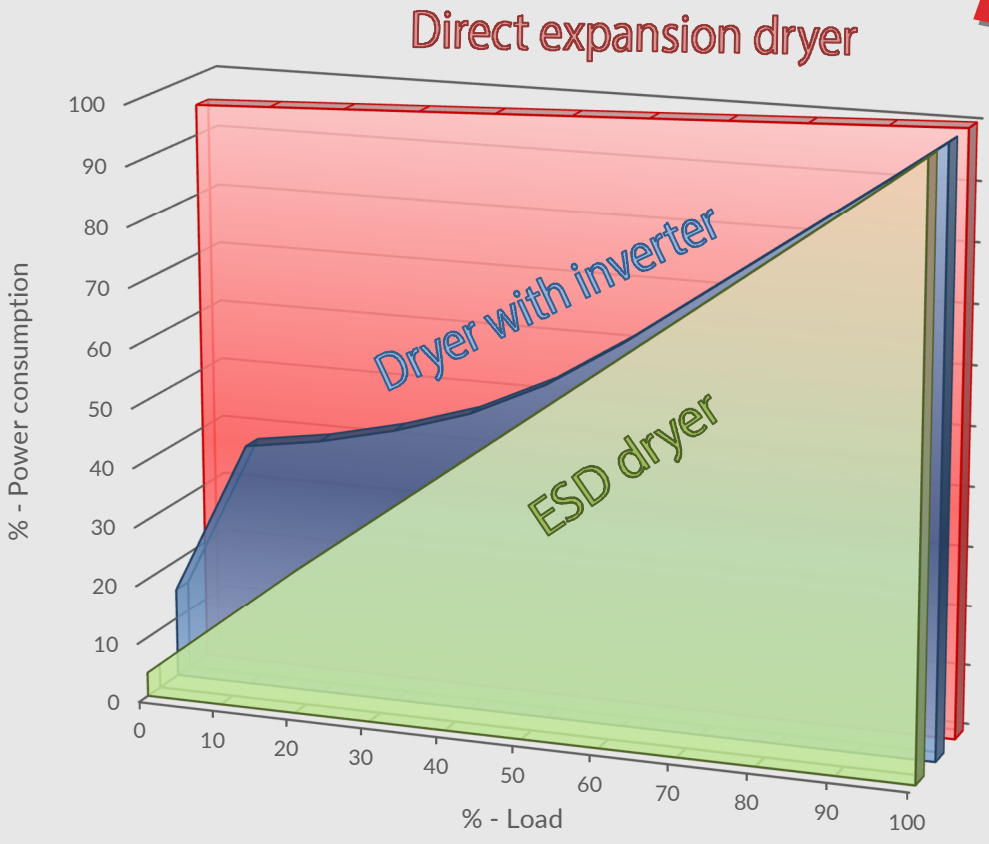
Advanced Environmental Sustainability

By shutting off the compressor during low loads, ESD 1500 - 2250 dryers dramatically reduce energy waste. ESD dryers use R407c refrigerant that is environmentally-friendly with the lowest Global Warming Potential to help reduce greenhouse gas emissions.

High-quality components provide longer lasting dryers that require less replacement parts, minimizing environmental impact.

Up to 96% energy saving

Energy saving info displayed in real time



NEW FEATURES

Increase Performances

24% Average Pressure Drop reduction

Better components Layout

Which improve serviceability and simplify the access to the unit for easy maintenance

Increased reliability and reduction of leaking points

Innovative Control Panel

With all the main functions you would expect to control and monitor the unit:

- Anti freeze mode – shuts dryer off to avoid icing
- Alarm display: Dew Point, high/low temperature, High ambient temperature
- Terminal for remote alarm signal
- Remote ON/OFF
- History of the last 50 alarms
- Condensate drain management

Air condensation (standard)

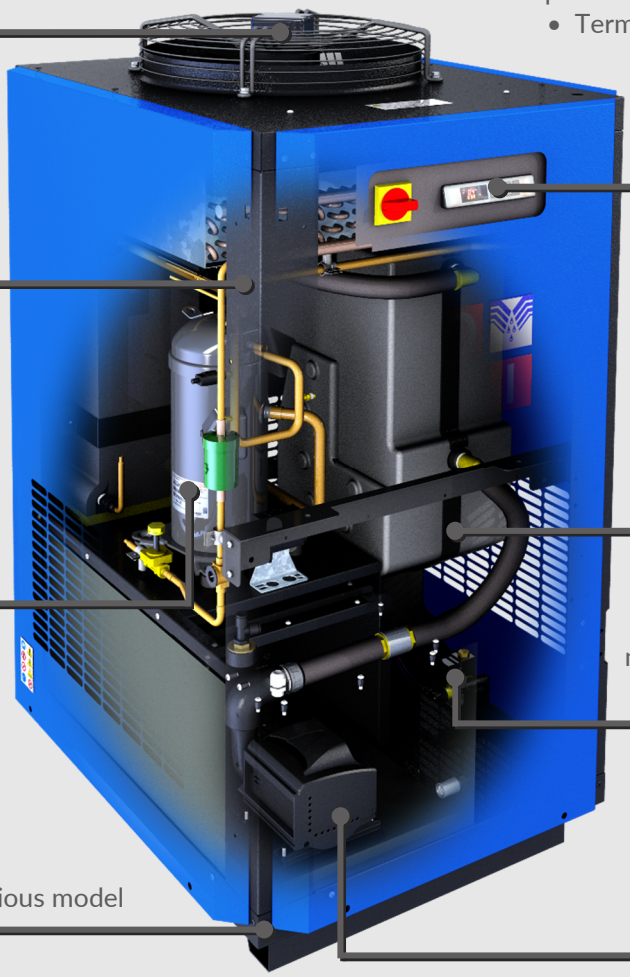
Water and sea water cooled versions available

Victaulic connections

For easy and fast pipes connection

Reliable Design

Scroll compressors with corrosion resistant materials. They feature less moving parts, are fully-instrumented and monitored for reliability and are protected by IP42 rated electrical enclosures



New heat exchangers

Completely designed in our laboratories to grant the highest level of performances with the lowest pressure drop. The adoption of the new OMI heat exchanger is capable to replace 2 of former design and remove the inlet and outlet headers

Innovative No-loss Drain

With sensor installed directly in the moisture separator and control logic managed by the main Control Panel

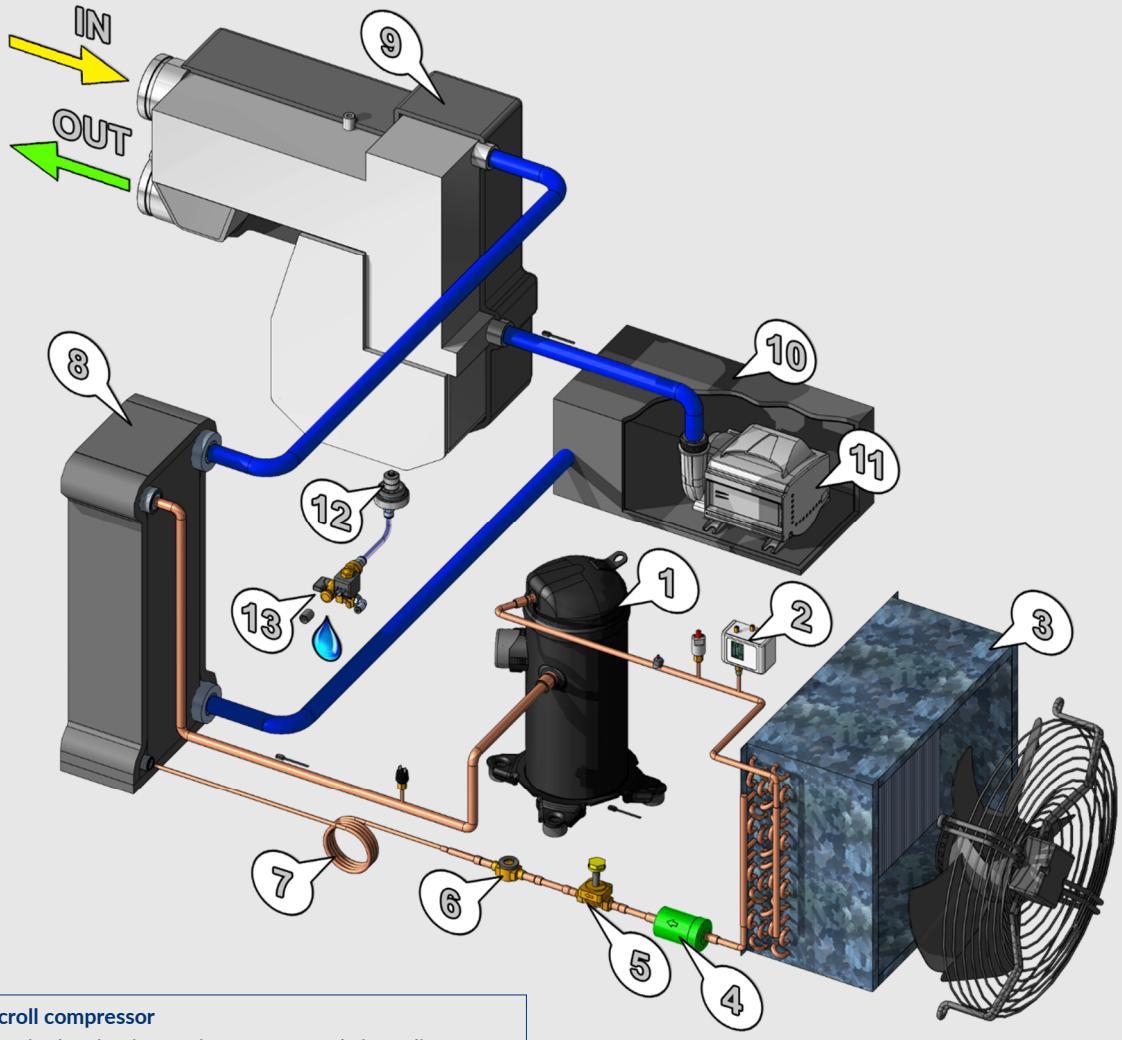
High Efficiency Circulator

The circulator is positioned inside the glycol tank. The new position ensures no leaks and a better insulation of the circuit

Reduced Footprint

30% Smaller compared with previous model

HOW IT WORKS



1 **Refrigerant scroll compressor**
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**
Discharges out from the system the heat absorbed from compressed air

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

5 **Solenoid valve**
It closes, stopping the flow of refrigerant in the evaporator when the compressor stops

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

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

8 **Evaporator**
Intermediate cooler, here the refrigerant cools the glycol

9 **Heat exchanger**
Here the glycol cools the compressed air ensuring the water/air separation and recovering heat

10 **Glycol tank**
Contains the glycol cooled in the evaporator, allowing the compressor to stop and save energy

11 **Circulator**
Pumps the glycol to the heat exchanger for an optimized compressed air cooling

12 **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

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

TECHNICAL SPECIFICATIONS

	MODEL			ESD1500	ESD1800	ESD2250
Standard air cooled version	Capacity*		m^3/h	1500	1800	2250
			m^3/min	25	30	37.5
	Pressure dew point		°C	3	3	3
	Minimum operating pressure		bar g	3.0	3.0	3.0
	Maximum operating pressure		bar g	14	14	14
	Design inlet temperature		°C	35	35	35
	Max inlet temperature		°C	55	55	55
	Design ambient temperature		°C	25	25	25
	Max ambient temperature		°C	45	45	45
	Heat exchanger type			Aluminium pack		
	Compressor type			Hermetic Scroll Compressor		
	Refrigerant type			R407C		
	Compressed air pressure drop *		bar	0.16	0.23	0.25
	Nominal Power Consumption*		kW	2.44	2.90	3.66
	Max Power Consumption		kW	4.93	4.93	5.42
	Nominal Absorbed Current*		A	6.20	7.32	6.54
	Maximum Absorbed Current*		A	9.54	9.54	9.33
	Absorbed Current at Locked Rotor		A	50	50	70
	Cooling air flow*		m^3/h	5800	5800	5800
	Expansion method			Capillary tube		
	Drain type			No-loss		
	Condensate separator type			Demister type		
	IN/OUT Air connections (Internal thread)			3"BSP (optional 3" NPT)		
	IN/OUT Air connections (External coupling)			4" Victaulic	4" Victaulic	4" Victaulic
	Control panel			Digital electronic controller		
	Standard Power Supply		V/Ph/Hz	400V**/ 3ph / 50 Hz (optional 460**/3/60)		
	Electric protection		IP	42 (optional IP 54)		
	Installation location			Indoor		
Water and sea water cooled version (option)	Water Flow*	Water	m^3/h	1.9	2.1	2.7
		Sea water	m^3/h	1.9	2.1	2.7
	Max water flow	Water	m^3/h	2.4	2.6	3.4
		Sea water	m^3/h	2.4	2.6	3.4
	Water pressure		bar	Min. 2 - Max. 10	Min. 2 - Max. 10	Min. 2 - Max. 10
	Design Water temperature		°C	29.4	29.4	29.4
	Max Water temperature		°C	40	40	40
	Cooling water pressure drop *		bar	0.59	0.75	0.63
	IN/OUT Water connections			3/4 "BSP	3/4 "BSP	3/4 "BSP
	Water flow regulation			Pressostatic Valve	Pressostatic Valve	Pressostatic Valve

(*) Suction of FAD 20°C, 1 bar (abs) and the following operating conditions:

7 bar (g) working pressure, 100% RH, 35°C inlet temperature, 25 °C ambient temperature, 29.4 °C water temperature.

(**) Voltage Tolerance: ± 5 %

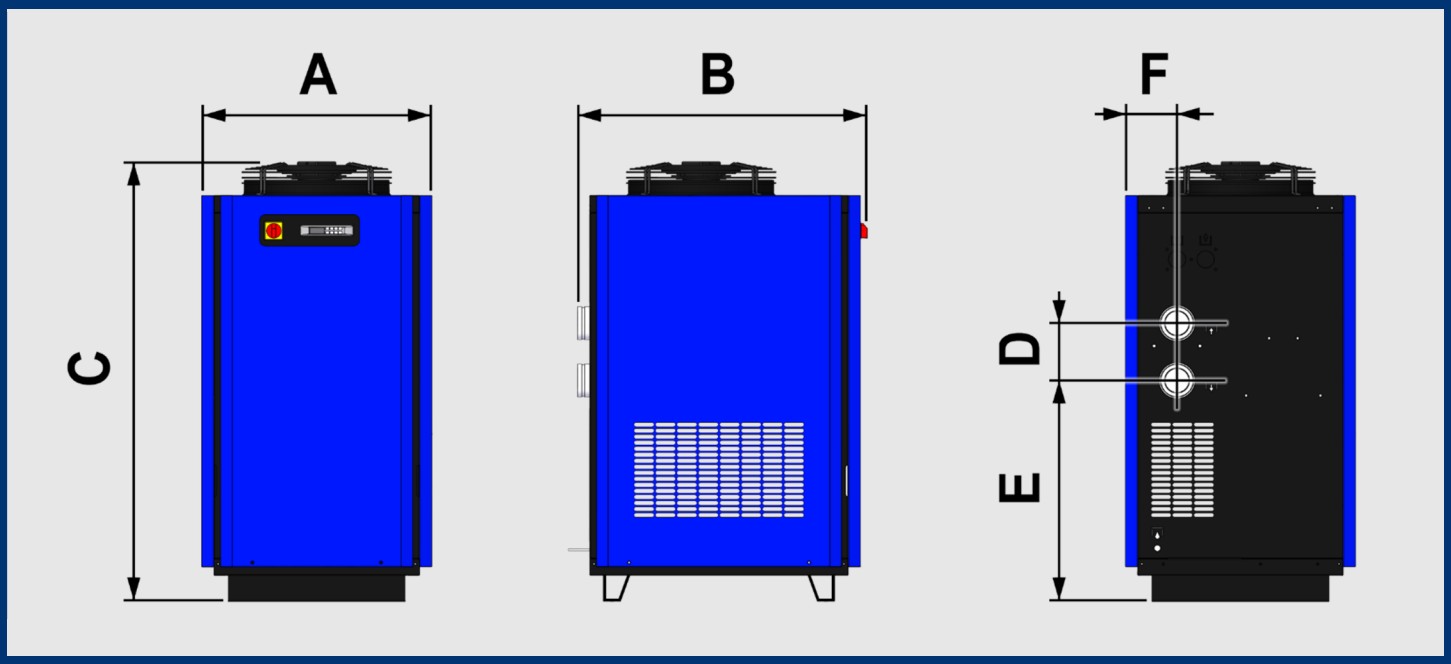
Performances & specifications: +/- 5%

DIMENSIONS

Model	Code	Dimensions						Weight
		A	B	C	D	E	F	Kg
ESD 1500	08S.1500AG0.00BG	806	1012	1539	200	772	181	244
ESD 1800	08S.1800AG0.00BG	806	1012	1539	200	772	181	244
ESD 2250	08S.2250AG0.00BG	806	1012	1539	200	772	181	270

MAIN AVAILABLE OPTIONS

- Non-standard voltages: 460V/3ph/60Hz
- Available with NPT connections
- Water and sea water cooled versions available



Correction factor for working pressure											
bar	3	4	5	6	7	8	9	10	11	12	13
FC1	0,7	0,78	0,85	0,93	1	1,06	1,11	1,15	1,18	1,2	1,22

Correction factor for inlet air temperature						
°C	30	35	40	45	50	55
FC2	1,2	1	0,85	0,71	0,58	0,49

Correction factor for ambient temperature						
°C	25	30	35	40	42	45
FC3	1	0,96	0,92	0,88	0,85	0,8

Calculation of the dryer real flow rate

REAL FLOW RATE = Nominal dryer flow rate x FC1 x FC2 x FC3

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Cod. 712.0036.00.00-16