



# ADSORPTION DRYER

## F-DRY 1200-6500

(Heatless regenerated adsorption dryer)

### DESCRIPTION

F-DRY 1200-6500 adsorption dryers have been designed for continuous separation of water vapour from compressed air thus reducing the dew point. F-Dry dryers have two columns that operate alternately. Adsorption takes place under pressure in the first column while the second column is regenerated with a portion of already dried compressed air at ambient pressure. A dryer consists of two columns, filled with desiccant beads, a controller with an LCD display, valves, manometers and support construction. A proven and robust design enables efficient and reliable operation, fast installation and simple maintenance.



### DRYER RATING ACCORDING TO ISO8573-1

Solid particles <sup>(1)</sup>	Water <sup>(1),(2)</sup>	Oil <sup>(1)</sup>
2	1-3	1

<sup>(1)</sup>Typical results based on standard configuration and nominal operating conditions

<sup>(2)</sup>Dependant on a specific design. Class 2 when operated at nominal operating conditions.

### TECHNICAL SPECIFICATIONS

Operating pressure	4 – 16 bar
Operating temperature	1,5°C to 60°C
Pressure dew points	-40°C (-25, -70)
Voltage, Frequency	230V, 50/60Hz
Power consumption	<60W
Protection class (controller)	IP 65
Filter (inlet) <sup>(3)</sup>	Super fine coalescing; residual oil cont. <0,01mg/m <sup>3</sup> ; 0,01µm
Filter (outlet)	Dust filter; 1µm
Input for stand-by	STANDARD
Dew point dependent control	OPTIONAL
Communication	Modbus (TCP/IP)

<sup>(3)</sup>If the dryer is supplied without an inlet filter compressed air class 1 (ISO 8753-1) for solid particles and oil should be provided to the inlet of the dryer.

### MATERIALS

Columns, construction, support	Steel
Column inner protection	/
Column and construction outer protection	Epoxy painted
Desiccant support screen	Stainless steel
Valves	Brass, aluminium
Seals	NBR
Fittings, Screws, plugs	INOX, brass, steel (zinc plated)
Lubricant	Shell cassida grease RLS 2
Outside protection	Powder paint coated (Epoxy-polyester base)
Desiccant	80% Molecular sieve 4A, 20% Silica gel



## SIZES

Model	Conn. IN & OUT <sup>(6)</sup>	Inlet flow [Nm <sup>3</sup> /h] <sup>(4)</sup>	Outlet flow [Nm <sup>3</sup> /h] <sup>(5)</sup>	A [mm]	B [mm]	C [mm]	Mass [kg]	Volume [l] <sup>(7)</sup>	Filter
F-DRY 1200	DN50	1200	936,0	1210	770	2200	820	215	AF 1506
F-DRY 1500	DN65	1500	1170	1550	860	2225	980	270	AF 1756
F-DRY 2000	DN65	2000	1560	1690	860	2400	1550	420	AF 2006
F-DRY 2500	DN80	2500	1950	1700	960	2400	1680	470	AF 2406
F-DRY 3000	DN80	3000	2340	1875	950	2400	1850	580	BF 0300
F-DRY 3750	DN100	3750	2925	2030	1010	2510	2300	715	BF 0450
F-DRY 5000	DN100	5000	3900	2240	1160	2650	2850	950	BF 0600
F-DRY 6500	DN125	6500	5070	2420	1250	2730	3750	1380	BF 0900

<sup>(4)</sup>Refers to 1bar(a) and 20°C at 7 bar operating pressure , inlet temperature 35°C and pressure dew point at outlet -40°C

<sup>(5)</sup>The outlet flow given is the flow that can be achieved while regeneration is taking place. The outlet flow when regeneration is not taking place can be higher. Outlet flow includes average air losses of approximately 17,3 %.

<sup>(6)</sup>Refers to inlet and outlet of the dryer without filters.

<sup>(7)</sup>Volume per vessel

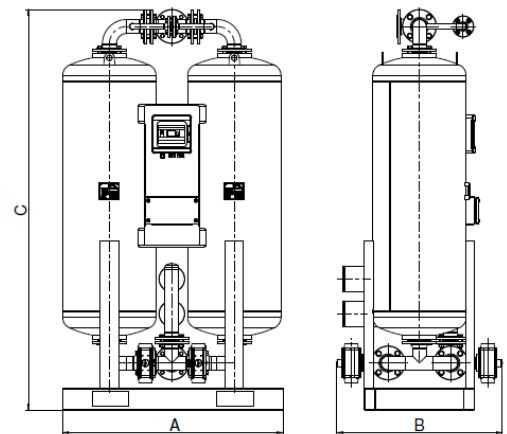
## PRESSURE EQUIPMENT DIRECTIVE PED 97/23/CE (Fluid group 2)

F-DRY 1200 to F-DRY 6500      Category 4, Module H

## CORRECTION FACTORS

To calculate the correct capacity of a given filter based on actual operating conditions, multiply the nominal flow capacity by the appropriate correction factor(s).

$$\text{Corrected capacity} = \text{Nominal inlet flow capacity} \times c_{OP} \times c_{OT} \times c_D$$



## OPERATING PRESSURE

[bar]	4	5	6	7	8	9	10	11	12	13	14	15	16
[psi]	58	72	87	100	115	130	145	160	174	189	203	218	232
$c_{OP}$	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

## OPERATING TEMPERATURE

[°C]	25	30	35	40	45	50	55	60	DEW POINT				
[F]	77	86	95	104	113	122	131	140	[°C]	-25	-40	-70	
$c_{OT}$	1	1	1	0,97	0,87	0,80	0,64	0,51	[F]	-13	-40	94	
									$c_D$	1,1	1	0,7	

## MAINTENANCE

For maintenance, please follow the operating manual. Check the dryer operation weekly. Typical service intervals:

- Filter elements: every 12 months of operation or sooner if required
- Silencers, valve components: every 24 months of operation or sooner if required
- Desiccant: every 48 months of operation or sooner if required