

ADSORPTION DRYER

X-DRY 300-1050

(Heatless regenerated modular adsorption dryer)

DESCRIPTION

X-DRY 300-1050 modular adsorption dryers have been designed for continuous separation of water vapour from compressed air thus reducing dew point. Operation of dryer requires two columns operated alternately. Adsorption takes place under pressure in first column while second column regenerates with a portion of already dried compressed air at ambient pressure. A dryer consists of two columns, filled with desiccant beads, controller with LCD display, valves, manometers, support construction and suitable filter housings with the required filter element. Proven robust design enables efficient and reliable operation, fast installation and simple maintenance.



DRYER RATING ACCORDING TO ISO8573-1

Solid particles ⁽¹⁾	Water ^{(1),(2)}	Oil ⁽¹⁾
2	1-3	1

⁽¹⁾Typical result based on standard configuration and nominal operating conditions

⁽²⁾Depend on 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) ⁽³⁾	Super fine coalescing; residual oil cont. <0,01mg/m3; 0,01µm
Filter (outlet)	Dust filter; 1µm
Dew point dependent control	OPTIONAL, Only available when dew point sensor is connected!
Relay output for dew point warning	OPTIONAL, Only available when dew point sensor is connected!
Digital input for stand-by	STANDARD, Open contact 24 VDC
Communication	ON REQUEST, TCP/IP with Siemens LOGO! and Siemens SIMATIC devices, LOGO! Web server

⁽³⁾If dryer is supplied without 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	Aluminium
Column inner protection	/
Column and construction outer protection	Epoxy painted
Desiccant support screen	Stainless steel
Valves	Brass, aluminium
Sealings	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

Omega Air d.o.o. Ljubljana
Cesta Dolomitskega odreda 10
1000 Ljubljana, Slovenia

Tel: +386 (01) 200 68 00
Fax: +386 (01) 200 68 50

e-mail: info@omega-air.si
www.omega-air.si

©Copyright 2010, Omega Air d.o.o. Ljubljana



PRODUCT DATA SHEET
X-DRY 300-1050 v1.22

Model	Conn. IN & OUT ⁽⁶⁾	Inlet flow [Nm ³ /h] ⁽⁴⁾	Outlet flow [Nm ³ /h] ⁽⁵⁾	A [mm]	B [mm]	C [mm]	Mass [kg]	Tower Vol [l]	No. Towers	Volume [l]
X-DRY 300	G 1"	300	237	1520	749	686	350	26,5	4	106
X-DRY 450	G 1 1/2"	450	355,5			886	520		6	159
X-DRY 600	G 1 1/2"	600	474			1086	690		8	212
X-DRY 750	G 2"	750	592,5			1286	860		10	265
X-DRY 900	G 2"	900	711			1486	1030		12	318
X-DRY 1050	G 2"	1050	829,5			1686	1200		14	371

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

⁽⁵⁾Outlet flow according to typical losses during regeneration phase at nominal inlet flow, temperature and pressure conditions. Average air losses are approximately 17,3 %.

⁽⁶⁾Refers to inlet and outlet filter housing.

PRESSURE EQUIPMENT DIRECTIVE PED 2014/23/EU (Fluid group 2)

X-DRY 300 to 1050	PED Category 1, Module A
-------------------	--------------------------

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). CORRECTED

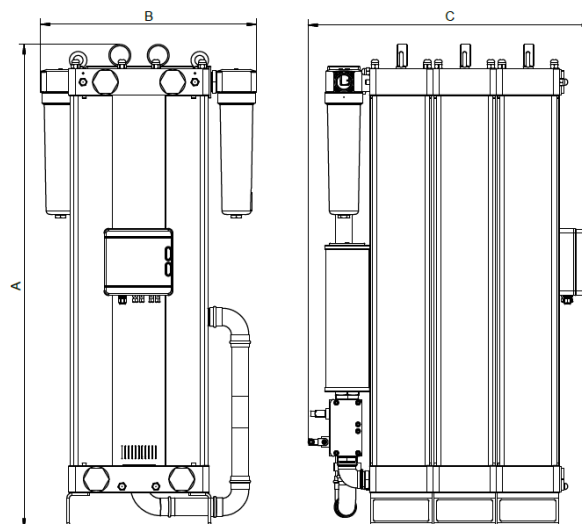
CAPACITY = NOMINAL FLOW CAPACITY x C_{OP} x C_{OT} x C_D

OPERATING PRESSURE

[bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
[psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
C _{OP}	0,38	0,5	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						
[°C]	25	30	35	40	45	50	55	60	[°C]	-25	-40	-70			
[F]	77	86	95	104	113	122	131	140	[F]	-13	-40	94			
C _{OT}	1	1	1	0,97	0,87	0,80	0,64	0,51	C _D	1,1	1	0,7			




MAINTENANCE

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

- filter elements: every 12 months in operation or sooner if required
- silencers, valve components,: every 24 months in operation or sooner if required
- desiccant: every 48 months in operation or sooner if required

INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE

	Our quality management system is certified by BUREAU VERITAS in conformity with ISO 9001:2015 Reg. number: 200285	
---	--	--