ADSORPTION DRYER

COM-DRY

(Refrigeration + Adsorption Dryer)

DESCRIPTION

COM-Dry dryers have been designed for continuous separation of water vapour from compressed air thus reducing dew point. Drying consist of two steps. Refrigeration dryer first eliminates most of the water from air and reduces dew point down to PDP +3°C. Further reduction of dew point is achieved by adsorption dryer. Operation of dryer is simpler compared to conventional heat regenerated adsorption dryer while average compressed air losses are only up to 4,6%.

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 - 14 bar
Operating temperature	1,5°C to 45°C
Pressure dew points	Down to -40°C
Voltage,Frequency	230V and 3x400V depending on size; 50 Hz
Protection class (controller)	IP 65
Filter (inlet)[3]	Super fine coalescing; residual oil cont. <0,01mg/m3; 0,01µm
Filter (outlet)	Dust filter; 1µm
Awerage purge air consumption	Approx. 4,6% (at nominal inlet conditions, Outlet PDP -40)[4]
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.
(4) Purge air consumption is related with inlet temperature to the adsorption dryer (outlet temperature from refrigeration dryer). Typically inlet temperature to adsorption dryer is 10°C lower than inlet temperature to refrigeration dryer. In case inlet temperature to refrigeration dryer is lower than 35°C demand for purge air increases.

MATERIALS

Heat exchanger	Stainless steel
Columns, construction, support	Steel
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

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

SIZES

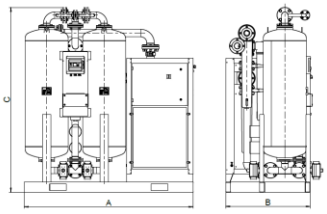
Model	Conn. IN & OUT[5]	Inlet flow [Nm³/h][3]	ADS DRYER	REF. DRYER	DIMENSIONS		Power [kW]	Mass [kg]	Volume [l]
COM-DRY 06	G 3/8"	6	A-DRY 06	RDP 20	-	-	0,15		2,60
COM -DRY 12	G 3/8"	12	A-DRY 12	RDP 20	-	-	0,15		4,33
COM -DRY 24	G 3/8"	24	A-DRY 24	RDP 35	-	-	0,16		7,78
COM -DRY 36	G 3/8"	36	A-DRY 36	RDP 35	-	-	0,16		11,22
COM -DRY 60	G 1/2"	60	A-DRY 60	RDP 75	-	-	0,21		19,91
COM -DRY 75	G 1/2"	75	A-DRY 75	RDP 75	-	-	0,29		24,32
COM -DRY 110	G 1"	110	B-DRY 110	RDP 140	-	-	0,39		20
COM -DRY 150	G 1"	150	B-DRY 150	RDP 180	-	-	0,48		25
COM -DRY 200	G 1"	200	B-DRY 200	RDP 235	-	-	0,71		36
COM -DRY 250	G 1"	260	B-DRY 250	RDP 300	-	-	0,79		45
COM -DRY 300	G 1 ½"	320	B-DRY 300	RDP 380	-	-	0,82		57
COM -DRY 400	G 1 ½"	410	B-DRY 400	RDP 480	-	-	0,71		70
COM -DRY 600	G 1 ½"	590	B-DRY 600	RDP 600	-	-	1,4		102
COM -DRY 800	G 2"	770	B-DRY 800	RDP 750	-	-	1,5		134
COM -DRY 1000	G 2"	1000	B-DRY 1000	RDP 1150	-	-	2,1		164
COM -DRY 1200	DN50	1200	F-DRY 1200	RDP 1300	-	-	2,3		225
COM -DRY 1500	DN65	1500	F-DRY 1500	RDP 1900	-	-	3,6		280
COM -DRY 2000	DN65	2000	F-DRY 2000	RDP 2600	-	-	3,9		295
COM -DRY 2500	DN80	2500	F-DRY 2500	RDP 2600	-	-	5,2		470
COM -DRY 3000	DN80	3000	F-DRY 3000	RDP 3400	-	-	5,9		570
COM -DRY 3750	DN100	3750	F-DRY 3750	RDP 4400	-	-	7,1		660
COM -DRY 5000	DN100	5000	F-DRY 5000	RDP 5400	-	-	10,8		980
COM -DRY 6500	DN125	6500	F-DRY 6500	RDP 6600	-	-	11,3		1200

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

[4]Outlet flow refers to typical assumption during regeneration phase for operating at nominal inlet flow conditions. Outlet flow includes average air losses of approximately 4,6 %. Maximum purge air flow during regeneration phase is up to 5,7% of nominal inlet conditions. [5]Reffers to inlet and outlet filter housing.

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_{IT} x C_{AT} x C_D



OPERATING PRESSURE

[bar]	2	3	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	-	-
C_{OP}	-	-	0,63	0,75	0,88	1	1,05	1,09	1,14	1,18	1,21	1,24	1,27	-	-

INLET TEMP.

[°C]	25	30	35	40	45	50	55
[F]	77	86	95	104	113	122	131
CIT	*	*	1	0,81	0,67	0,55	0,45

AMBIENT TEMP

[°C]	<25	30	35	40	45
[F]		86	95	104	113
CAT	1	0,95	0,88	0,79	0,68

DEW POINT

[°C]	-25	-40	-70
[F]	-13	-40	94
CD	*	1	*

*Contact manufacturer

MAINTENANCE

For maintenance, please follow operating manual.

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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