

REFRIGERATION DRYER

RDP 2600 W - 13200 W

(Non-cycling refrigeration dryer; water cooled)

DESCRIPTION RDP

RDP refrigeration dryers have been designed to efficiently separate water from the compressed air and lower pressure dew point all the way down to +3°C. Drying is achieved on the principle of cooling which takes place inside a highly efficient and ultra-compact 3 stage heat exchanger. In the first stage (air-air heat exchanger) hot and humid inlet air is being pre-cooled by the cold outgoing air. In the second stage (air-refrigerant heat exchanger) intensive water condensation takes place due to cooling of the air. All condensed water is separated from the main compressed air stream in the third stage by the integrated demister. A proven and 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⁾
/	4	/

⁽¹⁾ Standard configuration of dryer does not include filters. Prefilter (3 µm) has to be installed upstream of the dryer.

⁽²⁾ Pressure dew point also depends on specific operating conditions.

TECHNICAL SPECIFICATIONS

Max. operating pressure	14 bar _g
Max. inlet air temperature	55 °C (for temperature ≠ 35 °C apply correction factor)
Operating ambient temperature	1,5 °C to 45 °C (for temperature > 25 °C apply correction factor)
Storage conditions	1 °C to 65 °C, <90 % relative humidity
Pressure dew point	+ 3 °C
Filter requirement (inlet)	Prefilter 3 µm
Communication	MODBUS
Digital input	Remote ON/OFF
Type of cooling	Water cooled
Refrigerant	R134a
Compressor operation	Non-cycling
Condensate drain	Automatic (Zero loss type)
Voltage, Frequency	3~400-50 (Special 60 Hz version available)
Protection class	IP 20

MATERIALS

Casing	Carbon steel
Casing corrosion protection	Epoxy powder paint
Evaporator	Aluminium
Evaporator insulation	Flexible elastomeric foam
Condenser	Aluminium MCHE
Compressor	Carbon steel
Refrigerant piping	Copper
Controller enclosure	Plastic

SIZES

Model	Compressed air			Electrical connection		Cooling water		Refrigerant		Dimensions & Mass	
	⁽³⁾ Flow m ³ /h	Connection IN & OUT ⁽⁴⁾	Pressure drop bar	Power supply Ph~V-Hz	Installed power/ Power consumption kW	Cooling water flow at 35°C ⁽⁵⁾ m ³ /h	Heat rejection kW	Type	Mass kg	W x L x H mm	Net kg
RDP 2600 W	2600	DN100	<0,2	3~400-50*	8,0 / 3,6	2,1	16,1	R134a	11,0	870 x 1502 x 1888	500
RDP 3400 W	3400	DN100	<0,2	3~400-50*	9,0 / 4,4	2,7	21	R134a	10,0	870 x 1502 x 1888	550
RDP 4400 W	4400	DN125	<0,2	3~400-50*	12,0 / 5,6	3,6	27,2	R134a	15,0	1522 x 1307 x 1995	767
RDP 5400 W	5400	DN125	<0,2	3~400-50*	18,0 / 7,6	4,4	33,4	R134a	16,0	1522 x 1307 x 1995	787
RDP 6600 W	6600	DN150	<0,2	3~400-50*	20,0 / 8,5	5,3	40,8	R134a	17,0	1628 x 1367 x 1897	920
RDP 7200 W	7200	DN150	<0,2	3~400-50*	23,0 / 9,4	5,8	44,5	R134a	21,0	1603 x 1944 x 1864	1200
RDP 8800 W	8800	DN200	<0,2	3~400-50*	26,3 / 13,2	7,1	54,4	R134a	22,0	1659 x 2070 x 1968	1237
RDP 10800 W	10800	DN200	<0,2	3~400-50*	30,6 / 16,2	8,7	66,8	R134a	25,0	1579 x 1945 x 1872	1350
RDP 13200 W	13200	DN200	<0,2	3~400-50*	32,5 / 21,3	10,7	81,7	R134a	25,0	1808 x 2599 x 2000	1443

↓ Larger sizes available upon request ↓

⁽³⁾ Nominal condition: inlet flow 20 °C at 1 bar_a, ambient 25 °C, dryer inlet 35°C at 7 bar_g, 3 °C pressure dew point (-20,5 °C atmospheric);

⁽⁴⁾ Without filters.

⁽⁵⁾ Water inlet/outlet differential temperature of 5°C.

* Special 60 Hz version available.

PRESSURE DROP AT DIFFERENT LOADS

100% Air Flow	200 mbar
75% Air Flow	110 mbar
50% Air Flow	50 mbar
25% Air Flow	< 20 mbar

CORRECTION FACTORS

To calculate the correct capacity of a given dryer based on actual operating conditions, multiply the nominal inlet flow by the appropriate correction factor(s). CORRECTED CAPACITY = NOMINAL FLOW CAPACITY x C_{OP} x C_{IN} x C_{DP}

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}	0,39	0,60	0,77	0,86	0,93	1,00	1,05	1,10	1,14	1,18	1,21	1,2	1,27	1,30	1,32

DEW POINT

°C	3	5	7	10
°F	37,4	41	44,6	50
C _{DP}	1	1,10	1,21	1,39

INLET TEMPERATURE

°C	≤25	30	35	40	45	50	55
°F	77	86	95	104	113	122	131
C _{IN}	1,2	1,12	1	0,83	0,69	0,59	0,5


AMBIENT TEMPERATURE

°C	≤25	30	35	40	45
°F	77	86	95	104	113
C _{AT}	1	0,96	0,9	0,82	0,72

MAINTENANCE

For maintenance, please follow the operating manual. Check the dryer operation weekly.

INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE

	<p>Our quality management system is certified by BUREAU VERITAS in conformity with ISO 9001:2008 Reg. number: 200285</p>
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