REFRIGERATION DRYER

RDP 20 - 13200

(Non-cycling refrigeration dryer)

DESCRIPTION

RDP refrigeration dryers have been designed to effectively separate water from the compressed air thus lower pressure dew point all the way down to +3°C. Drying is achieved on the principle of cooling which takes place inside highly efficient and ultra-compact 3 stage heat exchanger. In the first stage (air-air heat exchanger) hot and humid inlet air is being precooled by the cold outgoing air. In the second stage (air-refrigerant heat exchanger) intensive water condensation takes place due to cooling 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. It is strongly recommended to install prefilter (3 µm) upstream 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)	
Pressure dew point	+ 3 °C	
Filter requirement (inlet)	Prefilter 3 µm	
Communication	/	
Pressure drop	Depending on dryer size up to 0,25 bar	
Type of cooling	Air cooled	
Compressor operation	Non-cycling	
Condensate drain	Automatic (Zero loss type)	
Voltage, Frequency	230 V, 50 Hz (RDP 20-600)	400V, 50 Hz (RDP 750-13200)
Refrigerant	R134a (RDP 20-1300)	
Protection class (controller front)	IP 65	

MATERIALS

Casing	Carbon steel	
Casing corrosion protection	Epoxy powder paint	
Evaporator	Brazed plate stainless steel (RDP 20 - 100)	Aluminium (RDP 140 – 1300)
Evaporator insulation	Polyurethane foam	
Condenser	Copper tube, aluminium fins	
Compressor	Carbon steel	
Refrigerant piping	Copper	
Controller enclosure	Plastic	

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SIZES

Model	Inlet flow [m³/h][3]	Conn. IN & OUT[5]	Power supply [ph/V/Hz]	Power input [W]	W [mm]	L [mm]	H [mm]
RDP 20	20	G 3/8" BSP-F	1/230/50	150	358	455	604
RDP 35	35	G 3/8" BSP-F	1/230/50	150	358	455	604
RDP 50	50	G 3/4" BSP-F	1/230/50	180	358	455	604
RDP 75	75	G 3/4" BSP-F	1/230/50	250	358	455	604
RDP 100	100	G 3/4" BSP-F	1/230/50	360	358	455	604
RDP 140	140	G 1" BSP-F	1/230/50	460	486	580	904
RDP 180	180	G 1" BSP-F	1/230/50	590	486	580	904
RDP 235	235	G 1" BSP-F	1/230/50	840	486	580	904
RDP 300	300	G 1 1/2" BSP-F	1/230/50	1200	486	580	904
RDP 380	380	G 1 1/2" BSP-F	1/230/50	1400	596	735	1104
RDP 480	480	G 1 1/2" BSP-F	1/230/50	1900	596	735	1104
RDP 600	600	G 2" BSP-F	1/230/50	1900	718	697	1405
RDP 750	750	G 2" BSP-F	3/400/50	2700	596	735	1104
RDP 950	950	G 2" BSP-F	3/400/50	3800	718	697	1405
RDP 1150	1150	G 2 1/2" BSP-F	3/400/50	3700	823	837	1426
RDP 1300	1300	G 2 1/2" BSP-F	3/400/50	4700	823	837	1426
RDP 1500	1500	G 2 1/2" BSP-F	3/400/50				
RDP 1900	1900	DN80	3/400/50				
RDP 2600	2600	DN100	3/400/50				
RDP 3400	3400	DN100	3/400/50				
RDP 4400	4400	DN125	3/400/50				
RDP 5400	5400	DN125	3/400/50				
RDP 6600	6600	DN150	3/400/50				
RDP 7200	7200	DN150	3/400/50				
RDP 8800	8800	DN200	3/400/50				
RDP 10800	10800	DN200	3/400/50				
RDP 13200	13200	DN200	3/400/50				

↓ 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).

[5]Without filters.

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_{AT} x C_{IN} x C_{DP}

OPERATING PRESSURE

[bar]	4	5	6	7	8	10	12	14
[psi]	58	72	87	100	115	145	174	203
C_{OP}	0,77	0,86	0,93	1	1,05	1,14	1,21	1,27

DEW POINT

°C	3	5	7	10
°F	37,4	41	44,6	50
C_{DP}	1	1,099	1,209	1,385

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

BUREAU VERITAS

Our quality management system is certified by BUREAU VERITAS in conformity with ISO 9001:2008
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