REFRIGERATION DRYER

RDP 20 - 13200

(Non-cycling refrigeration dryer)

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 precooled 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	16 bar_g (RDP 20-1900), 14 bar_g (RDP 2600-13200)
Max. inlet air temperature	55 °C (for temperature ≠ 35 °C apply correction factor)
Operating ambient temperature	1 °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
Digital output	Alarm
Condenser type	Air cooled
Max. noise level at 1m	< 65 dbA
Compressor operation	Non-cycling
Condensate drain	Automatic (Zero loss type)
Refrigerant	R134a
Protection class (controller front)	IP 65
Handling option	Manual (RDP 20-100), Forklift (RDP 140-13200)

MATERIALS

Casing	Carbon steel
Casing corrosion protection	Epoxy powder paint
Evaporator	Brazed plate stainless steel (RDP 20-1900), aluminium (RDP 2600-13200)
Evaporator insulation	Flexible elastomeric foam
Condenser	Aluminium fin and copper tube (RDP 20-1900), aluminium MCHE (RDP 2600 -13200)
Compressor	Carbon steel
Refrigerant piping	Copper
Controller enclosure	Plastic

SIZES

	Compressed air										
			Pressure drop		[4]Power/ Consumption	Cooling flow	Heat rejec.				Net
	m³/h		bar	Ph~V-Hz	kW	m³/h	kW		kg	mm	kg
RDP 20	20	G 3/8" BSP-F	<0,2	1~230-50*	0,160 / 0,135	350	0,2	R134a	0,190	352 x 485 x 499	25
RDP 35	35	G 3/8" BSP-F	<0,2	1~230-50*	0,170 / 0,135	350	0,3	R134a	0,230	352 x 485 x 499	25
RDP 50	50	G 3/4" BSP-F	<0,2	1~230-50*	0,20 / 0,18	350	0,4	R134a	0,330	352 x 485 x 499	26
RDP 75	75	G 3/4" BSP-F	<0,2	1~230-50/230-60	0,40 / 0,25	350	0,6	R134a	0,380	352 x 485 x 499	27
RDP 100	100	G 3/4" BSP-F	<0,2	1~230-50/230-60	0,45 / 0,32	350	0,8	R134a	0,585	352 x 485 x 499	32
RDP 140	140	G 1" BSP-F	<0,2	1~230-50/230-60	0,50 / 0,38	700	1,1	R134a	0,61	356 x 552 x 684	50
RDP 180	180	G 1" BSP-F	<0,2	1~230-50*	0,60 / 0,45	700	1,5	R134a	0,71	356 x 552 x 684	52
RDP 235	235	G 1" BSP-F	<0,2	1~230-50*	0,73 / 0,60	700	1,9	R134a	0,89	356 x 552 x 684	56
RDP 300	300	G 1 1/4" BSP-F	<0,2	1~230-50/230-60	1,0 / 0,7	1100	2,4	R134a	1,07	495 x 589 x 827	84
RDP 380	380	G 1 1/4" BSP-F	<0,2	1~230-50/230-60	1,1 / 0,8	1100	3,1	R134a	1,20	495 x 589 x 827	90
RDP 480	480	G 1 1/2" BSP-F	<0,2	1~230-50/230-60	1,2 / 1,0	1100	3,9	R134a	1,31	495 x 589 x 827	99
RDP 600	600	G 2" BSP-F	<0,2	1~230-50/230-60	1,3 / 1,1	2200	4,9	R134a	1,59	491 x 708 x 973	110
RDP 750	750	G 2" BSP-F	<0,2	3~400-50/440-60	2,0 / 1,5	2200	6,1	R134a	2,19	491 x 708 x 973	120
RDP 950	950	G 2" BSP-F	<0,2	3~400-50/440-60	2,4 / 1,9	2200	7,7	R134a	2,55	491 x 708 x 973	150
RDP 1150	1150	G 2 1/2" BSP-F	<0,2	3~400-50/440-60	2,4 / 2,0	2000	9,4	R134a	3,49	662 x 856 x 1534	250
RDP 1300	1300	G 2 1/2" BSP-F	<0,2	3~400-50/440-60	2,6 / 2,3	2000	10,6	R134a	3,25	662 x 856 x 1534	280
RDP 1500	1500	G 2 1/2" BSP-F	<0,2	3~400-50/440-60	2,7 / 2,4	4000	12,2	R134a	5,00	662 x 856 x 1534	290
RDP 1900	1900	G 2 1/2" BSP-F	<0,2	3~400-50/440-60	3,8 / 3,4	4000	15,5	R134a	5,30	662 x 856 x 1534	310
RDP 2600	2600	DN100	<0,2	3~400-50*	8,0 / 3,6	4000	16,1	R134a	11,0	870 x 1502 x 1888	500
RDP 3400	3400	DN100	<0,2	3~400-50*	9,0 / 4,4	4000	21	R134a	14,0	870 x 1502 x 1888	550
RDP 4400	4400	DN125	<0,2	3~400-50*	12,0 / 5,6	8000	27,2	R134a	15,0	1522 x 1307 x 1995	767
RDP 5400	5400	DN125	<0,2	3~400-50*	18,0 / 7,6	8000	33,4	R134a	16,0	1522 x 1307 x 1995	787
RDP 6600	6600	DN150	<0,2	3~400-50*	20,0 / 8,5	12000	40,8	R134a	17,0	1628 x 1367 x 1897	920
RDP 7200	7200	DN150	<0,2	3~400-50*	23,0 / 9,4	12000	44,5	R134a	21,0	1603 x 1944 x 1864	1200
RDP 8800	8800	DN200	<0,2	3~400-50*	26,3 / 13,2	16000	54,4	R134a	22,0	1659 x 2070 x 1968	1237
RDP 10800	10800	DN200	<0,2	3~400-50*	30,6 / 16,2	16000	66,8	R134a	25,0	1579 x 1945 x 1872	1350
RDP 13200	13200	DN200	<0,2	3~400-50*	32,5 / 21,3	24000	81,7	R134a	25,0	1808 x 2599 x 2000	1443

↓ Larger sizes available upon request ↓

[3] Nominal conditions: 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] For 60 Hz 20 % more than stated. Consumption at nominal conditions.

* Special 60 Hz version available.

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

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	1,24	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
					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

	Our quality management system is certified by BUREAU VERITAS in conformity with ISO 9001:2015	