iDRY® iRDp

Premium Refrigeration Dryers

Features and Benefits

UNIQUE HEAT EXCHANGER:
vertical profile allows for minimum pressure drop and self cleans using gravitational force

VARIOFLOW HOT GAS BY-PASS:
stable dew point regardless of varying operating conditions - patented design

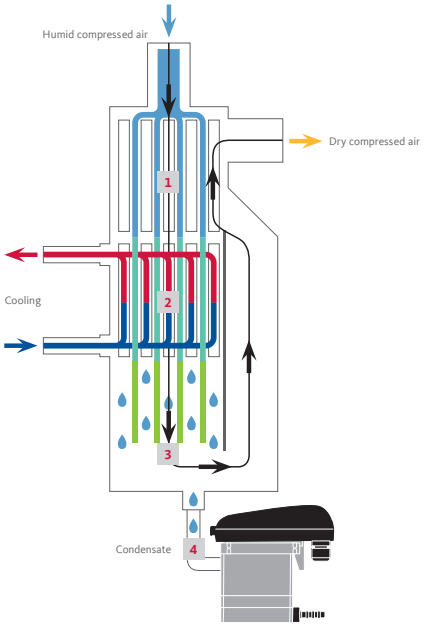
INTEGRATED iMAT®:
reliable condensate discharge and maximum energy savings

iCP PLUS 3 3-YEAR EXTENDED WARRANTY

ENERGY SAVING TECHNOLOGY:
oversized condensers and smaller high performance compressor maximize energy savings

MAINTENANCE FRIENDLY:
the entire range features an open frame that provides easy access to all components

Operating Principle



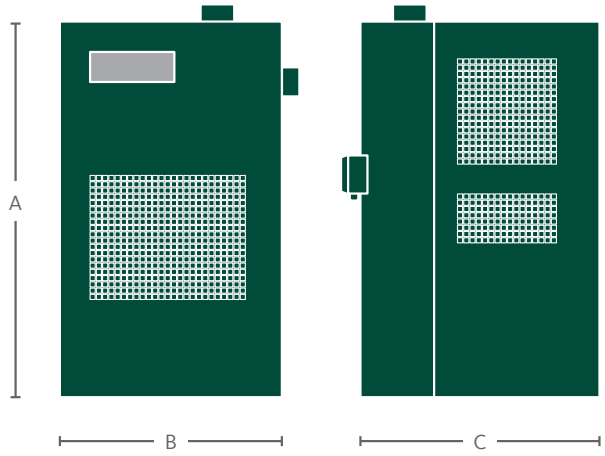
Warm compressed air, saturated with water vapor, is precooled in the air/air heat exchanger **(1)** when entering the refrigeration dryer. The required cooling capacity of the refrigerant in the downstream air/refrigerant heat exchanger **(2)** is reduced by this action and the system becomes more energy-efficient. The gravitational force sustains a particularly high droplet separation of nearly 99%. In the very large condensate collection chamber with subsequent recirculation, the flow velocity is significantly reduced.

Re-entrainment of already separated droplets is reliably prevented in this manner **(3)**. The accumulated condensate is discharged from the iDRY® via the level-controlled iMAT® condensate drain **(4)** avoiding any compressed air loss, and can be processed reliably using an oil-water separation system or emulsion-splitting plant. Prior to leaving the iDRY®, the dried and cold compressed air is reheated in the air/air heat exchanger. Through this process, the relative air humidity is significantly reduced and the cooling capacity employed is recovered by up to 60%.

iDRY® iRDp Premium Refrigeration Dryers

equipped with all premium features including iMAT® drain as standard

Standard outlet pressure dew point	38 °F
Max. inlet air temperature	160 °F
Min./ Max. ambient temperature	34/120 °F
Max. inlet pressure	
iRDP 20-50	232 psig
iRDP 75-7800	200 psig
Required Pre-filtration	1.0 µm
Recommended Post-filtration	.01 µm



Model	Flow Rate (scfm)	Pressure Drop (psid)	Connection Size	Standard Voltage	Power input (kW)	A (in)	B (in)	C (in)	Weight (lbs)
iRDp 100	100	2.47	1 ¼" NPT-F	115V/1Ph	.58	32	19	18	82
iRDp 125	125	2.18	1 ¼" NPT-F	115V/1Ph	1.00	32	19	18	101
iRDp 150	150	2.90	1 ¼" NPT-F	115V/1Ph	1.05	32	19	18	110
iRDp 200	200	2.18	1 ½" NPT-F	115V/1Ph	1.10	35	22	23	121
iRDp 200	200	2.18	1 ½" NPT-F	230V/1Ph	1.10	35	22	23	121
iRDp 200	200	2.18	1 ½" NPT-F	460V/3Ph	1.22	35	22	23	121
iRDp 250	250	2.61	1 ½" NPT-F	230V/1Ph	1.39	35	22	23	139
iRDp 250	250	2.61	1 ½" NPT-F	460V/3Ph	1.38	35	22	23	139
iRDp 300	300	1.31	2" NPT-F	230V/1Ph	1.64	38	22	25	203
iRDp 300	300	1.31	2" NPT-F	460V/3Ph	1.41	38	22	25	203
iRDp 350	350	1.89	2" NPT-F	230V/1Ph	2.19	38	22	25	207
iRDp 350	350	1.89	2" NPT-F	460V/3Ph	1.80	38	22	25	207
iRDp 400	400	1.02	2 ½" NPT-F	230V/1Ph	2.48	44	26	29	331
iRDp 400	400	1.02	2 ½" NPT-F	460V/3Ph	2.70	44	26	29	331
iRDp 500	500	1.89	2 ½" NPT-F	460V/3Ph	2.97	44	26	29	355
iRDp 600	600	2.47	3" Flange	460V/3Ph	2.65	58	31	39	529
iRDp 800	800	3.05	3" Flange	460V/3Ph	3.25	58	31	39	534
iRDp 1000	1000	2.76	3" Flange	460V/3Ph	4.10	58	31	39	608
iRDp 1250	1250	3.77	3" Flange	460V/3Ph	4.60	58	31	39	686
iRDp 1500	1500	3.05	4" Flange	460V/3Ph	5.60	69	45	47	1021
iRDp 1750	1750	2.03	4" Flange	460V/3Ph	6.40	69	45	47	1186
iRDp 2000	2000	2.90	4" Flange	460V/3Ph	7.50	69	45	47	1190
iRDp 2500	2500	3.77	4" Flange	460V/3Ph	8.60	69	45	47	1349
iRDp 3000	3000	2.90	6" Flange	460V/3Ph	12.20	71	51	69	1830
iRDp 4000	4000	2.90	8" Flange	460V/3Ph	15.70	74	55	87	2330
iRDp 5000	5000	3.77	8" Flange	460V/3Ph	23.50	74	55	87	2650
iRDp 6300	6300	3.20	8" Flange	460V/3Ph	23.70	96	61	85	4040
iRDp 7800	7800	4.50	8" Flange	460V/3Ph	26.60	96	61	85	4430

Correction Factors

Operating Pressure psig	60	80	100	120	140	160	180	200
Correction Factor	.79	.91	1.00	1.07	1.13	1.18	1.23	1.27

Inlet Air Temperature °F	90	100	110	120	130	140	150	160
Correction Factor	1.16	1.00	.82	.68	.61	.52	.45	.40

Ambient Air Temperature °F	80	90	100	105	110	115	120
Correction Factor	1.11	1.09	1.00	.94	.87	.78	.69

Pressure Dew Point °F	38	41	45	50
Correction Factor	1.00	1.08	1.20	1.36