

Hydrogard[®] HX Series

Refrigerated Compressed Air Dryers



Combining Efficiency and Economy

A **FLAIR** Company



Deltech Hydrogard® HX Series refrigerated air dryers deliver dry air at an affordable cost.

Deltech's Hydrogard® HX Series refrigerated air dryer is simple to operate and easy to maintain.

Dependable Operation

- Reheater reduces the amount of heat rejection to the ambient air
- No fouling of the condenser coils from dirt and dust that causes overheating and higher dew points in traditional dryers
- High evaporator color indicator alerts high temperatures inside the evaporator
- Dryers meet CAGI ADF 100 standards



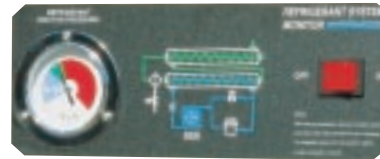
HX7-50

Lowest Operating Cost

- Maintenance is limited to routine cleaning of the drain

Versatile Installation

- Compact, lightweight design
- On/off switch
- Power on indicating light
- 6-foot power cord (7-125 scfm)
- No pipeline sweating - outlet air is reheated



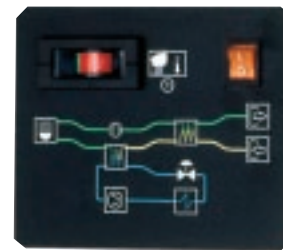
HX75-425

Virtually Maintenance Free

- Timer-operated drain valve removes condensate (50 scfm and larger)
- Condenser coils do not foul from dirt and dust; coil spacing up to 4 times greater than traditional dryers

Performance at a Glance

- Easy to read color indicating suction temperature gauge
- Alerts high temperature inside chiller
- System Operation Monitor (optional 500 scfm and larger)
 - RS232 Port (included with SOM)



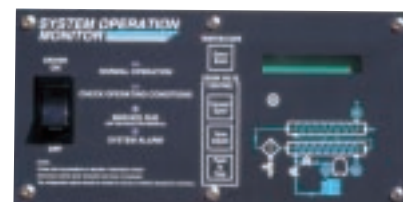
HX500-3000

Features

- No CFC's
- Head Pressure Switch
- Fan Cycling Switch (15 scfm and larger)
- R134a refrigerant (optional 500 scfm and larger)

Small Footprint

- Unique heat exchanger
 - Increased surface area
 - More efficient than traditional designs
 - Combined air-to-air and air-to-refrigerant in one (50-150 scfm only)
 - Compact size



HX500-3000 (Optional)

Sizing Information

If inlet conditions are different from rating conditions, dryer capacity will be affected as shown in the Dryer Sizing Chart.

Inlet air temperature, ambient air temperature, inlet pressure and air flow must be established before a dryer can be specified for your application.



The HX Heat Exchanger utilizes a Chevron plate angle that provides high heat transfer and low fouling risk. Models HX500-3000

Example: Select a dryer for 95 scfm airflow at 90 psig (6.2 barg) inlet pressure, 90°F (32°C) inlet air temperature and 80°F (27°C) ambient air temperature conditions.

Step 1: On the Dryer Sizing Chart, locate the inlet air temperature, 90°F (32°C).

Step 2: At 90°F (32°C) inlet air temperature, read across the chart to 90 psig (6.2 barg) inlet air pressure. The correction factor is 1.18.

Step 3: To adjust the required flow for standard rating conditions, divide the required flow by 1.18.

$$95 \text{ scfm} / 1.18 = 80 \text{ scfm}$$

Step 4: Using the ratings and dimensional data, select a dryer which has a rated capacity of 80 scfm or larger. Select Model HX100.

Step 5: Dryer capacity will also be affected if the ambient air temperature is different from 100°F (38°C). For accurate dryer sizing, divide the adjusted dryer flow determined in step 3 by the appropriate correction factor from the table. For 80°F (27°C) ambient air temperature, required dryer capacity is:

$$80 \text{ scfm} / 1.12 = 71 \text{ scfm}$$

From the ratings and dimensional data, select Model HX75.

Correction Factors

Ambient Air Temp °F	(°C)	Correction Factor
80	(27)	1.12
90	(32)	1.06
100	(38)	1.00
110	(43)	0.94
120	(49)	0.88

Dryer Sizing Chart

Inlet Air Temperature °F (°C)	Inlet Air Pressure psig (barg)											
	20 (1.4)	40 (2.8)	60 (4.1)	80 (5.5)	90 (6.2)	100 (6.9)	110 (7.6)	125 (8.6)	150 (10.3)	175 (12.1)	200 (13.8)	225 (15.5)
	Correction Factor											
70 (21)	0.83	1.17	1.41	1.55	1.65	1.72	1.77	1.86	1.96	2.02	2.08	2.15
80 (27)	0.70	0.99	1.20	1.31	1.40	1.46	1.50	1.58	1.66	1.72	1.77	1.83
90 (32)	0.59	0.84	1.01	1.11	1.18	1.23	1.27	1.33	1.40	1.45	1.49	1.53
100 (38)	0.49	0.68	0.82	0.90	0.96	1.00	1.03	1.08	1.14	1.18	1.21	1.25
110 (43)	0.40	0.56	0.68	0.75	0.80	0.83	0.85	0.90	0.95	0.98	1.00	1.03
120 (49)	0.33	0.46	0.56	0.61	0.65	0.68	0.70	0.73	0.78	0.80	0.82	0.85

HX7-HX3000 Engineering Data

Model	Flow Capacity ¹	Pressure Drop ²	Voltage	Unit		Refrigerant LRA	Compressor RLA	Compressor hp	Minimum Circuit Ampacity	Fan Motor watts	Fan Motor RLA	Refrigerant Type	Refrigerant Charge oz.	Refrigerant Charge gr.	Cooling Air Flow cfm	Heat Reject. Btuh
	scfm(Nm ³ /min)	psig(bar _g)		RLA	kW											
HX7	7(0.2)	3.2(.22)	115/1/60	2.5	0.25	20.3	2.52	1/8	3.1	N/A	N/A	R134a	5.3	150	N/A	520
HX10	10(0.3)	4.2(.29)	115/1/60	2.5	0.25	20.3	2.52	1/8	3.1	N/A	N/A	R134a	5.3	150	N/A	741
HX15	15(0.4)	3.2(.22)	115/1/60	2.8	0.25	20.3	2.52	1/8	3.6	4	.32	R134a	3.5	100	141	1,113
HX25	25(0.7)	5.0(.34)	115/1/60	3.7	0.35	14.9	3.42	1/8	4.7	4	.32	R134a	8.8	250	141	2,780
HX35	35(1.0)	5.0(.34)	115/1/60	5.5	0.46	22.0	5.20	3/10	6.9	4	.32	R134a	10.2	290	141	3,225
HX50	50(1.4)	4.8(.33)	115/1/60	5.75	0.46	22.0	5.20	3/10	7.2	6	.55	R134a	17.1	485	176	5,393
HX75	75(2.1)	3.2(.22)	115/1/60	6.0	0.58	25.0	5.0	1/2	7.5	16	1.0	R22	19.4	550	345	6,655
HX100	100(2.8)	5.0(.34)	115/1/60	10.12	1.05	51.0	9.0	5/8	12.7	100	1.12	R22	31.7	900	587	10,005
HX125	125(3.5)	4.5(.31)	115/1/60	10.12	1.05	51.0	9.0	5/8	12.7	100	1.12	R22	33.9	960	587	10,675
HX150	150(4.2)	5.0(.34)	208-230/1/60	6.26	1.30	28.0	5.7	1	7.8	100	.56	R22	44.1	1,250	587	13,903
HX200	200(5.7)	2.7(.19)	208-230/1/60	6.26	1.30	28.0	5.7	1	7.8	100	.56	R22	43.4	1,230	587	13,676
HX250	250(7.1)	2.9(.20)	208-230/1/60	7.36	1.44	36.0	6.8	1 1/4	9.2	100	.56	R22	44.1	1,250	587	19,070
HX300	300(8.5)	3.7(.26)	208-230/1/60	10.40	2.23	45.0	8.6	1 1/2	13.0	400	1.8	R22	77.6	2,200	2,225	24,464
HX425	425(12.0)	2.9(.20)	460-3-60	4.1	2.49	25.0	3.4	2	5.1	200	.74	R22	88.2	2,503	2,225	27,783
HX500	500(14.2)	4.5(.31)	460-3-60	5.1	3.4	36.0	3.7	2	6.0	460	1	R22	CF	CF	1,500	30,300
HX600	600(17.0)	4.4(.30)	460-3-60	6.0	4.1	33.0	4.6	3	7.2	460	1	R22	CF	CF	1,700	40,300
HX800	800(22.7)	2.3(.16)	460-3-60	6.2	4.2	33.0	4.5	3	7.3	644	1.4	R22	CF	CF	2,750	46,200
HX1000	1000(28.3)	3.5(.24)	460-3-60	8.2	5.5	46.0	6.4	3 3/8	9.8	644	1.4	R22	CF	CF	2,750	61,900
HX1250	1250(35.4)	5.0(.34)	460-3-60	9.3	6.3	55.0	11.4	4	11.2	644	1.4	R22	CF	CF	3,025	76,300
HX1500	1500(42.5)	5.0(.34)	460-3-60	14.4	9.7	79.0	11.4	5 1/2	17.3	1,196	2.6	R22	CF	CF	3,750	98,500
HX2000	2000(56.6)	5.0(.34)	460-3-60	16.6	11.2	91.0	13.4	7 1/2	19.9	1,288	2.8	R22	CF	CF	5,500	122,824
HX2500	2500(70.8)	5.0(.34)	460-3-60	20.2	13.6	104.0	17.0	10	24.4	1,288	2.8	R22	CF	CF	6,050	154,939
HX3000	3000(85.0)	5.0(.34)	460-3-60	27.6	18.6	135.0	23.3	12	34.7	2,392	5.2	R22	CF	CF	7,500	188,840

¹ Performance data obtained in accordance with CAGI Standard No. ADF 100, Refrigerated Compressed Air Dryer - Methods for Testing & Rating. Rating conditions are 100°F (37.8°C) inlet temperature, 100 psig (6.9 bar) inlet pressure, 100% relative humidity, 100°F (37.8°C) ambient temperature and 5 psi (0.34 bar) pressure drop.

² Pressure drop at rated conditions.

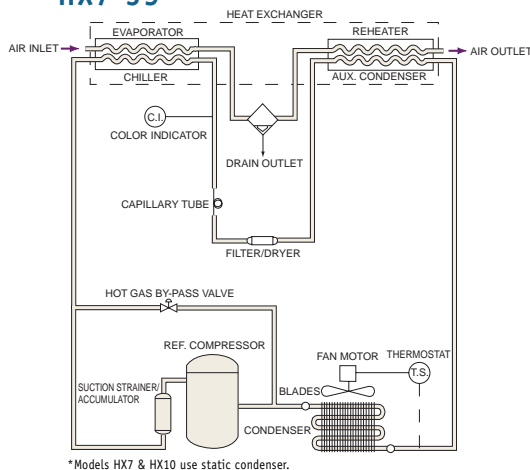


250 scfm model

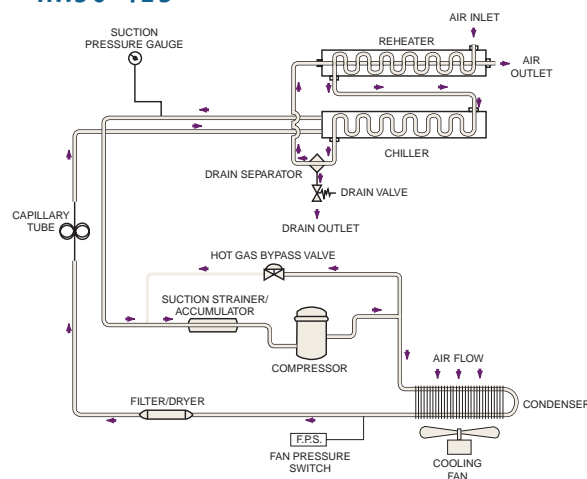


1000 scfm model

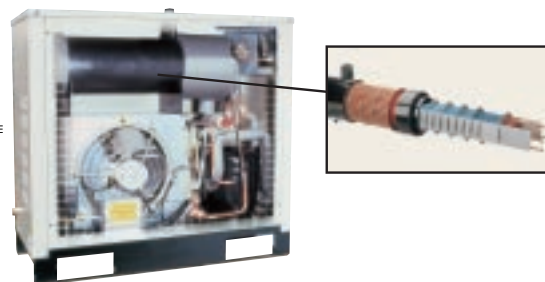
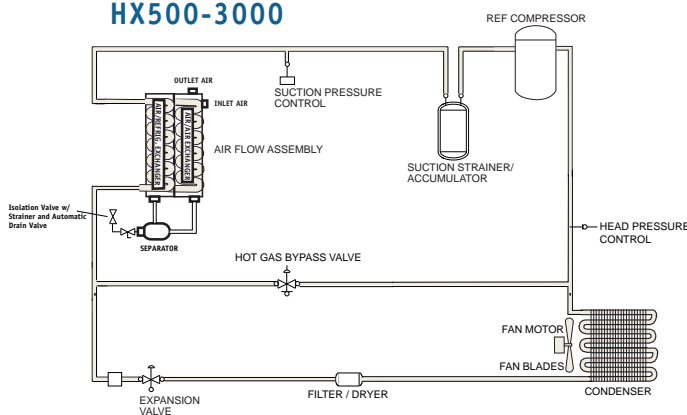
HX7-35



HX50-425



HX500-3000



How it Works

HX Series dryers use refrigeration cooling to condense entrained moisture out of the air stream. Warm saturated air enters the air-to-air heat exchanger where it is cooled by outgoing cold air. The inlet air is further cooled in the refrigeration chiller. Condensate is removed from the air stream by an automatic drain valve.

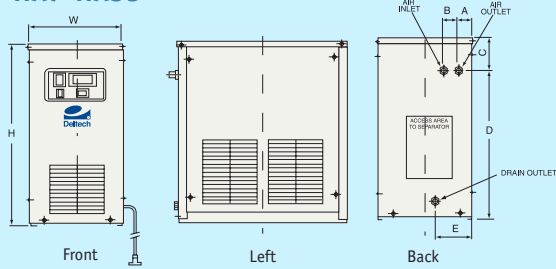
Models HX7 through HX425 utilize a capillary tube and a hot gas bypass valve (HGBV) that regulates the flow of liquid refrigerant to the chiller, preventing freeze-ups. The HGBV is adjusted at the factory. Operation of the dryer is fully automatic.

Models HX500 through HX3000 incorporate a unique design plate type heat exchanger, with a Chevron plate angle that provides high heat transfer and a low fouling risk. The compact, corrosion resistant, stainless steel, plate heat exchanger increases reliability while significantly reducing dryer size and weight. With this heat exchanger design the need for pre-filters is eliminated, providing a great benefit over the competitors' heat exchanger designs. These models have a thermal expansion valve for precise metering of the refrigerant over a full range of flows. The HGBV works with the thermal expansion valve to prevent freeze-ups from 0-100% of load.

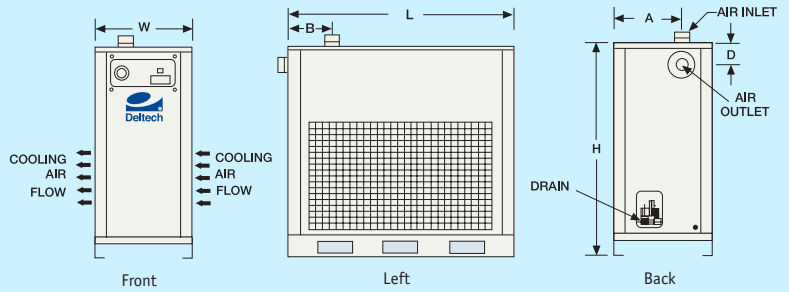
Operating Conditions 7-425 scfm 500-3000 scfm

Max. Inlet Pressure	175 psig (12.1 barg)	230 psig (15.8 barg)
Max. Inlet Air Temp.	120°F (49°C)	120°F (49°C)
Min. Inlet Air Temp.	40°F (4°C)	40°F (4°C)
Max. Ambient Air Temp.	113°F (45°C)	120°F (49°C)
Min. Ambient Air Temp.	40°F (4°C)	40°F (4°C)

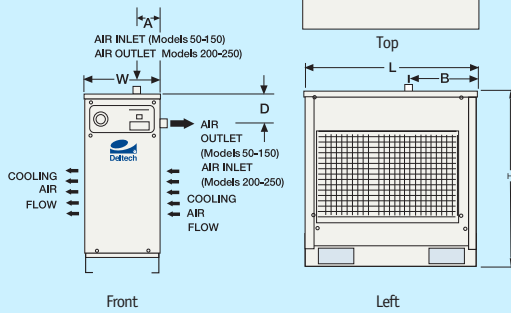
HX7-HX35



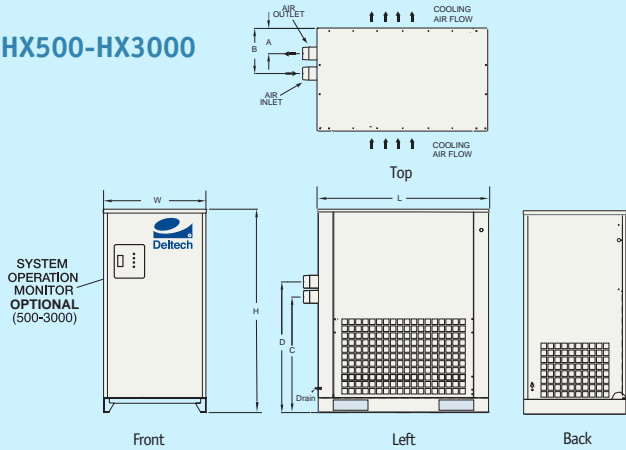
HX300-HX425



HX50-HX250



HX500-HX3000



Specifications

Model	H inches/cm	W inches/cm	L inches/cm	A inches/cm	B inches/cm	C inches/cm	D inches/cm	In-Out Connections Inches NPT	Approx. Ship Wt.		Unit Net Wt.	
									lbs.	kg	lbs.	kg
HX7	15.4(39.1)	12.6(32.0)	12.6(32.0)	1.7(4.4)	2.0(5.1)	1.4(3.6)	14.1(35.8)	3/8	82	37	60	27
HX10	15.4(39.1)	12.6(32.0)	12.6(32.0)	1.7(4.4)	2.0(5.1)	1.4(3.6)	14.1(35.8)	3/8	82	37	60	27
HX15	22.9(58.1)	11.7(29.8)	21.5(54.6)	1.7(4.4)	1.8(4.5)	4.2(10.6)	18.7(47.5)	1/2	93	42	71	32
HX25	22.9(58.1)	11.7(29.8)	21.5(54.6)	1.7(4.4)	1.8(4.5)	4.2(10.6)	18.7(47.5)	1/2	98	44	76	34
HX35	22.9(58.1)	11.7(29.8)	21.5(54.6)	1.7(4.4)	1.8(4.5)	2.0(5.1)	20.9(53.0)	3/4	104	47	82	37
HX50	20.5(52.1)	11.3(28.7)	29.8(75.7)	3.8(9.6)	19.1(48.5)	8.7(22.2)	3.8(9.6)	3/4	148	67	124	56
HX75	27.2(69.1)	12.9(32.8)	29.8(75.7)	4.0(10.2)	11.9(30.2)	9.8(24.9)	5.5(14.0)	3/4	194	88	174	79
HX100	27.2(69.1)	12.9(32.8)	29.8(75.7)	4.0(10.2)	11.9(30.2)	9.8(24.9)	4.4(11.2)	1	197	89	179	81
HX125	35.1(88.9)	16.1(40.8)	38.8(98.5)	5.6(14.2)	14.9(37.8)	11.6(29.5)	8.3(21.1)	1	268	122	244	111
HX150	35.1(88.9)	16.1(40.8)	38.8(98.5)	5.6(14.2)	14.9(37.8)	11.6(29.5)	8.3(21.1)	1 1/2	276	125	251	114
HX200	35.1(88.9)	16.1(40.8)	38.8(98.5)	5.0(12.6)	5.8(14.7)	11.3(28.7)	4.0(10.1)	2	311	141	287	130
HX250	35.1(88.9)	16.1(40.8)	38.8(98.5)	5.0(12.6)	5.8(14.7)	11.3(28.7)	4.0(10.1)	2	322	146	298	135
HX300	42.9(109.0)	19.7(50.0)	46.1(117.0)	13.4(34.0)	8.9(22.5)	NA	4.5(11.5)	2 1/2	467	212	430	195
HX425	42.9(109.0)	19.7(50.0)	46.1(117.0)	13.4(34.0)	8.9(22.5)	NA	3.9(10.0)	2 1/2	542	246	505	229
HX500	55.0(139.7)	27.7(70.3)	36.0(91.4)	6.9(17.5)	12.2(31.0)	NA	35.3(89.7)	2 1/2	550	250	507	230
HX600	55.0(139.7)	27.7(70.3)	36.0(91.4)	6.9(17.5)	12.2(31.0)	NA	35.3(89.7)	2 1/2	550	250	507	230
HX800	55.0(139.7)	27.7(70.3)	36.0(91.4)	6.9(17.5)	12.2(31.0)	NA	35.3(89.7)	3	650	295	625	284
HX1000	55.0(139.7)	27.7(70.3)	36.0(91.4)	6.9(17.5)	12.2(31.0)	NA	35.3(89.7)	3	675	306	650	295
HX1250	55.0(139.7)	27.7(70.3)	36.0(91.4)	6.9(17.5)	12.2(31.0)	NA	35.3(89.7)	3	675	306	650	295
HX1500	55.0(139.7)	27.7(70.3)	36.0(91.4)	6.9(17.5)	12.2(31.0)	NA	35.3(89.7)	3	750	340	725	329
HX2000	60.0(152.4)	46.0(116.8)	66.0(167.6)	20.5(52.1)	26.0(66.0)	18.5 (47.0)	24.38 (61.9)	4FPT	1,350	612	1,250	567
HX2500	60.0(152.4)	46.0(116.8)	66.0(167.6)	20.5(52.1)	26.0(66.0)	18.5 (47.0)	24.38 (61.9)	4FPT	1,350	612	1,250	567
HX3000	60.0(152.4)	46.0(116.8)	66.0(167.6)	20.5(52.1)	26.0(66.0)	18.5 (47.0)	24.38 (61.9)	4FPT	1,350	613	1,250	567

Note: Drain connections are 3/8" NPT up to 425 scfm. 1/4" NPT 500 scfm and up.

ISO9001



7-425 scfm



500-3000 scfm



500-3000 scfm
(Industrial Control Panel Enclosure)



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