

HI-EDRY

THE HIGH-EFFICIENCY DEHUMIDIFIER



HI-EDRY

THE HIGH-EFFICIENCY DEHUMIDIFIERS



Therma-Stor Products
a division of DEC International, Inc.

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HI-E DRY

THE HIGH-EFFICIENCY DEHUMIDIFIER

Therma-Stor Products developed the first HI-E DRY dehumidifier in the late 1980s. Utilizing the patented *Revaporator* process, this unit removed more than twice the amount of water per kilowatt hour of electricity than any other refrigerant dehumidifier.

HI-E DRY dehumidifiers are designed and built with emphasis on efficiency and durability. Today's HI-E Dry dehumidifiers remove up to seven pints of water per kilowatt hour, while the

industry average remains at only two to three pints.

The high-efficiency design of HI-E DRY dehumidifiers offer more than just dramatically reduced utility costs. The larger water removal capacity from a smaller, more efficient refrigeration system eliminates the need for 220 volt circuits in many applications. The smaller refrigeration system allows HI-E DRY dehumidifiers to cost less than other commercial dehumidifiers of equal capacity.



Original HI-E DRY I.C.U. dehumidifier with patented "revaporator" technology.

APPLICATIONS

HI-E DRY dehumidifiers control damaging moisture and humidity in a wide range of applications. Designed to operate in a variety of conditions, HI-E DRY dehumidifiers will reduce the relative humidity of inlet air with a dewpoint above 35° F. The ability to function effectively in lower temperatures is built into every HI-E DRY dehumidifier. Under all conditions, the lower operating cost, lower unit cost, and availability of high capacity "plug-in" installation on most models, make HI-E DRY dehumidifiers the right solution to most humidity problems.



HI-E Dry 200 in water treatment facility

HEALTH & FITNESS

- Indoor Pools
- Whirlpools and Spas
- Therapy Rooms
- Locker Rooms
- Health Clubs
- Skating Rinks
- Hospitals
- Allergy Control
- Gymnasiums

UTILITIES

- Water Treatment Plants
- Pumping Stations
- Power Plants
- Sanitation Plants
- Well Houses
- Switching Stations
- Telecommunications Centers

ARCHIVES

- Museums
- Libraries
- Art Galleries
- Records Storage
- Film & Tape Storage

FOOD & DRUG

- Cheese Factories
- Bakeries
- Pharmaceutical Labs
- Food Drying
- Canning Plants
- Restaurants and Bars
- Supermarkets
- Meat Packaging

MANUFACTURING

- Tool and Die Shops
- Paper & Pulp Production
- Powder Blending
- Packaging Areas
- Plastic Molding & Processing

COMPUTER & ELECTRONICS

- Clean Rooms
- Electronics Assembly
- Computer Rooms

GRAPHICS

- Printing
- Photo Labs
- Pre-Press Areas
- Silk Screening



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HI-E DRY

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HI-E DRY MODEL 195

SPECIFICATION

1-1 High efficiency dehumidifier that utilizes refrigeration to cool the incoming air stream below its dewpoint as it passes through the dehumidification (evaporator) coil. This cooling results in the removal of moisture (latent heat) and reduction in temperature (sensible heat). The cooled and dried air is used to pre-cool the incoming air stream resulting in up to a 200 percent increase in overall efficiency. After the pre-cooling stage the processed air is reheated by passing through the condenser coil. The latent heat removed by the evaporator coil is returned to the air stream at this stage as sensible heat, resulting in an overall temperature increase from the incoming air.

1-2 The unit is controlled by a dehumidistat with settings from 20 to 80 percent relative humidity and a positive "on" and "off" setting.

1-3 The unit contains a blower switch that permits continuous blower operation independent of dehumidification.

1-4 The unit is portable and provided with four casters.

1-5 The unit contains an internal condensate pump capable of lifting condensate 12 feet, and 20 feet of condensate hose.

1-6 The wiring of the unit is through a factory installed six foot power cord; 115 volt with ground.

1-7 Capacities and Performance

Blower	540 CFM
Kilowatts (80° 60%)	1.25
Supply Voltage	115-1-60
Running Amps	12.0 (Std.)

**Specifications subject to change without notice.*

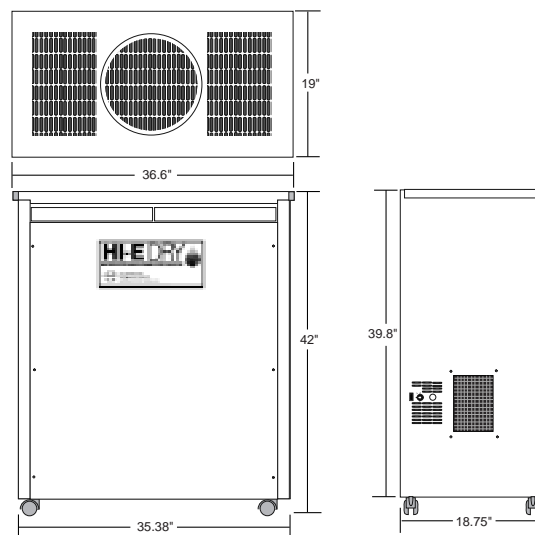
Minimum Performance at Set Conditions

Intake Air	70° 60%	80° 60%
Water removal (per day)	143 LBS	190 LBS
Pints/KWH	5.0	5.9

1-8 The HI-E DRY Model 100 is only manufactured by Therma-Stor Products, div. of DEC International, Inc. Madison, Wisconsin.

Model Dimensions

	<u>Unit</u>	<u>Shipping</u>
Width:	36.6"	39.25"
Height:	42"	48.75"
Depth:	19"	30"
Weight:	175 lb	214 lb



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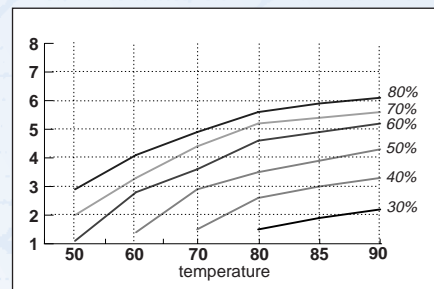
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HI-EDRY MODEL 100

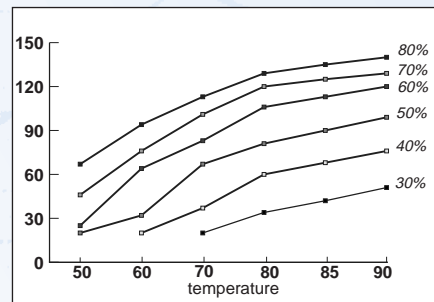
Lbs per Hour

		Relative Humidity					
		30	40	50	60	70	80
Air temp	50				1.1	2.0	2.9
	60			1.4	2.8	3.3	4.1
	70		1.5	2.9	3.6	4.4	4.9
	80	1.5	2.6	3.5	4.6	5.2	5.6
	85	1.9	3.0	3.9	4.9	5.4	5.9
	90	2.2	3.3	4.3	5.2	5.6	6.1



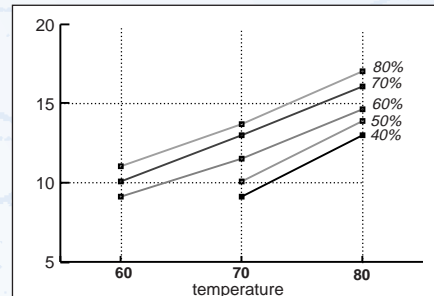
Capacity; Pints per Day

		Relative Humidity					
		30	40	50	60	70	80
Air temp	50				25	46	67
	60			32	64	76	94
	70		37	67	82.9	101	113
	80	34	60	81	106	120	129
	85	42	68	90	113	125	135
	90	51	76	99	120	129	140



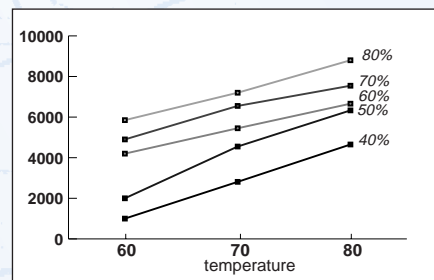
KWH per Day

		Relative Humidity				
		40	50	60	70	80
Air temp	60			0.91	10.1	11.0
	70	9.1	10.1	11.5	13.0	13.7
	80	13.0	13.9	14.7	16.1	17.0



BTUs per Hour

		Relative Humidity				
		40	50	60	70	80
Air temp	60			4200	4900	5850
	70	2810	4550	5450	6550	7200
	80	4650	6330	6660	7545	8800



* Defrost conditions

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HI-E DRY Three-way Savings:

1 LOW UNIT COST.
HI-E DRY dehumidifiers utilize heat transfer innovations that dramatically improve performance. This enables Therma-Stor Products to build higher capacity dehumidifiers with smaller refrigeration systems. That results in lower equipment cost.

2 LOW INSTALLATION COST.
A smaller refrigeration system requires a smaller electrical load. The HI-E DRY model 195 removes over 183 pounds of water a day (80°F 60%RH) while drawing only twelve amps of electricity. The HI-E DRY 195 plugs into a 115 volt 15 amp outlet, and provides all the humidity control necessary for a 440 square foot of pool. (82°F Air Temp., 80°F Water Temp. 60% Relative Humidity)

3 LOW OPERATING COST.
HI-E DRY dehumidifiers remove two to three times more water per kilowatt hour of electricity than conventional dehumidifiers. Annual energy savings from controlling the humidity of a 440 square foot pool would be about 15,000 KWH., or \$1,200.00 at \$0.08 KWH.



Therma-Stor Products is a division of DEC International based in Madison, Wisconsin. Incorporated in 1947 as Dairy Equipment Company, DEC currently contains 15 operating units located in six countries manufacturing 43 different product lines. Over 40 percent of DEC's \$160 million in sales in 1998 were outside the U.S.

Therma-Stor Products was established in 1977 to apply heat transfer innovations to residential and commercial markets. Heat recovery water heating systems, ventilation systems, and dehumidifiers comprise Therma-Stor's primary products. Therma-Stor has received the Wisconsin Society of Professional Engineers Governor's New Product Award and the U.S. Department of Energy's Award for Energy Innovation. Currently DEC and Therma-Stor Products technical expertise account for several patented and patent-pending innovations.



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HI-E DRY

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HI-E DRY MODEL 100

SPECIFICATION

1-1 High efficiency dehumidifier that utilizes refrigeration to cool the incoming air stream below its dewpoint as it passes through the dehumidification (evaporator) coil. This cooling results in the removal of moisture (latent heat) and reduction in temperature (sensible heat). The cooled and dried air is used to pre-cool the incoming air stream resulting in up to a 200 percent increase in overall efficiency. After the pre-cooling stage the processed air is reheated by passing through the condenser coil. The latent heat removed by the evaporator coil is returned to the air stream at this stage as sensible heat, resulting in an overall temperature increase from the incoming air.

1-2 The unit is controlled by a dehumidistat with settings from 20 to 80 percent relative humidity and a positive "on" and "off" setting.

1-3 The unit contains a blower switch that permits continuous blower operation independent of dehumidification.

1-4 The unit is portable and provided with four casters.

1-5 The unit contains an internal condensate pump capable of lifting condensate 20 feet, and 20 feet of condensate hose.

1-6 The wiring of the unit is through a factory installed six foot power cord; 115 volt with ground.

1-7 Capacities and Performance

Blower	255 CFM
Kilowatts	0.61 (80° 60%)
Supply Voltage	115-1-60
Running Amps	6.8

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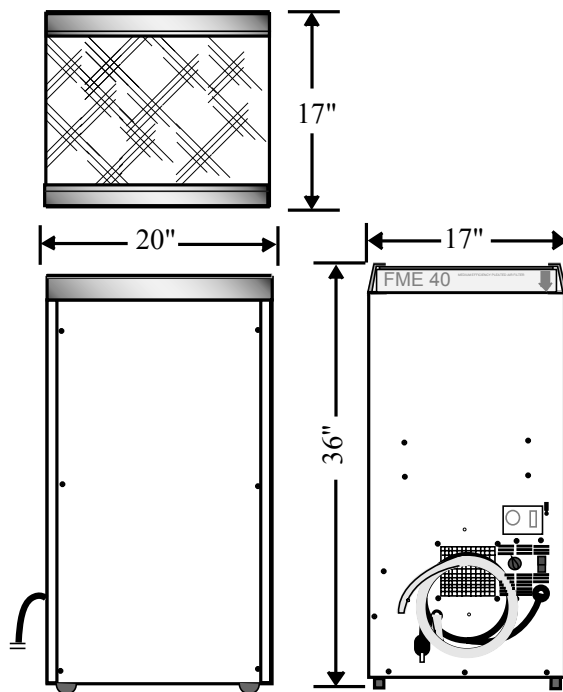
Minimum Performance at Set Conditions

Intake Air	70° 60%	80° 60%
Water removal (per day)	86 LBS	110 LBS
Pints/KWH	6.0	6.8

1-8 The HI-E DRY Model 100 is only manufactured by Thermo-Stor Products, div. of DEC International, Inc. Madison, Wisconsin.

MODEL 100 DIMENSIONS

	UNIT	SHIPPING
Width	20 inches	25 inches
Height	36 inches	41 inches
Depth	17 inches	24 inches
Weight	110 Lbs.	125 Lbs.



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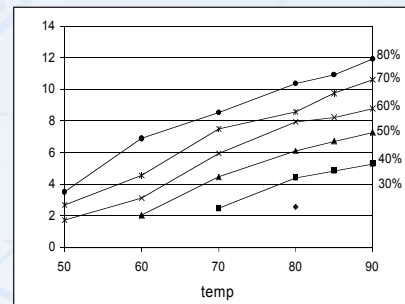
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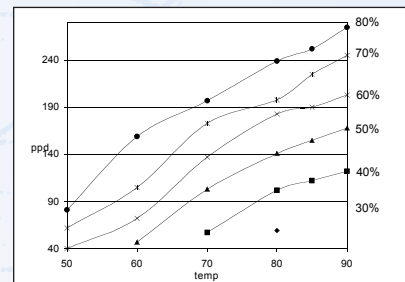
Lbs per Hour

		Relative Humidity					
		30	40	50	60	70	80
Air temp	50				1.73*	2.68*	3.51*
	60			2.04*	3.12*	4.55*	6.89
	70		2.47*	4.46	5.94	7.50	8.54
	80	2.56	4.42	6.11	7.93	8.58	10.36
	85		4.85	6.72	8.23	9.75	10.92
	90		5.29	7.28	8.80	10.62	11.92



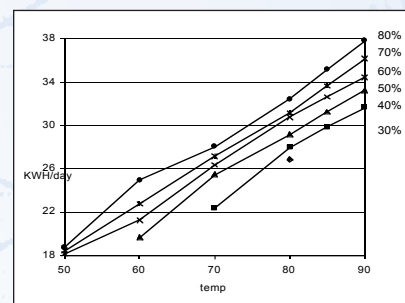
Capacity; Pints per Day

		Relative Humidity					
		30	40	50	60	70	80
Air temp	50				40*	62*	81*
	60			47*	72*	105*	159
	70		57*	103	137	173	197
	80	59	102	141	183	198	239
	85		112	155	190	225	252
	90		122	168	203	245	275



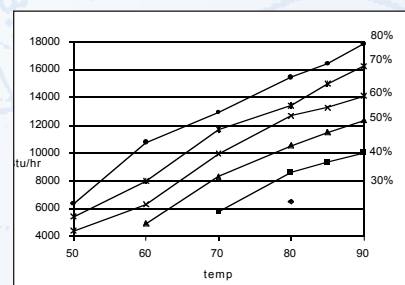
KWH per Day

		Relative Humidity					
		30	40	50	60	70	80
Air temp	50				18.2*	18.5*	18.8*
	60			19.7*	21.3*	22.8*	25.0
	70		22.4*	25.5	27.2	27.2	28.1
	80	26.9	28.0	29.2	31.2	31.2	32.5
	85		29.9	31.3	33.7	33.7	35.2
	90		31.7	33.3	34.5	36.2	37.9



BTUs per Hour

		Relative Humidity					
		30	40	50	60	70	80
Air temp	50				4403*	5444*	6349*
	60			4934*	6296*	8007*	10771
	70		5772*	8300	9971	11719	12936
	80	6502	8610	10551	12684	13422	15468
	85		9334	11485	13272	15003	16442
	90		10044	12359	14118	16266	17869



* Defrost conditions

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Water Removal Rates (Pints/Day)

90°F, 90%	172 pints
80°F, 80%	129 pints
80°F, 60%	106 pints
70°F, 80%	113 pints
70°F, 60%	83 pints
60°F, 80%	94 pints
60°F, 60%	64 pints
50°F, 80%	67 pints
50°F, 60%	25 pints

Specifications

Width	17 inches
Length	20 inches
Height	36 inches
Weight	110 lbs.
Power	115 VAC 7 amps
Blower	255 CFM
Capacity (24 hrs.)	106 pints (80°, 60%)
Temp. Range	33°F–110°F
Warranty	5 Year Limited

HI-EDRY Model 195

Water Removal Rates (Pints/Day)

90°F, 90%	312 pints
80°F, 80%	239 pints
80°F, 60%	183 pints
70°F, 80%	197 pints
70°F, 60%	105 pints
60°F, 80%	159 pints
60°F, 60%	72 pints
50°F, 80%	81 pints
50°F, 60%	40 pints

Specifications

Width	19 inches
Length	37 inches
Height	42 inches
Weight	175 lbs.
Power	115 VAC 12 amps
Blower	540 CFM
Capacity (24 hrs.)	183 pints (80°, 60%)
Temp. Range	33°F–110°F
Warranty	5 Year Limited

All illustrations and specifications contained in this brochure are based on the latest product information available at the time of printing. Therma-Stor Products reserves the right to: (1) make changes at any time, without notice, to product designs, specifications, materials and colors, (2) introduce new products to the marketplace, and (3) discontinue products as it sees fit. If you have any questions, call 1-800-533-7533.



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