Dryomatic
HUMIDITY CONTROL
A MEMBER OF MARDUK HOLDING COMPANY LLC

Dehumidifier Model DCX Series

The DRYOMATIC Model DCX Series is a complete factory engineered and fabricated desiccant dehumidification system with performance capabilities as shown on the equipment schedules. The desiccant dehumidifier is a complete stand-alone system with all necessary controls, blowers, rotors, drive components, reactivation components and filtration, providing continuous automatic operation.

STANDARD FEATURES

Desiccant Rotor Cassette is comprised of synthesized silica gel desiccant in a high temperature fiber substrate, designed for continuous operation. Rotation is continuous by a gear motor and drive, factory set to the correct rotational speed to ensure optimum performance. The rotor is supplied with seals to prevent leakage from reactivation to process air stream.

Process and Reactivation Blowers with Drive Motors: The process blower is belt driven with adjustable pulley designed for external static pressure as listed in the attached schedules. Process blower and venturi shall be bulkhead mounted with the desiccant unit. A shaft seal is used to prevent moisture impingement into the process air.

Microprocessor Controller is used to monitor and command all functions of the dehumidifier with a display panel provided for indication as well as operator instructions. Standard configuration includes: remote system monitoring enabled; remote humidistat enabled; process and reactivation air loss alarms; process and reactivation clogged filter and rotor rotation fault alarms.

Filtration shall be 30%, 2 inch thick pleated type per ASHRAE 52.76 for process air and permanent cleanable type for reactivation air.

Electrical Components and wiring will be in compliance with NFPA70, NEC code and UL 1995 2nd edition. A NEMA 4 electrical enclosure mounted on the unit provides single point power connection * for the dehumidifier with step down transformers for 120 volt and 24 volt controls. External control wiring shall be 24 volts unless otherwise noted. The control panel will contain all terminal blocks, circuit breakers, contactors and relays necessary for operation.

* Not applicable with optional remote condensing units.

OPTIONAL FEATURES

PreCool or PostCool system shall be equipped with a cooling coil with copper tubes and aluminum fins.

DX systems, the condensing unit will be factory mounted with 2nd point power connection and sized for required capacity with full floating hot gas bypass for final capacity control.

Chilled water systems, capacity control is by a field supplied valve using a 0-10VDC modulating signal from the microprocessor controller.

REACTIVATION OPTIONS

Electric Reactivation uses heavy duty, open type electric heaters for fast rate of heat transfer designed with the lowest possible watt density to assure long life. High grade resistance wires of 80/20 NiCr are supported by ceramic insulators held in place with stainless steel straps. Modulating heater control for accurate heat output. KW capacity designed to suit the application.

Gas Reactivation is provided by a direct-fired burner with all necessary gas controls and safety devices to ensure continuous automatic operation and interfaced with the microprocessor controller to maximize energy efficiency by being activated and deactivated upon command to modulate and provide the required heat to maintain space conditions. The gas train is in accordance with IRI/FM requirements and is provided with a single point gas inlet connection.

Steam Reactivation uses steam coils. Control for the field supplied steam valve will be a dry set of contacts for on/off control or a 0-10VDC signal for modulating control. Signal contacts will be supplied in the unit control box.

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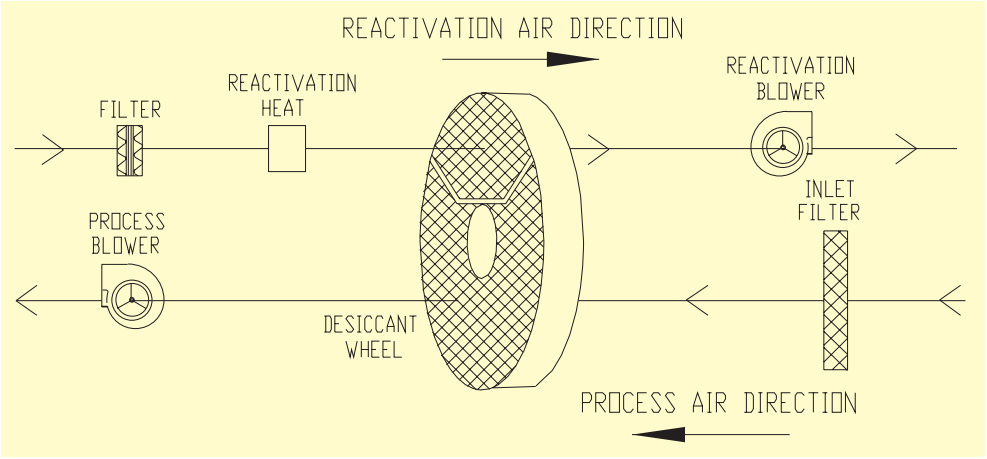
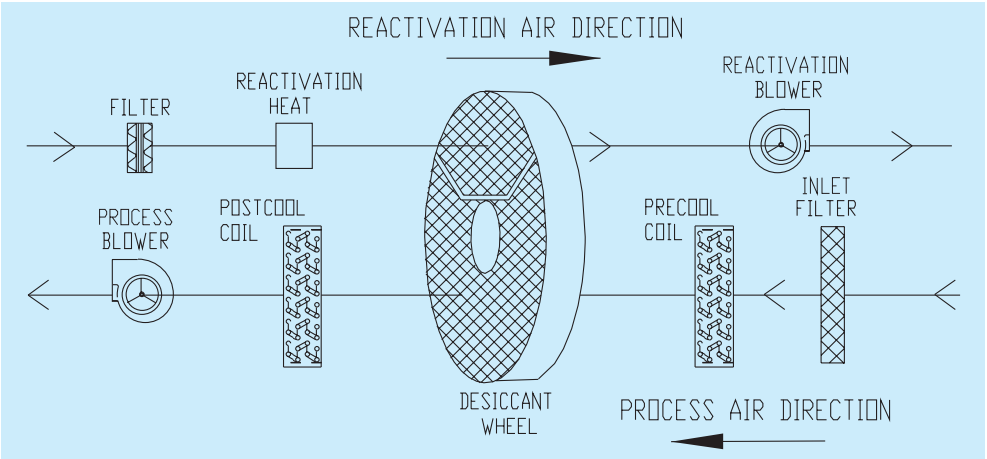
EQUIPMENT SCHEDULE

	PROCESS				REACTIVATION		
MODEL	SCFM	ESP (in w.g.)	MOTOR HP	DESIGN CONFIG	SCFM	ESP (in w.g.)	MOTOR HP
DCX-600	600	0.75	3/4 HP	A	200	0.75	3/4 HP
			3/4 HP	B			
			1 HP	C			
DCX-1000	1000	0.75	1-1/2 HP	A	333	0.75	3/4 HP
			1-1/2 HP	B			
			2 HP	C			
DCX-1500	1500	0.75	1-1/2 HP	A	500	0.75	1 HP
			1-1/2 HP	B			
			2 HP	C			
DCX-2000	2000	0.75	2 HP	A	666	0.75	1-1/2 HP
			2 HP	B			
			2 HP	C			
DCX-2500	2500	0.75	3 HP	A	833	0.75	1-1/2HP
			3 HP	B			
			5 HP	C			
DCX-3000	3000	0.75	3 HP	A	999	0.75	3 HP
			3 HP	B			
			5 HP	C			
DCX-3600	3600	0.75	5 HP	A	1199	0.75	3 HP
			5 HP	B			
			5 HP	C			

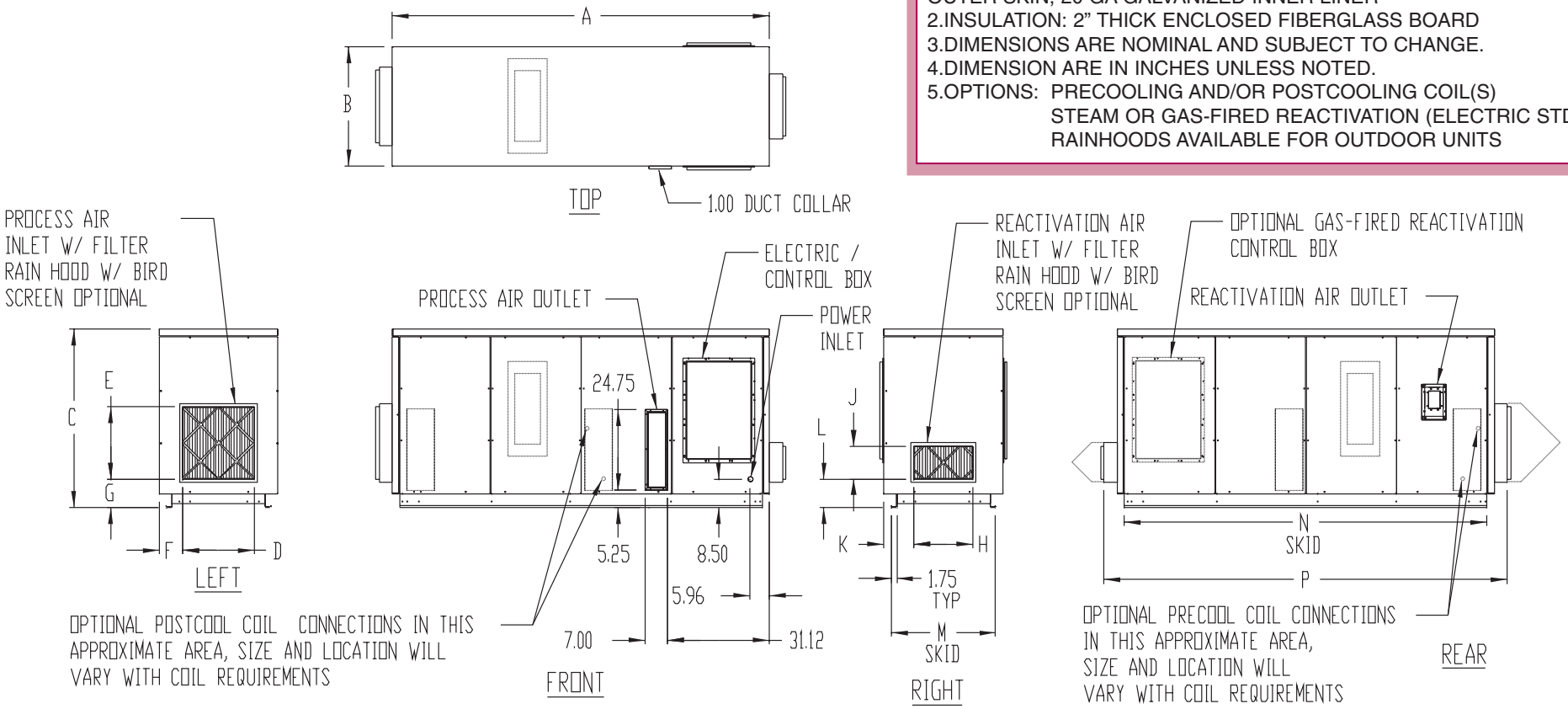
DESIGN CONFIGURATION A
(STANDARD) WITHOUT PRECOOL, WITHOUT POSTCOOL



DESIGN CONFIGURATION B: WITH EITHER PRECOOL OR POSTCOOL
DESIGN CONFIGURATION C: WITH BOTH PRECOOL AND POSTCOOL



NOTES:
1.CABINET CONSTRUCTION: DOUBLE WALL, .063" THICK ALUMINUM OUTER SKIN, 20 GA GALVANIZED INNER LINER
2.INSULATION: 2" THICK ENCLOSED FIBERGLASS BOARD
3.DIMENSIONS ARE NOMINAL AND SUBJECT TO CHANGE.
4.DIMENSION ARE IN INCHES UNLESS NOTED.
5.OPTIONS: PRECOOLING AND/OR POSTCOOLING COIL(S)
STEAM OR GAS-FIRED REACTIVATION (ELECTRIC STD)
RAINHOODS AVAILABLE FOR OUTDOOR UNITS

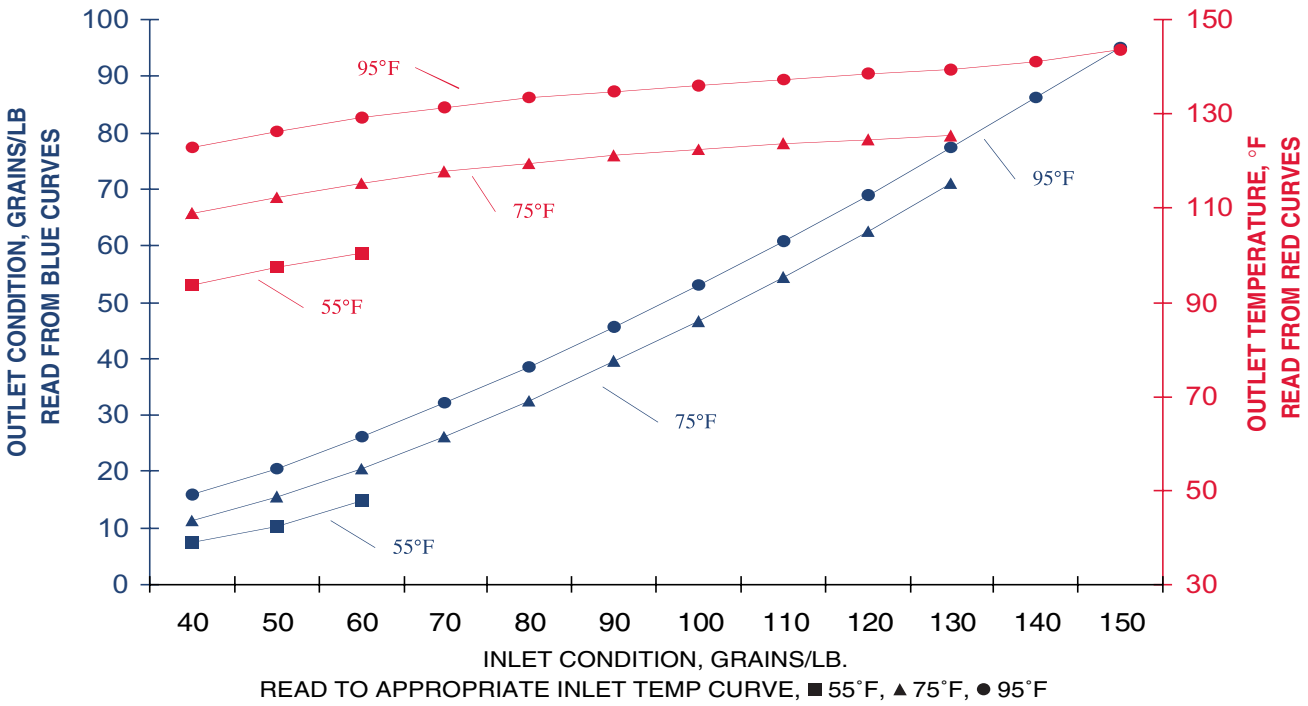


DRYOMATIC DEHUMIDIFIER MODEL SERIES DCX DIMENSIONAL DATA

MODEL	DESICCANT ROTOR SIZE	PROCESS AIR FILTER(S)	REACTIVATION AIR FILTER(S)	A	B	C	D	E	F	G	H	J	K	L	M	N	P
DCX-600	440mm x 200mm	(1) 24 X 24 X 2	(1) 12 X 20 X 2	116	36.5	54.5	22	22	7.25	8.69	18	10	9.25	8.69	32	111	119
DCX-1000	550mm x 200mm	(1) 24 X 24 X 2	(1) 12 X 20 X 2	116	36.5	54.5	22	22	7.25	8.69	18	10	9.25	8.69	32	111	119
DCX-1500	770mm X 200mm	(2) 18 X 24 X 2	(1) 20 X 20 X 2	116	43.5	62.5	34	22	7.5	8.69	18	18	12.8	8.69	39	111	119
DCX-2000	770mm X 200mm	(2) 18 X 24 X 2	(1) 20 X 20 X 2	116	43.5	62.5	34	22	7.5	8.69	18	18	12.8	8.69	39	111	119
DCX-2500	770mm X 200mm	(2) 18 X 24 X 2	(1) 20 X 20 X 2	116	43.5	62.5	34	22	7.5	8.69	18	18	12.8	8.69	39	111	119
DCX-3000	965mm X 200mm	(2) 18 X 20 X 2 (2) 12 X 20 X 2	(1) 24 X 24 X 2	116	50.5	70.5	38	28	6.25	8.69	22	22	14.3	8.69	46	111	119
DCX-3600	965mm X 200mm	(2) 18 X 20 X 2 (2) 12 X 20 X 2	(1) 24 X 24 X 2	116	50.5	70.5	38	28	6.25	8.69	22	22	14.3	8.69	46	111	119

Dryomatic
HUMIDITY CONTROL

DCX PERFORMANCE CURVE



Capacity based upon 95°F db 75°F wb reactivation inlet air temperature with 284°F heater outlet temperature. Performance enhancements are possible with R/P (reactivation air to process air) ratio change. To use chart: Find inlet moisture condition in grains/lb, move up to 1st appropriate curve for entering air temperature, read across to left for leaving moisture condition in grains/lb. Using the same vertical line for inlet moisture condition, find where it crosses the 2nd curve (upper) for entering air temperature, read across to right for leaving temperature in °F.

DCX SERIES - QUALITY FABRICATION SPECIFICATION

All of the major components shall be installed to provide an architecturally compatible, aesthetically pleasing package. The cabinet assembly is provided with panels for ease of access and maintenance. The system is mounted on a structurally engineered base skid, designed to support the full weight of the unit and to facilitate site rigging. Wrap around .063" thick aluminum flat sheet incorporated to minimize the number of joints and leaks. The unit shall be single (double) wall construction with a minimum of 1" (2") fiberglass insulation.

The desiccant rotor, with proper filtration and maintenance, is designed for 87,600 hours of continuous use. Washing off of dust accumulated under normal circumstances shall not degrade the integrity of the desiccant rotor. The longevity is based on maintaining 90% minimum of full rated performance. Warranty certification is issued with each rotor from the manufacturer applicable to the particular application.

The entire desiccant rotor cassette can be removed for servicing when needed.

For gas reactivation systems, the reactivation plenum shall be of double wall construction with 2" glass fiber insulation to minimize the heat transfer to the process air stream and prevent injury to operators. The inner liner shall be constructed of 304 stainless steel. All glass fiber insulation shall be completely enclosed to prevent contamination of the process air stream. For electric heat reactivation, the heater frames shall be made of .187-.250 diameter 300 series stainless steel.

FACTORY TESTING

Each unit shall be factory tested for proper operation and to ensure quality assurance. The unit will be tested and approved for electrical operation, as well as mechanical operation before shipment

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