



Model DXH

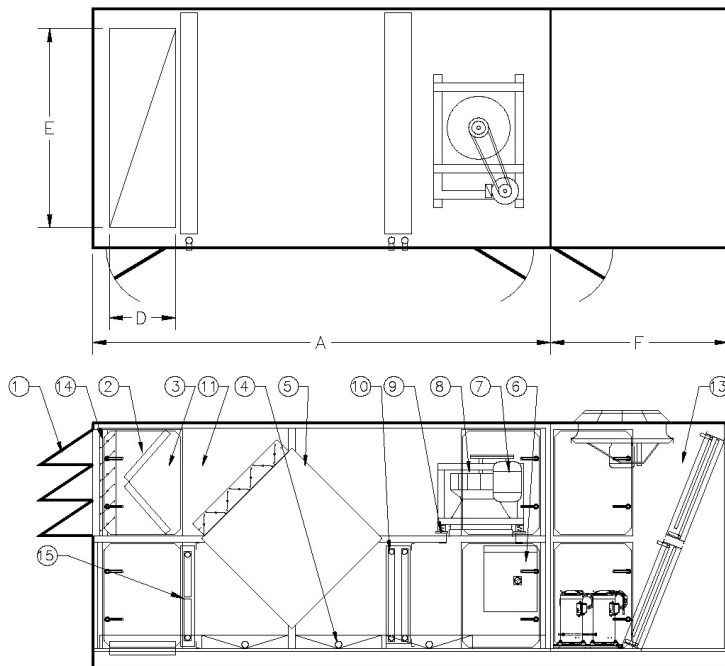
Custom, packaged, roof mounted or indoor mounted unit with cooling (DX or Chilled Water) and an air-to-air aluminum flat plate exchanger designed to provide pre-cooling and reheat. The DXH is suitable for commercial and industrial cooling and dehumidification applications.



- The DXH is a 100% outdoor air dehumidifying and cooling make-up air unit, providing passive reheat with an exchanger. Outside air passes through the exchanger for pre-cooling, then through a coil for cooling below the saturation point, then back through the exchanger for reheat. This is a single blower unit with single side access.
- The DXH-XD operates on the same principle as the DXH, but also recovers energy from the additional return airstream. This is a two blower unit with double side access. The return airstream passes through one-half of the flat-plate exchanger in a conventional configuration and pre-heats or pre-cools (depending on the season) incoming outside air.
- The DXH-AR applies the XD configuration with the addition of a total energy recovery wheel to transfer both latent and sensible heat between the return air and the outside air for greater pre-heating and pre-cooling efficiency.

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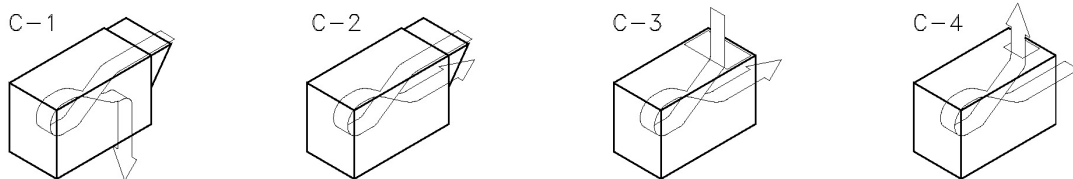
Model: DXH



- ① WEATHERHOOD (OUTDOOR UNITS ONLY)
 - ② 2" 30/30 TYPE PLEATED FILTERS
 - ③ ACCESS DOOR WITH CAM-LOK LATCHES
 - ④ FPT DRAINS
 - ⑤ ALUMINUM FLAT PLATE HEAT EXCHANGER
 - ⑥ NEMA 3R ELECTRICAL ENCLOSURE
 - ⑦ NEMA ODP OR TEFC MOTOR
 - ⑧ BI SWSI PLENUM BLOWER/FC DWDI (DXH20,24)
 - ⑨ RUBBER IN SHEER VIBRATION ISOLATORS
 - ⑩ DEHUMIDIFYING COIL (CHILLED WATER, OR DX)
- OPTIONS
- ⑪ OUTSIDE AIR FACE & BYPASS DAMPER
 - ⑫ HIGH EFFICIENT FINAL FILTERS
 - ⑬ DX CONDENSING UNIT OR HEAT PUMP
 - ⑭ OUTSIDE AIR SHUT OFF DAMPER
 - ⑮ REHEAT COIL (WATER, STEAM, ELECTRIC, OR HOT GAS)
 - ⑯ DIRECT OR INDIRECT GAS FIRED FURNACE SECTION
CONSULT FACTORY FOR DETAILS (NOT SHOWN)

Model #	Dimension (Inches)						Add to B For	Max Blower	Basic Weight ‡	Nominal CFM
	A*	B	C†	D	E	F				
DXH-20-24	90	26	50	12	18	Consult Factory	8	9" FC	900	1,500
DXH-20-36	90	38	50	12	30		12	10" FC	1,200	2,200
DXH-20-48	90	50	50	12	40		16	12" FC	1,500	3,000
DXH-24-24	106	26	56	18	18		8	10" FC	1,300	1,800
DXH-24-36	106	38	56	18	30		12	12" FC	1,400	2,800
DXH-24-48	106	50	56	18	40		16	15" PF	1,600	3,800
DXH-24-60	106	62	56	18	52		20	15" PF	2,000	4,500
DXH-30-36	120	38	64	24	30		12	15" PF	2,000	3,500
DXH-30-48	120	50	64	24	42		16	20" PF	2,300	5,000
DXH-30-60	120	62	64	24	54		20	20" PF	2,600	6,000
DXH-30-72	120	74	64	24	66		24	20" PF	3,200	7,500
DXH-40-48	162	50	84	24	42		16	24" PF	3,100	7,000
DXH-40-60	162	64	84	24	54		20	24" PF	3,500	8,500
DXH-40-72	162	76	84	24	66		24	24" PF	3,800	10,500
DXH-40-96	162	100	84	24	86		32	30" PF	3,800	14,000
DXH-50-48	192	52	100	24	42		16	24" PF	4,200	9,000
DXH-50-60	192	64	100	24	50	20	24" PF	5,000	11,000	
DXH-50-72	192	76	100	24	62	24	30" PF	5,800	13,500	
DXH-50-96	192	100	100	24	86	32	30" PF	6,500	18,000	

* Dim includes length of cooling coil section. † Does not include custom height of Roof Curb.
‡ Does not include weight of condensing unit or bypass option.



Consult factory for other available configurations.

Energy Recovery Pre-Cools and Reheats Clubhouse Air

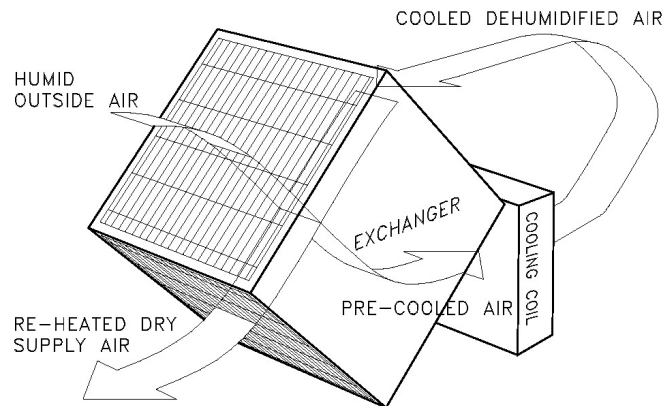
This unit was built for a golf pro shop and country club. The very humid summer air is pre-cooled by the exchanger, practically down to saturation. A DX coil is then used to further cool and dehumidify the air, which is then passed through the other side of the exchanger for reheat. The heat removed by the exchanger from the outdoor air is thus reused, greatly reducing the load on the DX circuit. Additional reheat is provided by a hot gas bypass coil. Under winter conditions, heat is provided by an indirect gas-fired furnace. XeteX builds and installs all these components, including the air-cooled condensing section, at the factory. All plumbing, wiring, and controls come packaged in one unit, ready to provide highly efficient total air conditioning.



The entire DX circuit is plumbed and wired by XeteX.

Performance Specification

Model: **DXH-40-78-RT-HI-AC**
Outdoor cfm: 10,000
Supply cfm: 10,000
Built: September, 2008
Dimensions: 90" H, 282" L, 106" W
Weight: 12,000 lbs
Energy 173 MBH (Pre-Cooling),
Recovered: 173 MBH (Reheat)
Design 1 °F / 100% RH (Winter)
Conditions: 84 °F / 63% RH (Summer)

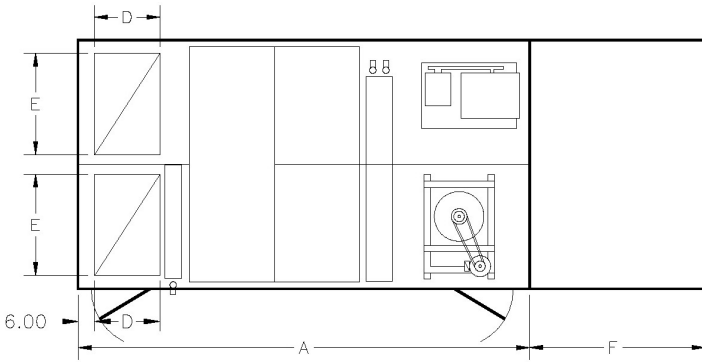


DX Coil for cooling and dehumidification (right),
Hot Gas Bypass coil for Reheat (left)

Unit Features

- An XLT Type H Aluminum Flat Plate Exchanger brings the very humid outdoor air down to saturation and then provides reheat from 55 °F to 71 °F.
- The Double Wall cabinet has an 18 gauge Epoxy-Coated Galvanealed Steel Exterior, 22 gauge Galvanized Interior, and 2" thick Foil-Lined Fiberglass Insulation. Frame is Welded Structural Steel.
- The quiet Air Foil Plenum blower is belt driven by a Premium Efficient 15 hp motor.
- A DX coil provides 487 MBH cooling and a Hot-Gas coil gives 106 MBH additional Reheat.
- An Indirect Gas-Fired Furnace provides 966 MBH of winter heating capacity.
- Unit is ETL listed and configured for outdoor installation.

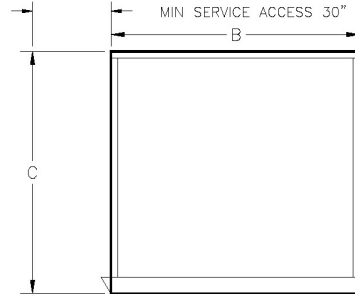
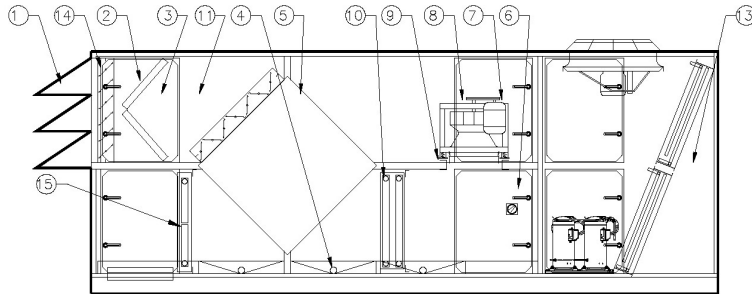
Model: DXH-XD



- ① WEATHERHOOD (OUTDOOR UNITS ONLY)
- ② 2" 30/30 TYPE PLEATED FILTERS
- ③ ACCESS DOOR WITH CAM-LOK LATCHES
- ④ NPT DRAINS
- ⑤ ALUMINUM FLAT PLATE HEAT EXCHANGER
- ⑥ NEMA 3R ELECTRICAL ENCLOSURE
- ⑦ NEMA ODP OR TEFC MOTOR
- ⑧ BI SWSI PLENUM SA BLOWER / FC DWDI EA BLOWER
- ⑨ SPRING OR RUBBER IN SHEER VIBRATION ISOLATORS
- ⑩ DEHUMIDIFYING COIL (CHILLED WATER, OR DX)
- ⑪ OUTSIDE AIR FACE & BYPASS DAMPER

OPTIONS

- 12 HIGH EFFICIENT FINAL FILTERS
- 13 DX CONDENSING UNIT OR HEAT PUMP
- 14 OUTSIDE AIR SHUT OFF DAMPER
- 15 REHEAT COIL (WATER, STEAM, ELECTRIC, OR HOT GAS)
- 16 DIRECT OR INDIRECT GAS FIRED FURNACE SECTION
CONSULT FACTORY FOR DETAILS (NOT SHOWN)



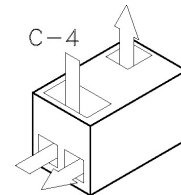
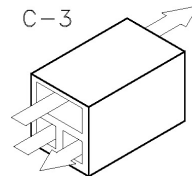
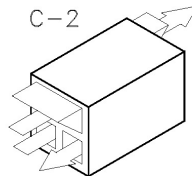
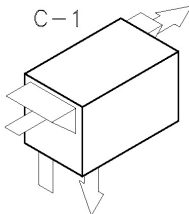
Model #	Dimension (Inches)					F	Max Blower SA	Max Blower EA	Basic Weight ‡	Nominal CFM
	A*	B**	C†	D	E					
DXH-20-24XD	90	50	50	12	20	Consult Factory	9" FC	9" FC	1,800	1,500
DXH-20-36XD	90	74	50	12	32		10" FC	10" FC	2,200	2,200
DXH-20-48XD	90	98	50	12	44		12" FC	12" FC	3,000	3,000
DXH-24-24XD	106	50	56	18	20		12" PF	12" FC	2,500	1,800
DXH-24-36XD	106	74	56	18	32		13" PF	12" FC	3,000	2,800
DXH-24-48XD	106	98	56	18	44		16" PF	12" FC	3,500	3,800
DXH-30-24XD	120	50	64	24	20		13" PF	12" FC	3,000	2,300
DXH-30-36XD	120	74	64	24	32		16" PF	12" FC	4,000	3,500
DXH-30-48XD	120	98	64	24	44		18" PF	15" FC	5,000	4,600
DXH-40-36XD	162	74	84	24	32		20" PF	15" FC	6,000	4,600
DXH-40-42XD	162	88	84	24	38		20" PF	15" FC	6,800	5,500
DXH-40-48XD	162	100	84	24	44		20" PF	18" FC	7,200	6,200
DXH-40-60XD	162	124	84	24	56		22" PF	18" FC	8,000	7,800
DXH-50-42XD	192	88	100	30	38		22" PF	18" FC	7,500	7,000
DXH-50-48XD	192	100	100	30	44		24" PF	18" FC	8,500	8,000
DXH-50-60XD	192	124	100	30	56		27" PF	20" FC	10,000	10,000

* Dim includes length of cooling coil section.

† Does not include custom height of Roof Curb.

** Dim includes width of bypass option.

‡ Does not include weight of condensing unit or bypass option.



Consult factory for other available configurations.

Dehumidification, Reheat, and Forced Exhaust

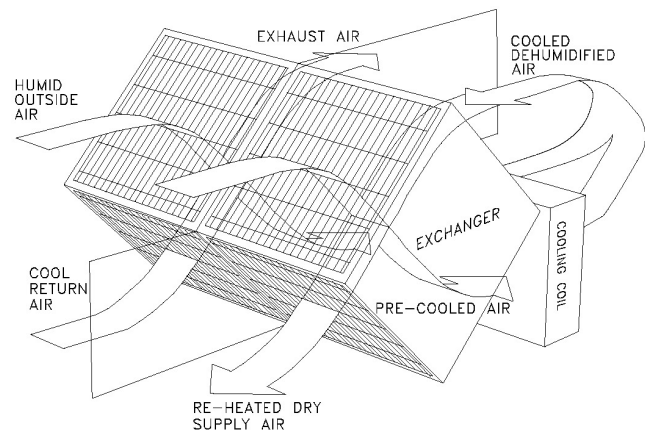
Like the model DXH, this DXH-XD unit efficiently conditions and dehumidifies supply air—but it recovers even more energy from a forced exhaust airstream, cutting building operating costs even further. The unit shown here is one of six 100% outdoor air handling units on an Elementary School HVAC renovation project. Newly installed heat pumps provide heating and cooling, delivered through a dual purpose water coil in each unit. In cooling mode, the Model XLT aluminum flat plate exchanger pre-cools the outdoor air, reheats it after the coil, and recovers energy from the cold return airstream. In heating mode, the exchanger recovers heat from the warm return air and uses it to preheat the incoming outdoor air.



View of the unit from the outdoor air intake hoods

Performance Specification

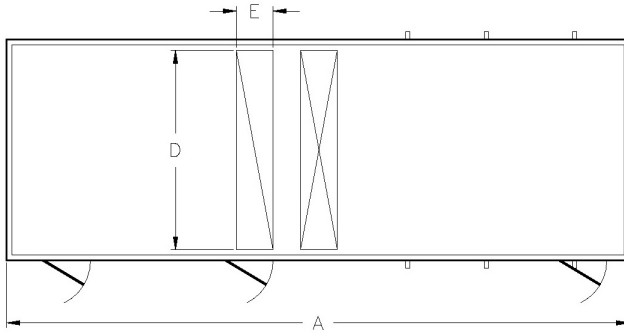
Model:	DXH-30-42-XD-RT-CW
Supply cfm:	4,100
Exhaust cfm:	4,100
Built:	July 2006
Dimensions:	71" H, 144" L, 88" W
Weight:	4,700 lbs
Energy Recovered:	275 MBH (Winter) 109 MBH (Summer)
Design Conditions:	-16 °F / 100% RH (Winter) 89 °F / 53% RH (Summer)



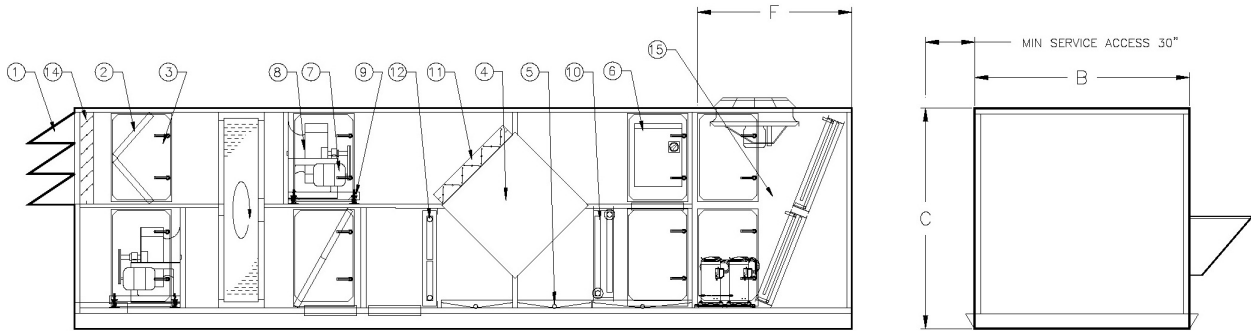
Unit Features

- Double wall construction has 18ga, enamel coated, galvanealed steel exterior, 22ga galvanized steel interior, and 2" fiberglass insulation. Base frame is welded structural steel w/ integral lifting lugs.
- 18" Plenum blowers belt driven by 7.5 hp (supply) and 5 hp (exhaust) NEMA Frame, ODP, premium efficiency motors w/adjustable bases, common frames, and seismic spring isolators.
- The dual purpose 12 row, water/glycol coil provides 245 MBH cooling and 86 MBH heating.
- Rooftop/outdoor construction includes a sloped roof with capped seams and rain gutters, curb, and plumbing and electrical chase.
- Drain pans and access door hinges are stainless steel.
- 4" MERV 8 filters in both the return air and outdoor air protect the exchanger and coil.
- Dampers include outside air shut-off, face-and-bypass, and exhaust air backdraft.
- Single point power electrical panel includes main disconnect, fused branch circuits, terminal blocks, VFD bypass, and a BACnet DDC providing automated frost control (face-and-bypass), warm weather economizer, and summer recovery changeover.

Model: DXH-AR



- ① WEATHERHOODS (OUTDOOR UNITS ONLY)
- ② 2" 30/30 TYPE PLEATED FILTERS
- ③ ACCESS DOOR WITH LATCHES
- ④ ALUMINUM FLAT PLATE HEAT EXCHANGER
- ⑤ NPT DRAINS
- ⑥ NEMA ELECTRICAL PANEL
- ⑦ NEMA ODP OR TEFC MOTOR
- ⑧ BI SWSI PLENUM OR FC DWDI BLOWER
- ⑨ SPRING VIBRATION ISOLATORS
- ⑩ COIL (CW, DX, HW, STEAM, ELECTRIC)
- OPTIONS
- ⑪ OUTSIDE AIR FACE & BYPASS DAMPER
- ⑫ REHEAT COIL (WATER, STEAM, ELECTRIC, OR HOT GAS)
- ⑬ HIGH EFFECIENT FINAL FILTERS (NOT SHOWN)
- ⑭ OUTSIDE AIR SHUT OFF DAMPER
- ⑮ DX CONDENSING UNIT OR HEAT PUMP SECTION
- ⑯ DIRECT OR INDIRECT GAS FIRED FURNACE SECTION
- CONSULT FACTORY FOR DETAILS (NOT SHOWN)



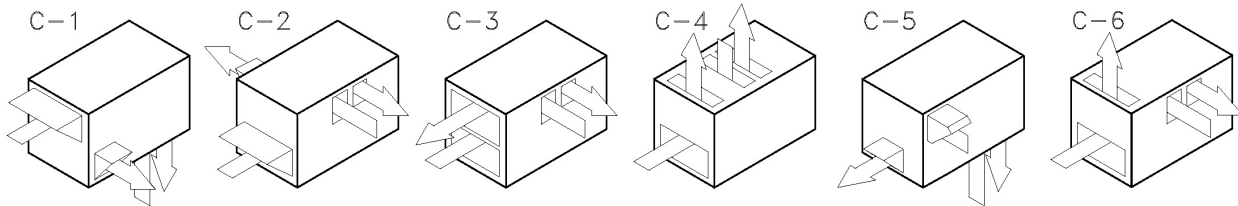
Model #	Dimension (Inches)						Max Blower SA	Max Blower EA	Basic Weight ‡	Nominal CFM
	A*	B**	C†	D	E	F				
DXH-700-20-18	160	34	40	22	12	Consult Factory	10" PF	9" FC	1,200	1,000
DXH-850-24-24	168	48	46	34	12		12" PF	9" FC	1,800	1,500
DXH-1100-24-36	192	60	56	44	12		14" PF	10" FC	2,800	2,500
DXH-1300-30-42	216	66	66	50	16		15" PF	12" FC	4,000	3,800
DXH-1600-40-48	240	74	80	62	24		18" PF	15" FC	6,200	6,000
DXH-1750-40-60	276	84	84	72	24		22" PF	18" FC	8,000	7,500
DXH-1900-50-60	304	84	100	72	30		27" PF	18" FC	10,000	9,000
DXH-2250-60-60	344	108	114	96	30		32" PF	22" FC	13,000	12,000
DXH-2500-60-72	355	112	114	100	36		36" PF	22" FC	15,500	15,000
DXH-2750-60-84	365	128	114	116	36		42" PF	25" FC	18,000	18,000
DXH-3000-80-72	439	124	132	112	42	48" PF	27" FC	20,000	22,000	

* Dim includes length of cooling coil sectoin.

† Does not include custom height of Roof Curb.

** Dim includes width of bypass option.

‡ Does not include weight of condensing unit or bypass option.



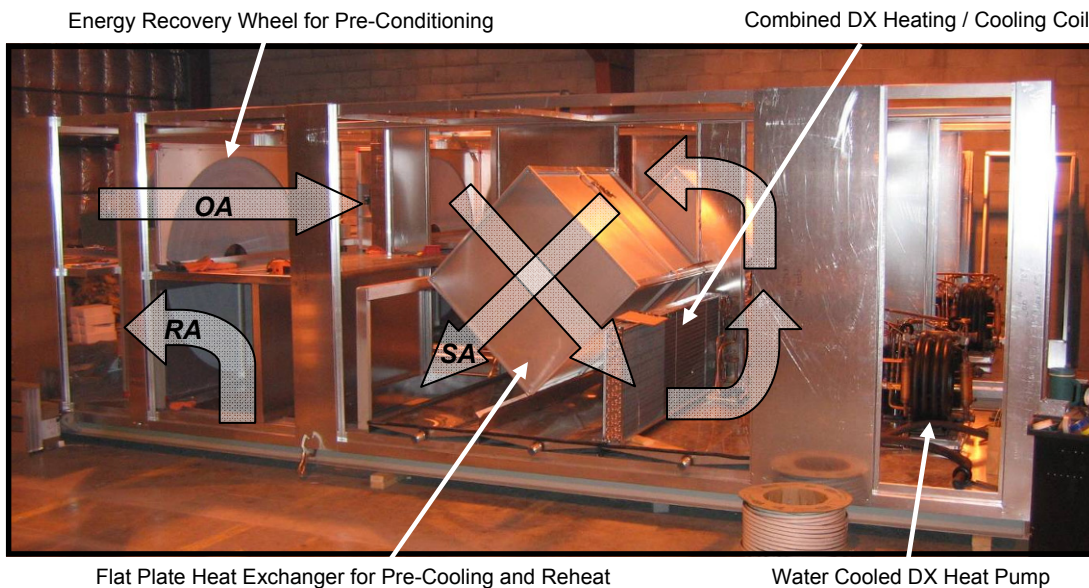
Consult factory for other available configurations.

Ultra Efficient Total Air Conditioning in One Package

This unit, built for an Elementary School in Michigan, is the ultimate in year-round efficiency. Under summer conditions, it uses a highly efficient AIRotor® hygroscopic heat wheel to recover energy from the exhaust airstream and pre-cool and dehumidify warm outdoor air. The flat plate exchanger then further cools the supply air before the on-board heat pump and DX coil provide final cooling. The flat plate exchanger is then used for reheat. In the winter, the heat wheel preheats the air before the same heat pump and coil complete the required heating. This unit will provide total year-round air conditioning at the lowest possible operating cost.

Performance Specification

Model:	DXH-1750-40-54-RT-BP-CD-HP
Supply cfm:	7,200
Exhaust cfm:	5,760
Built:	January 2006
Dimensions:	84" H, 288" L, 84" W
Weight:	8,500 lbs
Energy Recovered:	409 MBH (Winter) 391 MBH (Summer)
Design Conditions:	0 °F / 67% RH (Winter) 90 °F / 45% RH (Summer)



Unit Features

- Heavy Duty Case has Double Wall Construction with 18 gague Galvanized Exterior, 22 gague Galvanized Interior, and 2" Insulation; Welded Structural Steel Base and Frame; Welded Galvanized Drain Pan; and Sloped Roof with Capped Seams.
- Supply Air Blower is a 20" BI Airfoil Plenum, belt driven by a 15 hp motor. Exhaust Air Blower is a 15" FC DWDI, belt driven by a 7.5 hp motor. Motors are NEMA Frame, TEFC, Premium Efficiency-type with Adjustable Drives. Mounts are adjustable and spring isolated.
- Water Cooled DX Heat Pump operates at 45 Gallons of Water Per Minute. Combination Heating and Cooling Coil provides 218 MBH cooling (14 Tons) and 134 MBH heating.
- Dampers: Outside Air Shut-Off, Exhaust Air Shut-Off, and Outside Air Face-and-Bypass
- Single Point Power electrical panel includes Main Disconnect, Fused Branch Circuits with Breakers, Motor Starters with Overloads, Damper Actuators, and a BACnet DDC providing automated Frost Control (Wheel: Rotation Speed Modulation, Flat Plate Exchanger: Face-and-Bypass), Warm Weather Economizer, and Summer Recovery Changeover.

Model DXH Unit Specification

Contractor shall provide a Model DXH, packaged, roof mounted, 100% OA Dehumidification and Cooling Make-Up Air [XD/AR heat recovery ventilator] unit as manufactured by Xetex, Inc. Unit to include aluminum flat plate exchanger [AR rotary exchanger], supply air [XD/AR and exhaust air] blower, motor with starter and relay, outside air filter, [XD/AR adjustable frost control], and specified options.

Unit shall have a welded structural steel base frame with integral lifting lugs. Frame shall be coated with rust inhibiting paint. Lower floor shall have a sub-floor of 22 gauge galvanized steel, formed structural supports with rigid closed cell load-bearing insulation under blowers and components, and an interior floor of 16 gauge galvanized steel.

Cabinet frame exterior shall be of formed 18 gauge (minimum) galvanized steel. Panels (fixed and access) to be of 18 gauge galvanized steel. Frame and panels to have double-wall construction with [1", 1.5", or 2"] thick, 3# density, hardboard fiberglass insulation; internal liner of 22 gauge (minimum) galvanized steel; and silicone sealant to provide a complete vapor barrier and non-contaminating surface to all airstreams. Framing and panels of dissimilar metals that could create a galvanic effect are not allowed. Optional fully painted exterior with 2 coats minimum of High Performance Acrylic over galvanealed sheet metal. Drain pans shall be 18 gauge galvanized steel, double sloped, with welded seams and MPT connections. Optional epoxy or Heresite over galvanealed or all stainless steel construction. Exchanger section shall have a full-width drain pan minimum 3" deep with drains on supply and exhaust air plenums minimum. Cooling coil sections will have epoxy coating or stainless steel construction standard, double sloped with MPT connections.

Provide access to all exchanger surfaces, blowers, motors, and filters, through double walled, hinged, and gasketed access doors. Doors shall be held closed by a minimum of two roller cam latches. Continuous hollow rubber gasket, shall be applied to all access openings to provide water and airtight seals. Door hinges shall be galvanized steel (optional—stainless steel).

Air-to-air heat exchanger shall be an XLT stationary, aluminum, flat-plate type manufactured by Xetex. Heat transfer surface shall be formed aluminum plates with enhanced surface corrugation for increased performance. Exchanger shall be capable of withstanding a pressure difference between airflows of up to 7.2" w.g. without deforming air passages. Unit shall be capable of operating in temperatures up to 190 °F. Standard cell construction shall have a maximum cross contamination between airflows of 0.1% of total airflow. The entire cell shall be capable of being visibly inspected and cleaned.

FC—Blowers shall be forward curved, DWDI, class I, and arranged in a draw through configuration relative to exchanger for quiet and efficient operation. PF—Blowers shall be backward inclined, airfoil, centrifugal plenum (optional plug) type, without scroll housing, and arranged in a draw-through configuration. Fans shall incorporate a wheel, heavy gauge reinforced steel inlet plate shaft, and bearings in AMCA Arrangement 3 configuration to form a heavy-duty integral unit. Blowers shall be tested to AMCA standard 210 and bear the AMCA certified ratings seal for performance. The fan blades shall be continuously welded, die-formed airfoil type, designed for maximum efficiency and quiet operation. Impellers shall be statically and dynamically balanced, and non-overloading and complete fan assembly shall be test balanced at the operating speed prior to shipment. Bearings are to be heavy duty, grease lubricated, and selected for minimum average bearing L-10 life of 40,000 hours (optional L-50 life of 200,000) at the maximum class RPM.

Motors shall be premium efficiency (optional high efficiency), ODP, T-frame (optional TEFC or XP), nominal 1750 rpm (optional 3,600 rpm), 1.15 service factor minimum, and mounted on adjustable base. Motor and blower are to be mounted on a common frame, isolated from the unit case with [FC—RIS isolators (optional spring or seismic restrained) and discharge gasket duct connection (optional flexible duct connections), PF—Spring isolators with a minimum of 1" deflection (optional seismic or restrained isolators) with flexible plenum connections.] Motors and blowers shall have V-belt drives with variable pitch sheaves on motors up to 10 hp. Motors, blowers, and frames shall be coated with rust inhibiting paint (optional epoxy coated).

Chilled Water Coil—Headers shall be of non-ferrous materials using seamless copper tubing with intruded tube holes to permit expansion and contraction without creating undue stress or strain. Rolled-in joints or dissimilar metals will not be acceptable. Bent connections shall be provided at the highest point to assure proper venting. Coils shall be circuited to provide the maximum mean effective temperature difference for maximum heat transfer rates. Complete coil core shall be tested with 315 pounds air pressure under warm water and guaranteed for 250 psig working pressures. Individual tube and core testing before installation of the header is not considered satisfactory. Hydrostatic tests alone will not be acceptable.

DX Coil—Coils shall be circuited in a counter-flow manner to provide the maximum mean effective temperature difference for maximum heat transfer rates. Complete coil core shall be tested with 315 pounds air pressure under warm water and guaranteed for 250 psig working pressures. Coils shall be dehydrated with 140 °F DB, 40 °F Dew Point air before shipment. Hydrostatic tests alone will not be acceptable. Coils shall be ARI certified and UL listed. Unit shall have welded stainless steel drain pans under DX coils and dehumidification sections that are sloped to provide positive drainage.

Electrical controls shall include motor starters with overloads, fuses, control transformer for low voltage controls, service switch, and terminal points.

Outdoor air and return air filters shall be 2" pleated 30/30 type. Filters shall be mounted within unit in galvanized holding frames upstream of exchanger and accessible through access panels.

Dampers shall have heavy duty extruded aluminum frames and 4" extruded aluminum air-foil blades mounted on brass shafts and supported and inter-connected by nylon gears. Low leakage dampers shall have hollow rubber jamb seals built into both the blades and the frame. The side casings shall enclose the gears with ABS plastic covers that also serve as seals in the closed position. Outside air dampers shall be mounted on the inlet of the unit and operated by a spring return direct-coupled actuator with an end switch to be interlocked with the supply air motor relay. Exhaust air backdraft damper to be parallel blade. [XD—Outside air face-and-bypass dampers shall be mounted between the return air and the supply air streams and operated by a direct-coupled actuator. Face-and-bypass dampers shall be interlocked so that when the face damper is open the bypass damper shall be closed.]

Weatherized outdoor construction shall include sloped roof panels with rain gutters that overhang the sidewalls to shed water away from access panels, capped roof seams, intake and exhaust weather hoods with bird-screens, outside air shut-off damper, and exhaust air backdraft damper. Secondary roof panels that could trap moisture are not allowed. Roof curb shall be 16 gauge (minimum) galvanized steel with additional supports and cross members as needed. Curb to have 1.5" thick fiberglass insulation and wood nailer.