



LOW-PROFILE COMMERCIAL
LW1500i
Energy Recovery Ventilator

PRODUCT
SPECIFICATIONS
& TECHNICAL
DATA

Standard Features



NOMINAL CAPACITY

500-1800 CFM

CASING

Double-wall cabinet
22-gauge galvanized steel interior and exterior
Access doors with quarter-turn handles
18-gauge galvanized steel drain pan
Drain Connections: 1" NPT
Insulation: 1" (25 mm)

MOUNTING

On platform

ENTHALPY WHEEL

Material: Polymer with desiccant wheel technology
Type: Channel matrix with removable segments
Wheel diameter: 30" (762 mm)
L-10 class ball bearings
Drive Belt: Urethane



BLOWERS

Quantity: 2

- Forward-curved
- Permanently sealed and lubricated ball bearings
- Power transmission by adjustable pulleys and belts

MOTORS

Quantity: 2

- Type: Inverter duty 10:1, ODP or TEFC, EPAct
- Maximum Power: 2 hp
- Drive Assembly/Blower: On vibration-isolating rubber

FILTERS

Quantity: 2 per circuit

- Type: MERV 8
- Dimensions: 16" x 20" x 2" (406 mm x 508 mm x 51 mm)

ELECTRICAL & CONTROLS

- Start/stop dry contact and general alarm dry contact
- Occupancy control dry contact
- Start/stop dry contact for the wheel (free cooling)
- Single-point power connection
- Non-fused disconnect (NEMA 4)
- 24VAC, 20 VA power available for accessories
- 120, 208, 230 V / 1ph / 60Hz
- 208, 230, 460, 575 V / 3ph / 60Hz

WARRANTY

Wheel Assembly: Limited 2-year warranty

All Other Covered Components: Limited 2-year warranty

LISTED BY



Optional Features

CABINET

- Painted white baked enamel outside finish
- Pool Construction: TEFC motors, stainless steel interior, and epoxy-coated fans (NOTE: ERV not recommended for interior pool applications)
- Vibration-isolating springs under blowers
- Motorized and insulated damper for exhaust port (EA)
- Non-insulated backdraft damper for exhaust port (EA)
- Motorized and insulated damper on fresh air intake (OA)
- 18-gauge stainless steel drain pan
- Mechanical Purge on wheel
- MERV 13 filters (for supply air circuit only)

MOTORS & BLOWERS

- TEFC motors
- 2-speed motors (only available with ODP, EPAct motors)
- Programmable 2-Speed (VFD)
- Variable Frequency Drive (VFD): 0-10VDC external signal

FROST CONTROL

Frost control activated by a temperature reference: 5°F (-15°C)

- Internal Pre-Heat by Electric Coil: Powered by unit, factory calibrated, SCR control
- Internal Pre-Heat by Hot Water Coil: 0-10 VDC signal on the control panel
- Wheel Speed Variation (VFD)
- Exhaust Defrost Cycles: Supply air blower shuts down and outside air damper (included) closes. Warm exhaust air defrosts the wheel for a predetermined amount of time.
- Recirculation Defrost Cycles: Exhaust air blower shuts down, outside air damper (included) closes, exhaust air damper (optional) closes, and recirculation damper (included) opens. Exhaust air warms up the wheel for a predetermined amount of time.

POST-HEAT COILS

- Post-Heat by Electric Coil: Powered by unit, SCR Control, external 0-10VDC control signal
- Post-Heat by Water Coil: External 0-10VDC control signal
- Contact Aldes for Coil Sizing

CONTROL

- Low Temperature Limit: Unit will stop if fresh air supply is under set point (adjustable)
- Dirty Filters Contact : Will close a dry contact when dirty filters are detected
- Low Airflow Switch: Will open a dry contact when no airflow is detected on supply blower
- Phase Loss Detection: Unit will stop when a phase loss occurs, automatic restart (3-phase power only)
- Wheel Rotation Detection: A dry contact is closed if no rotation is detected
- Economizer Cycle: Enthalpy wheel is stopped for free cooling when OA temperature is within a specified range
- Damper End Switch: Unit start up conditional to dampers opening
- Recirculation Dry Contact: For unoccupied mode, must select recirculation defrost option
- Programmable Timer
- BacNet Compatible Controller

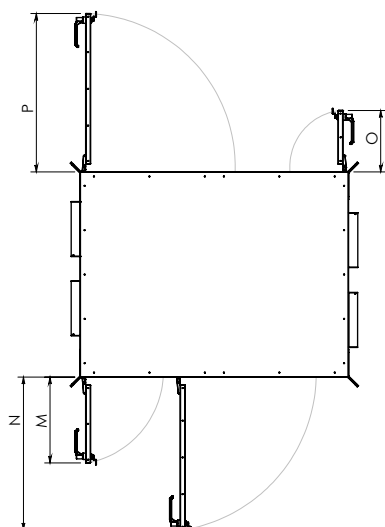
Available Upgrades:

- » IP Communication Network Module
- » MS/TP Communication Network Module
- » Remote Keypad
- » Remote Keypad with Touchscreen

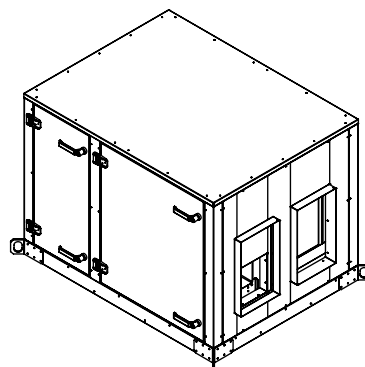
MAXIMUM KW PER ELECTRIC COIL: 30KW

MAXIMUM MBH PER HOT WATER COIL: 113MBH

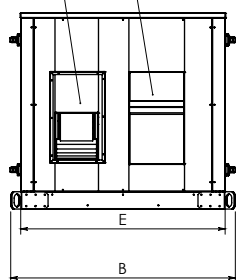
Dimensions



TOP VIEW

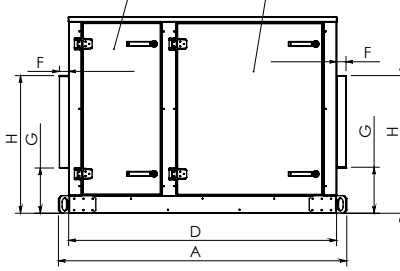


Supply Air (SA)
Return Air (RA)



LEFT VIEW

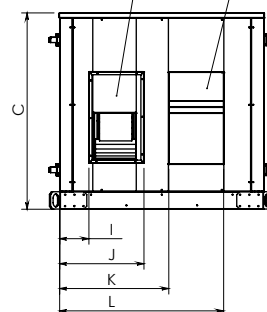
Control Panel Access
Enthalpy Wheel, Filters & Blower Access



FRONT VIEW

Exhaust Air (EA)

Outside Air (OA)

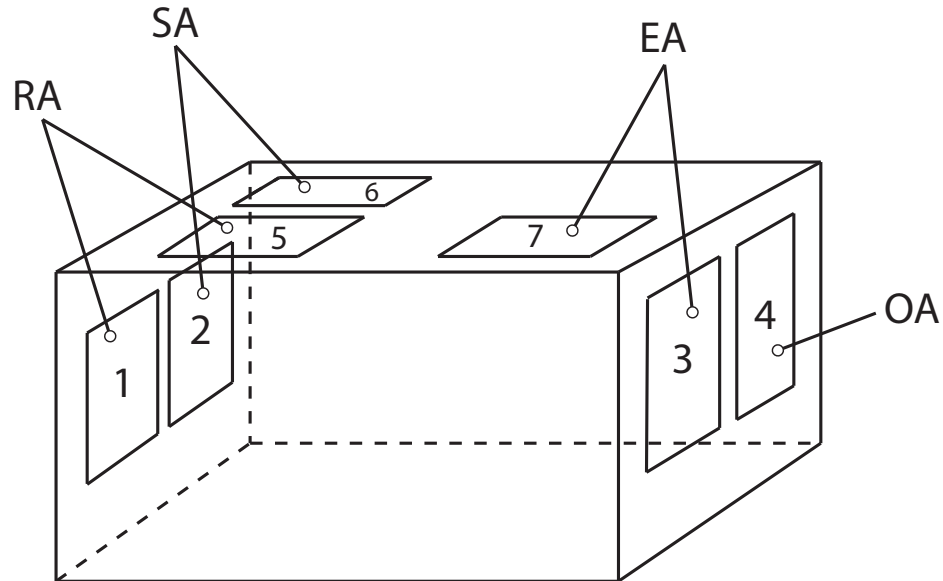


RIGHT VIEW

DIMENSIONS*																
Unit	Overall			Details			Openings						Doors			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Standard	62.5 (1588)	48.88 (1241)	42.5 (1080)	58 (1473)	44.25 (1124)	2 (51)	9.25 (235)	29.25 (743)	6 (152)	18 (457)	24 (610)	36 (914)	19 (483)	34 (864)	14 (356)	35 (889)
Post-Heat Option	77.5 (1969)	48.88 (1241)	42.5 (1080)	73 (1854)	44.25 (1124)	2 (51)	9.25 (235)	29.25 (743)	6 (152)	18 (457)	24 (610)	36 (914)	19 (483)	34 (864)	14 (356)	35 (889)

*All dimensions in inches (mm)

Configurations & Weights



AVAILABLE CONFIGURATIONS	
1-2-3-4	2-3-4-5
1-3-4-6	2-4-5-7
1-4-6-7	3-4-5-6
1-2-4-7	4-5-6-7

LEGEND	
RA	Return Air
SA	Supply Air
OA	Outside Air
EA	Exhaust Air

Mirror Image Cabinet Also Available

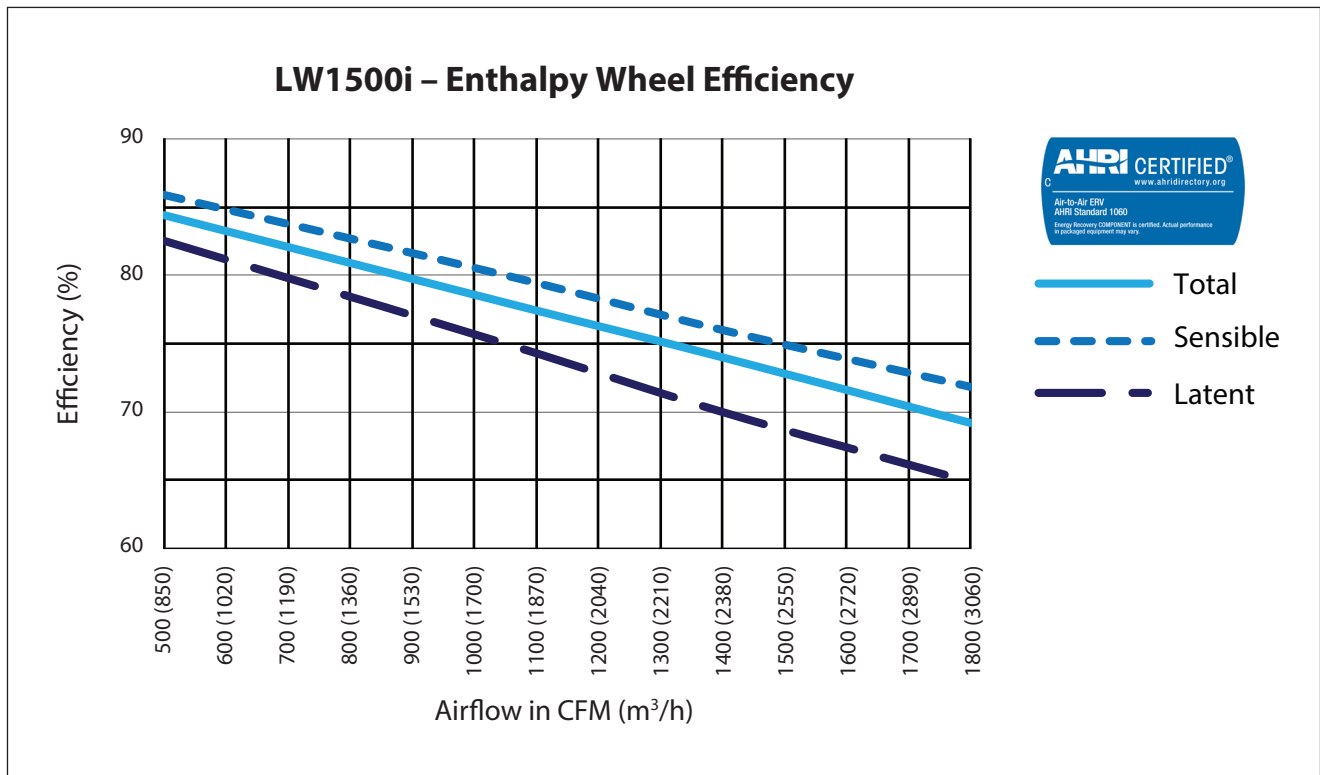
WEIGHT - LW1500i †	
Unit Weight (Minimum)	888 lb (403 kg)
Unit Weight (Maximum)	1211 lb (549 kg)
Shipping Weight (Minimum)	953 lb (432 kg)
Shipping Weight (Maximum)	1291 lb (586 kg)

† Actual weight may vary by $\pm 10\%$.

Enthalpy Wheel Performance

AHRI STANDARD CONDITIONS	CONDITIONS	
Outside Air Temperature	Winter	Summer
Dry Bulb	35°F (1.7°C)	95°F (35°C)
Wet Bulb	33°F (0.6°C)	78°F (25.6°C)
Exhaust Air Temperature	Winter	Summer
Dry Bulb	70°F (21.1°C)	75°F (23.9°C)
Wet Bulb	58°F (14.4°C)	63°F (17.2°C)

Note: Efficiencies are based on AHRI standard winter conditions.



Motor Selection – Enthalpy Wheel

SUPPLY/EXHAUST																				
MOTOR	AIRFLOW	EXTERNAL STATIC PRESSURE (inH ₂ O) - SUPPLY/EXHAUST																		MOTOR
		0.25 (60 Pa)			0.50 (125 Pa)			0.75 (185 Pa)			1.00 (250 Pa)			1.25 (310 Pa)			1.50 (375 Pa)			
	CFM (m³/h)	RPM	BHP	HP	RPM	BHP	HP	RPM	BHP	HP	RPM	BHP	HP	RPM	BHP	HP	RPM	BHP	HP	
3/4 hp	500 (850)	955	0.17	0.21	1108	0.22	0.27	1244	0.28	0.34	1363	0.34	0.41	1469	0.38	0.45	1567	0.45	0.54	3/4 hp
	600 (1020)	1001	0.20	0.24	1144	0.25	0.30	1273	0.32	0.38	1388	0.38	0.46	1492	0.43	0.51	1589	0.50	0.60	
	700 (1190)	1046	0.23	0.28	1180	0.29	0.35	1303	0.36	0.43	1413	0.43	0.51	1516	0.49	0.58	1611	0.56	0.68	
	800 (1360)	1091	0.28	0.34	1217	0.35	0.42	1333	0.41	0.50	1440	0.49	0.59	1540	0.56	0.67	1633	0.64	0.76	1 hp
	900 (1530)	1136	0.34	0.41	1254	0.41	0.49	1364	0.48	0.58	1467	0.56	0.67	1564	0.64	0.76	1656	0.72	0.86	
	1000 (1700)	1180	0.41	0.49	1291	0.48	0.58	1395	0.56	0.67	1495	0.64	0.77	1589	0.73	0.87	1679	0.81	0.98	1.5 hp
	1100 (1870)	1224	0.49	0.59	1328	0.57	0.68	1428	0.65	0.78	1523	0.74	0.88	1615	0.83	0.99	1702	0.92	1.10	
	1200 (2040)	1267	0.58	0.70	1366	0.67	0.80	1461	0.75	0.90	1552	0.84	1.01	1641	0.94	1.12	1726	1.03	1.24	
1 hp	1300 (2210)	1310	0.69	0.82	1404	0.77	0.93	1494	0.86	1.03	1582	0.96	1.15	1667	1.06	1.27	1750	1.16	1.39	2 hp
	1400 (2380)	1353	0.80	0.96	1442	0.89	1.07	1528	0.98	1.18	1612	1.08	1.30	1694	1.19	1.42	1774	1.29	1.55	
1.5 hp	1500 (2550)	1396	0.93	1.11	1480	1.02	1.23	1563	1.12	1.34	1643	1.22	1.46	1722	1.33	1.59	1799	1.43	1.72	
	1600 (2720)	1438	1.06	1.28	1519	1.16	1.40	1598	1.27	1.52	1675	1.37	1.64	1750	1.48	1.77	1824	1.59	1.91	
	1700 (2890)	1479	1.21	1.45	1558	1.32	1.58	1635	1.42	1.71	1707	1.53	1.84	1779	1.64	1.97				
2 hp	1800 (3060)	1520	1.37	1.64	1697	1.48	1.78	1671	1.59	1.91										

NOTES:

hp = bhp x 1.2

Contact Aldes for Additional Pressure Drop (APD) with Hot Water or Electric Coils

Additional Air Pressure Drop with MERV 13 Filters

Airflow CFM (m ³ /h)	APD inH ₂ O (Pa)
500 (850)	0.02 (5)
600 (1020)	0.03 (7)
700 (1190)	0.03 (7)
800 (1360)	0.04 (10)
900 (1530)	0.04 (10)
1000 (1700)	0.05 (13)
1100 (1870)	0.06 (14)

Airflow CFM (m ³ /h)	APD inH ₂ O (Pa)
1200 (2040)	0.06 (14)
1300 (2210)	0.07 (17)
1400 (2380)	0.07 (17)
1500 (2550)	0.08 (20)
1600 (2720)	0.09 (21)
1700 (2890)	0.10 (24)
1800 (3060)	0.10 (24)

Selection Information

▲ = Standard Feature

□ = Optional Feature (check the box to select this option)

Send your completed selection to your American ALDES Representative.

MODEL

Series: Low-Profile Commercial (LW)

Nominal Capacity: 500-1800 CFM

Application: Interior (i)

CASING

Cabinet Finish

- ☒ Galvanized
☐ Painted
☐ Pool Construction

Duct Configuration (see pg. 4)

- ☒ 1-2-3-4 ☐ 2-3-4-5
☐ 1-3-4-6 ☐ 2-4-5-7
☐ 1-4-6-7 ☐ 3-4-5-6
☐ 1-2-4-7 ☐ 4-5-6-7

Mirror Image Cabinet

- ☐ Optional

Drain Pan

- ☒ Galvanized
☐ Stainless Steel

FROST CONTROL

- ☒ None
☐ Exhaust Defrost ¹
☐ Recirculation ¹
☐ Pre-Heat (Electric Coil)
☐ Pre-Heat (Hot Water Coil)
☐ Wheel Speed Variation (VFD)

POST-HEAT COILS

- ☐ Electric Coil
☐ Hot Water Coil

FILTERS (SUPPLY)

- ☒ MERV 8
☐ MERV 13

BLOWERS & MOTORS

Supply Blower

- ☐ 3/4 hp
☐ 1 hp
☐ 1.5 hp
☐ 2 hp

Exhaust Blower

- ☐ 3/4 hp
☐ 1 hp
☐ 1.5 hp
☐ 2 hp

Motor Type

- ☐ ODP, EPAct
☐ TEFC, EPAct

Blower Control

- ☒ Single Speed
☐ 2-Speed ²
☐ Programmable 2-Speed (VFD)
☐ VFD

Drive Assembly/Blower

- ☒ On vibration-isolating rubber
☐ On vibration-isolating springs

ELECTRICAL REQUIREMENTS

- ☐ 120V/1ph/60Hz
☐ 208V/1ph/60Hz
☐ 230V/1ph/60Hz
☐ 208V/3ph/60Hz
☐ 230V/3ph/60Hz
☐ 460V/3ph/60Hz
☐ 575V/3ph/60Hz

ADD-ONS

- ☐ Mechanical Purge
☐ Motorized & Insulated Damper for OA ¹
☐ Motorized & Insulated Damper for EA
☐ Non-Insulated Backdraft Damper for EA
☐ Low Temperature Limit
☐ Low Airflow Switch
☐ Dirty Filters Contact
☐ Phase Loss Detection
☐ Wheel Rotation Detection
☐ Economizer Cycle
☐ Damper End Switch
☐ Recirculation Dry Contact ³
☐ Programmable Timer
☐ BacNet Compatible Controller
☐ With IP Module
☐ With MS/TP Module
☐ With Remote Keypad
☐ With Remote Keypad (Touchscreen)
☐ Spare MERV 8 Filters QTY: _____
☐ Spare Belts QTY: _____

¹ Motorized & Insulated OA Damper included with exhaust defrost and recirculation; recirculation damper included with recirculation defrost

² 2-Speed only available with ODP, EPAct motors

³ Recirculation Dry Contact requires selection of recirculation defrost

Project:		Architect:	
Location:		Engineer:	
Model #:		Contractor:	
Quantity:		Comments:	
Submitted By:			
Date:			

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