XAI THERMAL

AI AIR CONDITIONING CORP.

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AI THERMAL

XAI THERMAL CLIMATE SOLUTION

RESIDENTIAL AIR TO
WATER HEAT PUMP

POOL & SPA HEAT PUMP

ENERGY RECOVERY VENTILATOR
HEAT RECOVERY VENTILATOR

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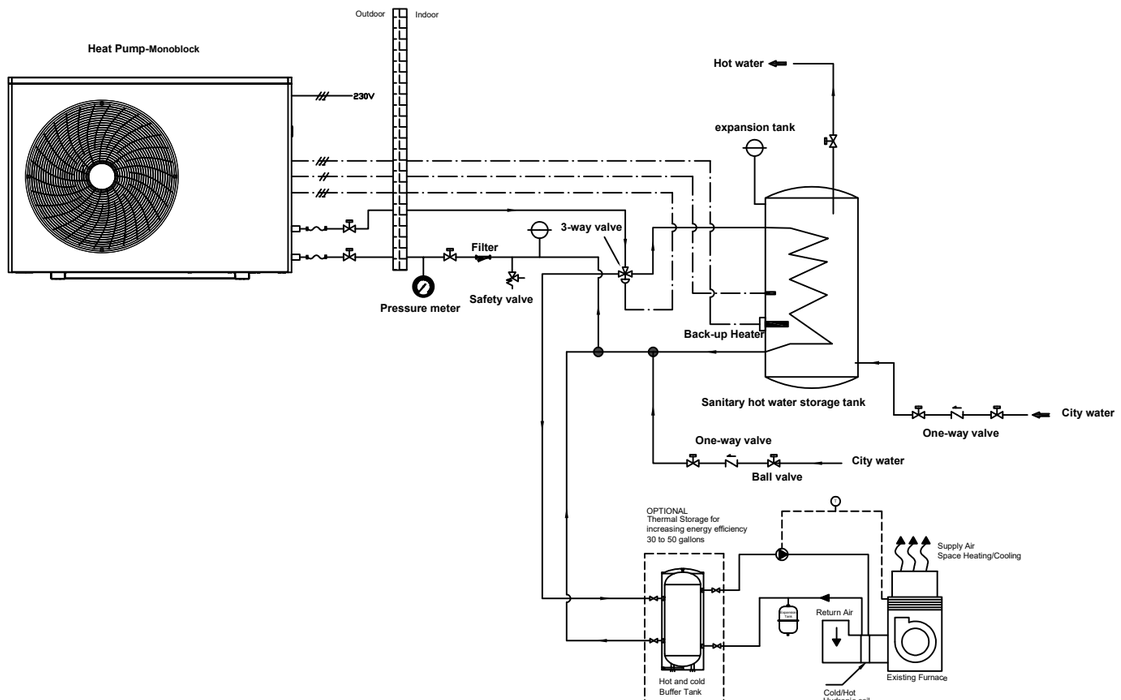
Heating, Cooling and Domestic Hot Water

- Hydronic Heating & Cooling with XAI Air-to-Water Heat Pumps.
- Environmentally friendly with R32 refrigerant with low GWP 675.
- Combines the performance of modern air-source heat pump technology with the unsurpassed comfort of hydronics.
- 30% more efficient than traditional air-source heat pumps.
- Energy savings up to 47% greater than a typical high efficiency natural gas condensing boiler.
- Up to 70% less electricity use than electric baseboard

-13°F~109°F Ultra-Wide Operating Range

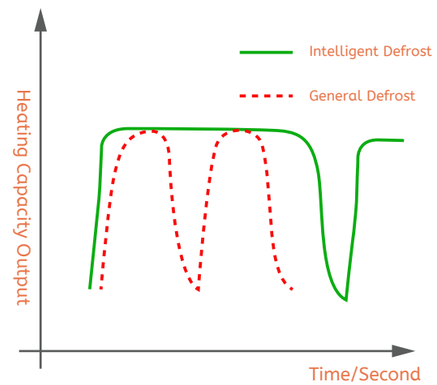
Hybrid Heating System -24V

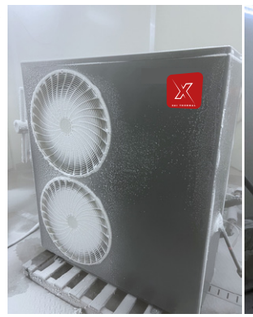
With 24V dry contact or Modbus (RS485) Interface, XAI Integrated Heat Pump can be connected to other energy sources such as a fuel boiler, solar water heater, or pellet boiler to achieve energy saving, based on local energy policy and user's preference. It will be greatly helpful in extremely cold areas.

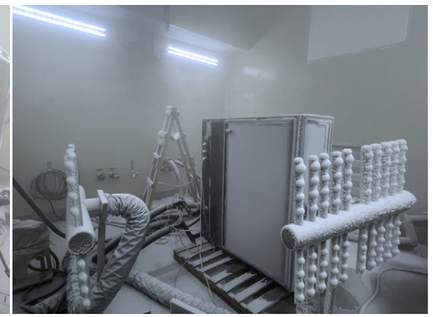


Intelligent Defrost Mode

The intelligent defrost mode of the XAI heat pump automatically detects and melts frost on the outdoor coil, preserving the unit's heating efficiency. By preventing frost/ice accumulation in cold climates, it significantly reduces energy use, and extends heating operation time.





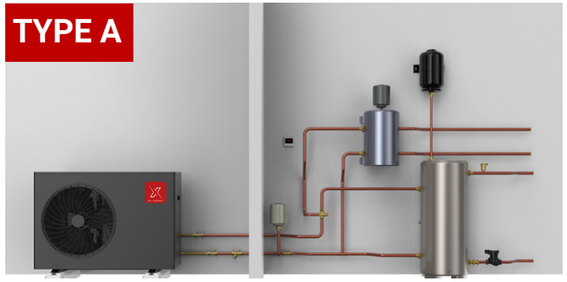


EVI DC Inverter Technology

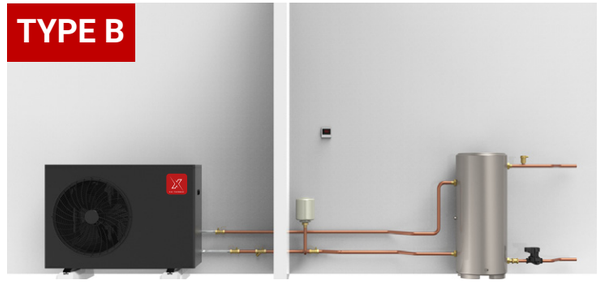
Inverter systems, unlike fixed-speed ones, adjust their output using a variable-speed compressor to minimize energy consumption and maintain optimal temperature.

This leads to higher energy efficiency, effective heating/cooling, and hot water production even in cold climates, significantly reducing energy costs and electricity bills.

Installation for Multi Functions

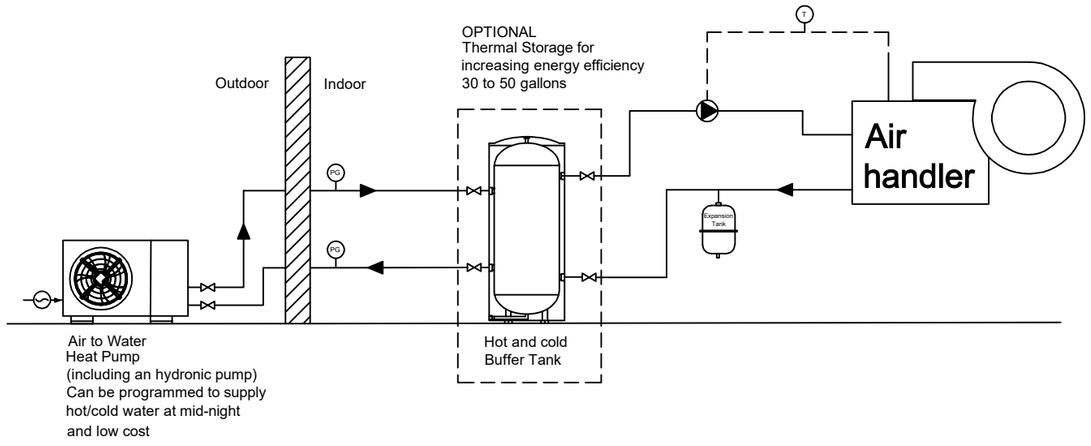


Installation for Multi Functions
(heating /cooling and hot water)

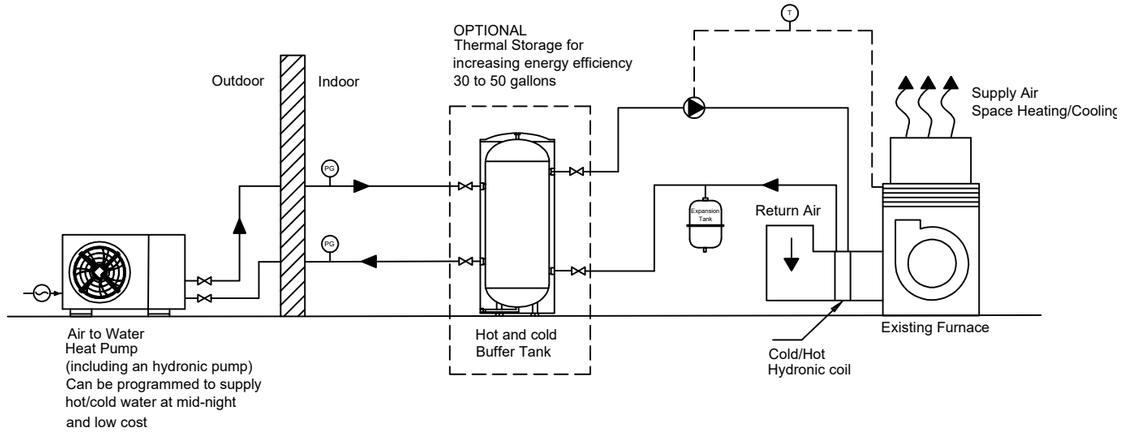


Installation for Single Function
(heating/ cooling or hot water only)

Air to water heat pump with AHU



Air to water heat pump with existing furnace integrated with hydronic coil



Model		XAW-048N8-MB1U	XAW-072N8-MB1U
Rated Heating Conditions (°F): Leaving Water Temp. : 95 Ambient（DB/WB）: 47/43			
Rated Heating Capacity	Btu/hr	56,118	76,401
Heating Input Power	W	4,478	6,158
COP	W/W	3.67	3.64
Rated Cooling Conditions (°F): Leaving Water Temp. : 44.6 Ambient（DB/WB）: 95/75.2			
Rated Cooling Capacity	Btu/hr	34,660	55,615
Cooling Input Power	W	3,729	6,022
EER	(Btu/h)/W	2.72	2.71
Performance			
Nominal Heating Capacity	Tons	4	6
Nominal Cooling Capacity	Tons	2.8	4.2
Refrigerant Type		R32	R32
GWP (Global Warming Potential)		675	675
Refrigerant Charge	Lbs	3.97	5.06
Workable ambient temperature range	°F	-13 ~ 110	-13 ~ 110
Power Supply	V/Ph/Hz	208-230V/1Ph/60Hz	
Power Supply Connections		L1, L2, Ground	
Compressor Type		Inverter	
Sound Pressure (Daytime Max/Rated/Low Noise)	dB(A)	57/53/50	61/57/54
MCA (Min. Circuit Amps)	A	28	36
MOP (Max Overcurrent Protection)	A	32	40
Cooling Mode Leaving Water Temp	°F	45 ~ 80.6	45 ~ 80.6
Heating Mode Leaving Water Temp	°F	59 ~ 140	59 ~ 140
Piping Connections Inlet / Outlet	Inch	1 Male Pipe Thread	1 Male Pipe Thread
Relief Valve Pressure	PSI	43.5	43.5
Water flow	GPM	11	19
Water Pump Type		BLDC	BLDC
Net Dimensions (L × W × H)	Inch	47-1/4 × 21-5/8 × 33-5/8	49-1/3 × 21-5/8 × 55-7/8
Shipping Dimensions (L × W × H)	Inch	49-1/4 × 22-5/8 × 38-3/4	51-1/8 × 22-5/8 × 61
Net / Shipping Weight	Lbs	260/282	313/348

Pool Heat Pump

65,000 -150,000BTU

Defy the elements and take pleasure in your pool and spa at any time.
Our heat pump ensures perfect water temperatures all year round.
Rely on XAI for premium outdoor heating systems.

150,000 BTU

96,000-120,000 BTU

65,000 BTU

Sizing Chart to Heat Your Pool to 82°F (28°C)					
		Temperate Location *		Warm Location *	
Pool Size ft (m)	Water Volume (gal)	With Pool Cover	No Pool Cover	With Pool Cover	No Pool Cover
13-1/8 × 23 (4 × 7)	Up to 9200	50000Btu	65000Btu	50000Btu	50000Btu
14-3/4 × 27-7/8 (4.5 × 8.5)	Up to 14500	90000Btu	90000Btu	65000Btu	65000Btu
16-3/8 × 32-3/4 (5 × 10)	Up to 18500	90000Btu	120000Btu	90000Btu	90000Btu
18 × 36-1/8 (5.5 × 11)	Up to 25100	120000Btu	150000Btu	90000Btu	120000Btu
19-5/8 × 39-3/8 (6 × 12)	Up to 26400	150000Btu	120000Btu x 2	120000Btu	

Note: Heat pump sizing is influenced by ambient temperature, humidity, use of a pool cover, night time temperature, pool location, wind factor, water features and if the unit is switched off over night. Therefore, any under sizing of the heater for your pool heating requirements is not the responsibility of XAI.
* Temperate Location: Where minimum average daytime temperatures from May to September are not less than 64°F (18°C).
* Warm Location: Where minimum average daytime temperatures from May to September are not less than 75°F (24°C).

R32 Environmentally Refrigerant

R32 refrigerant has a low global warming potential (GWP 675), less environmental impact, higher energy efficiency, safety, and cost-effectiveness

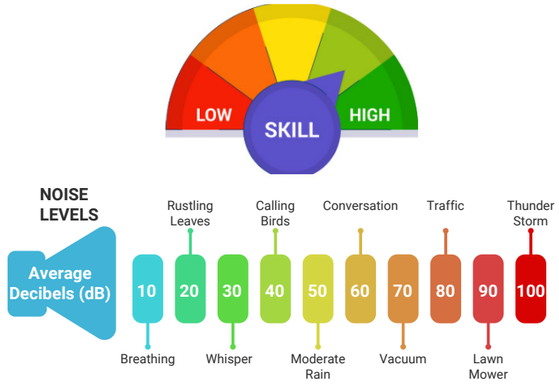
High COP

COP:4.69~5.69

With XAI's unique technology, the swimming pool heat pump can maintain high COP during operation, creating extraordinarily high efficiency and savings for users.

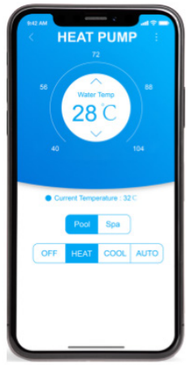
Super Quiet Operation

Sound-proof design and insulation form, achieves a quiet 40~50 dB(A) at 3-1/4 ft (1 meter) distance.



Smart Control by App

Wi-Fi-enabled temperature control APP (i0S and Android) with control, schedule and timer function.



Intelligent Defrosting System

Intelligent defrosting system automatically clears frost under 14°F(-10°C) to safeguard the heat pump.

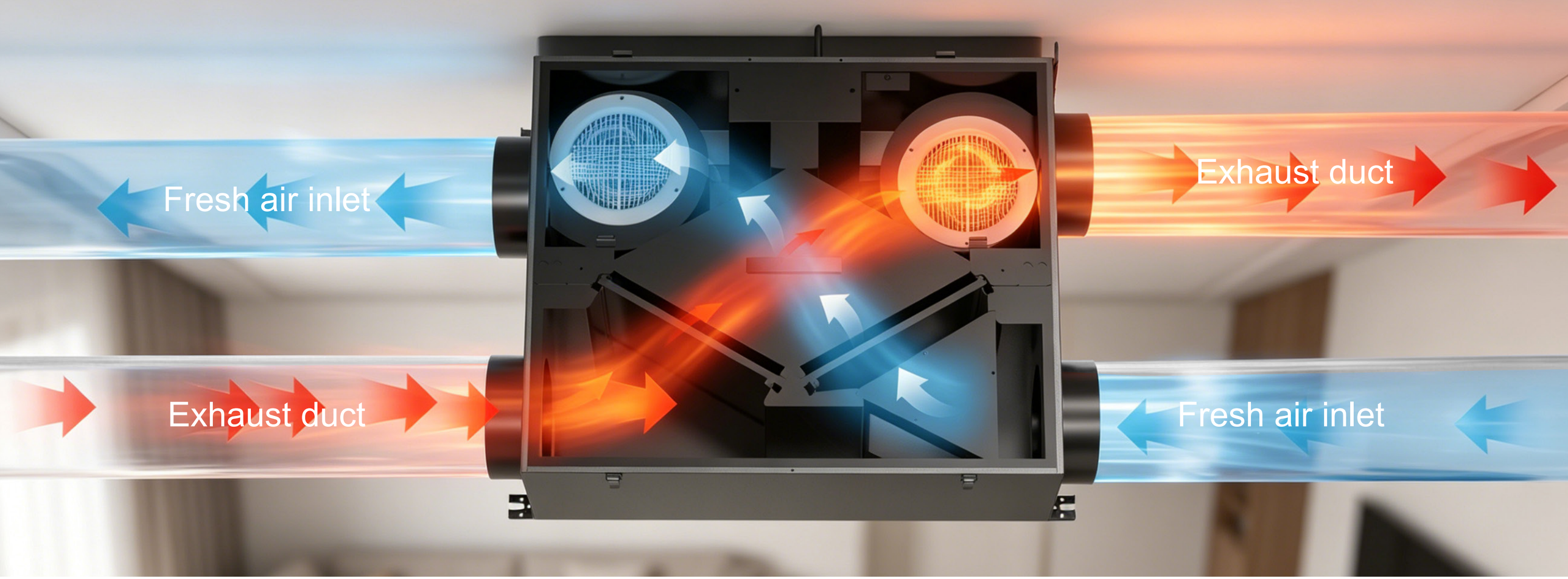
Performance

Model		XPH-065N8-MB2U	XPH-096N8-MB2U	XPH-120N8-MB2U	XPH-150N8-MB2U
Rated Heating Conditions: Air 80°F,Water 80°F,Humidity 80%					
Rated Heating Capacity	Btu/hr	65,000	96,424	114,144	145,300
COP	W/W	5.62	5.69	5.22	4.69
Heating Conditions: Air 80°F/Water 80°F/ Humidity 63%					
Heating Capacity	Btu/hr	62,780	95,929	110,710	133,500
COP	W/W	5.56	5.13	4.31	4.45
Heating Conditions: Air 50°F/Water 80°F/ Humidity 63%					
Heating Capacity	Btu/hr	38,555	68,798	69,102	93,130
COP	W/W	3.53	3.43	3.28	3.37
Rated Cooling Conditions: Air 95°F/Water 86°F/Humid. 40%					
Rated Cooling Capacity (Btu/hr)	Btu/hr	38,214	58,085	53,066	96,007
EER	(Btu/h)/W	10.92	12.6	11.6	11.2
Performance					
Nominal Heating Capacity	BTU	65,000	96,000	120,000	150,000
Nominal Cooling Capacity	BTU	38,000	58,000	53,000	96,000
Max. Pool Capacity	GAL	20,000	26,000	32,000	43,000
Nominal Water Flow	GPM	29	43	51	65
Refrigerant Type		R32	R32	R32	R32
GWP (Global Warming Potential)		675	675	675	675
Refrigerant Charge	Lbs	2.65	5.52	6.17	7.94
Workable ambient temperature range	°F	14 ~ 110	14 ~ 110	14 ~ 110	14 ~ 110
Power Supply	V/Ph/Hz	208-230V/1Ph/60Hz	208-230V/1Ph/60Hz	208-230V/1Ph/60Hz	208-230V/1Ph/60Hz
Power Supply Connections		L1, L2, Ground	L1, L2, Ground	L1, L2, Ground	L1, L2, Ground
Compressor Type		Twin-Rotary Inverter	Twin-Rotary Inverter	Twin-Rotary Inverter	Twin-Rotary Inverter
Waterproof Class		IPX4	IPX4	IPX4	IPX4
Sound Pressure 3m	dB(A)	36-49	39-51	41-54	45-57
Noise at 10 ft.	dB(A)	≤53	≤56	≤58	≤60
MCA (Min. Circuit Amps)	A	20	30	33	48
MOP (Max Overcurrent Protection)	A	25	37	41	60
Max water flow temp. in heating mode	°F	104	104	104	104
Min water flow temp. in cooling mode	°F	44.6	44.6	44.6	44.6
Water Pipe In-Out Dimensions	Inch	1-1/2	2	2	2
Heat Exchanger		Titanium PVC	Titanium PVC	Titanium PVC	Titanium PVC
Casing type		ABS Casing	ABS Casing	ABS Casing	ABS Casing
Air Discharge		Horizontal	Top	Top	Top
Net Dimensions (L × W × H)	Inch	38-7/8 × 15-3/4 × 26	33-11/16 × 31-3/8 × 34-1/4	33-11/16 × 31-3/8 × 34-1/4	39-3/4 × 35-3/16 × 41
Shipping Dimensions (L × W × H)	Inch	41-3/8 × 18-3/4 × 31-1/2	35-1/4 × 33-1/4 × 39-15/16	35-1/4 × 33-1/4 × 39-15/16	41-3/8 × 37-1/16 × 46-7/16
Net / Shipping Weight	Lbs	121/132	210/264	246/302	352/418

Certified HVI Member

Energy Recovery Ventilators

The HVI-Certified label is assurance that the advertised airflow and soundratings for ventilation equipment are reliable.



XAI Energy Recovery Ventilation helps improves indoor air quality while conserving energy. It achieves this by exchanging heat and moisture between the incoming and outgoing airstreams. ERV fresh air system provides a reliable and efficient solution for introducing fresh, filtered air into indoor spaces while recovering energy, improving indoor air quality, and promoting a comfortable and healthy environment.
XAI auto balancing technology helps users and installers to maintain consistent performance and maximum heat/energy recovery efficiency without manually controlling it. The system ensures that the ventilation remains perfectly balanced at any chosen speed. This functionality holds true regardless of varying external factors such as weather, connection type, furnace/AHU speed fluctuations, stack effects, or clogged filters.

Basic Controller

Easy to use and install Including airflow speed adjustment and humidity regulation.

Standard-packed with ERV

Optional

MAX speed exchange ventilation for 20, 40 or 60 minutes.

Bathroom Timer

Optional

LCD display screen. High reliability. Dynamic display of indoor temperature and operating mode Filter replacement reminder. Separate control of fresh air volume and exhaust air volume. Standard 86*86 installation size.

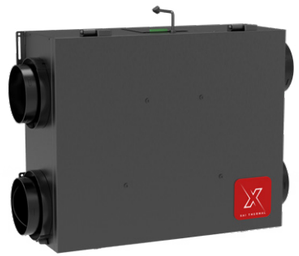
Wall Controller

Optional

Featuring a prefinished white access door and trim kit that can be mounted in a ceiling or wall cavity to easily blend into the interior space.

ERV Kit

Model		XEC-100AB-BU	XEC-136AB-BU	XEC-170AD-BU
Detail				
Power Supply	V/Ph/Hz	120V/1Ph/60Hz	120V/1Ph/60Hz	120V/1Ph/60Hz
Power Supply Connections		L, N, Ground	L, N, Ground	L, N, Ground
Connection Duct Diameter	Inch	4	6	6
Min Circuit Amps MCA	A	1.4	1.6	1.6
Max Overcurrent Protection MOP	A	15	15	15
Max Input Power	W	180	180	180
Dimensions (H × W × D)	Inch	9-9/16 × 25-9/16 × 20-1/16	9-11/16 × 25-13/16 × 21-1/2	9-11/16 × 26 × 21-9/16
Condensate Pipe Connection		NA	NA	NA
Net Weight	Lb	36	43	43
Ext Static Pressure (HH/H/L)	In W.G	0.4 / 0.2 / 0.1	0.4 / 0.2 / 0.1	0.4 / 0.2 / 0.1
Default Airflow Rate (HH/H/L)	CFM	96 / 85 / 65	136 / 100 / 64	130 / 90 / 42
Max. Airflow Rate (HH/H/L)	CFM	/	/	170 / 100 / 45
Sound Pressure @ (HH/H/L)	dB(A)	30 / 28 / 24	36 / 33 / 24	36 / 33 / 24
Operating range outdoor temperature	°F DB	-18 ~ 109	-18 ~ 109	-18 ~ 109
Filter Level / Type / Qty		Merv 8 / Washable / 2	Merv 8 / Washable / 2	Merv 8 / Washable / 2
ERV Core / Type		Cross Flow / Non washable	Cross Flow / Non washable	Cross Flow / Non-washable
Motor / Drive		Brushless Digitally Controller / Direct	Brushless Digitally Controller/Direct	ECM Motor Brushless Digitally controller/Direct

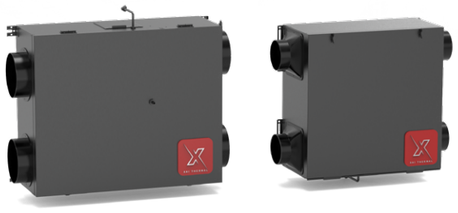


Quality Assurance
Quality match UL,CSA, standard

Model		XEW-100AB-BU	XEW-152AB-BU
Detail			
Power Supply	V/Ph/Hz	120V/1Ph/60Hz	120V/1Ph/60Hz
Power Supply Connections		L, N, Ground	L, N, Ground
Connection Duct Diameter	Inch	4	6
Min Circuit Amps MCA	A	1.4	1.6
Max Overcurrent Protection MOP	A	15	15
Max Input Power	W	180	180
Dimensions (H × W × D)	Inch	20-5/8 × 14-7/8 × 16-5/8	23-1/4 × 15-15/16 × 16-3/4
Condensate Pipe Connection		NA	NA
Net Weight	Lb	44	46
Ext Static Pressure (HH/H/L)	In W.G	0.4 / 0.2 / 0.1	0.4 / 0.2 / 0.1
Airflow Rate (HH/H/L)	CFM	100 / 70 / 54	152 / 90 / 57
Sound Pressure @ (HH/H/L)	dB(A)	30 / 27 / 23	36 /33 / 24
Operating range outdoor temperature	°F DB	-18 ~ 109	-18 ~ 109
Filter Level / Type / Qty		Merv 8 / Washable / 2	Merv 8 / Washable / 2
ERV Core / Type		Cross Flow / Non washable	Cross Flow / Non washable
Motor / Drive		Brushless Digitally Controller/Direct	Brushless Digitally controller/Direct

Model	XEC-170AD-BU										
Energy Performance											
Heating		1	2	3	4	Cooling		1			
Inlet Supply Temperature	°C	0	0	0	-25	Inlet Supply Temperature	°C	35			
	°F	32	32	32	-13		°F	95			
Net Outdoor Airflow	L/S	20	43	64	19	Net Outdoor Airflow	L/S	20			
	SCFM	42	91	135	40		SCFM	42			
Average Power	Watts	27	82	145	41	Average	Watts	26			
Sensible Recovery Efficiency		86%	73%	65%	67%	Sensible Toal		67%			
Adjursted Sensible Recovery Efficiency		90%	80%	72%	70%	Adjursted Total Recovery Effciency		69%			
Fan Efficacy	L/S/W	0.74	0.52	0.44	-	Fan Efficacy	L/S/W	84.1%			
	CFM/W	1.5	1.1	0.9	-		CFM/W	0.63			
Fan Efficacy											
Static Pressure	Pa	25	50	75	100	125	150	175	200	225	250
	In W.G	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Net Supply Airflow	L/S	88	85	83	80	77	74	71	68	66	63
	CFM	186	180	176	170	163	157	150	144	140	133
Gross Supply Airflow	L/S	90	87	84	81	78	75	72	69	67	64
	CFM	191	184	178	172	165	159	153	146	142	136
Gross Exhaust Airflow	L/S	80	77	74	71	68	65	62	59	56	53
	CFM	170	163	157	150	144	138	131	125	119	112
Power	Watts	145.1	144.1	143.3	142.8	142.2	141.9	141.4	141	140.4	139.8

Quality Assurance
Quality match UL,CSA, standard



Model	XEC-100AB-BU											
Energy Performance												
Heating		1		2		3	Cooling		1			
Inlet Supply Temperature	°C	0		0		-25	Inlet Supply	°C	35			
	°F	32		32		-13	Temperatur	°F	95			
Net Outdoor Airflow	L/S	30.5		43.5		20.6	Net Outdoor	L/S	26			
	SCFM	64		92		43	Airflow	SCFM	65			
Average Power	Watts	30		46		30	Average	Watts	30			
Sensible Recovery Efficiency		77.4%		73.6%		44.3%	Sensible		63%			
Adjusted Sensible Recovery Efficiency		80%		77%		45%	Adjusted Total		66%			
Fan Efficacy	L/S/W	0.98		1		0.7	Apparent		67%			
	CFM/W	2.1		2		1.46	Net		34.80%			
Fan Efficacy												
Static Pressure	Pa	25	50	75	100	125	150	175	200	225	250	300
	In W.G	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.2
Net Supply Airflow	L/S	45	45	45	45	45	46	46	46	46	47	47
	CFM	94	95	95	96	96	97	97	98	98	99	100
Gross Supply Airflow	L/S	45	45	46	46	46	46	47	47	47	47	48
	CFM	96	96	96	97	97	98	99	99	100	100	102
Gross exhaust Airflow	L/S	45	45	45	45	45	46	46	46	46	46	46
	CFM	95	95	95	95	96	96	97	97	98	98	97
Power	Watts	43	50	57	66	71	77	83	94	100	107	120

Model	XEC-136AB-BU											
Energy Performance												
Heating		1		2			Cooling		1			
Inlet Supply Temperature	°C	0		0			Inlet Supply	°C	35			
	°F	32		32			Temperatur	°F	95			
Net Outdoor Airflow	L/S	30.4		63.9			Net Outdoor	L/S	26			
	SCFM	63		135			Airflow	SCFM	55			
Average Power	Watts	30		92			Average	Watts	29			
Sensible Recovery Efficiency		74.3%		61.6%			Total		62%			
Adjusted Sensible Recovery Efficiency		78%		66%			Adjusted Total		64%			
Fan Efficacy	L/S/W	0.98		1.5			Apparent		78%			
	CFM/W	2.1		1.46			Net		60%			
Fan Efficacy												
Static Pressure	Pa	25	50	75	100	125	150	175	200	225	250	300
	In W.G	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.2
Net Supply Airflow	L/S	63	63	63	64	66	66	66	66	63	60	45
	CFM	133	133	134	136	139	140	141	139	134	126	96
Gross Supply Airflow	L/S	65	65	65	67	68	68	69	68	66	61	47
	CFM	138	137	139	141	143	145	145	144	139	130	99
Gross exhaust Airflow	L/S	65	66	67	68	69	69	68	67	64	59	44
	CFM	138	140	142	144	145	146	145	141	135	126	94
Power	Watts	86	95	106	116	126	137	144	154	151	141	119

Quality Assurance
Quality match UL,CSA, standard

Model	XEW-100AB-BU											
Energy Performance												
Heating		1		2			Cooling		1			
Inlet Supply Temperature	°C	0		0			Inlet Supply	°C	35			
	°F	32		32			Temperatur	°F	95			
Net Outdoor Airflow	L/S	30		46.6			Net Outdoor	L/S	26			
	SCFM	64		99			Airflow	SCFM	55			
Average Power	Watts	30		92			Average	Watts	30			
Sensible Recovery Efficiency		72.7%		67.7%			Sensible		60%			
Adjusted Sensible Recovery Efficiency		76.5%		72.5%			Adjusted Total		64%			
Fan Efficacy	L/S/W	1.0		0.51			Fan Efficacy	L/S/W	0.86			
	CFM/W	2.1		1.08				CFM/W	1.8			
Fan Efficacy												
Static Pressure	Pa	25	50	75	100	125	150	175	200	225	250	300
	In W.G	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.2
Net Supply Airflow	L/S	46	47	48	48	49	49	49	49	49	49	48
	CFM	98	100	101	102	103	104	104	104	104	103	101
Gross Supply Airflow	L/S	47	48	49	49	50	50	50	50	50	50	49
	CFM	100	102	103	104	105	106	106	106	106	106	104
Gross exhaust Airflow	L/S	51	51	51	52	52	52	52	52	50	48	40
	CFM	109	108	109	110	110	111	111	109	106	102	85
Power	Watts	69	77	86	95	102	110	118	125	131	136	135

Model	XEW-152AB-BU											
Energy Performance												
Heating		1		2			Cooling		1			
Inlet Supply Temperature	°C	0		0			Inlet Supply	°C	35			
	°F	32		32			Temperatur	°F	95			
Net Outdoor Airflow	L/S	27.1		70.1			Net Outdoor	L/S	26			
	SCFM	57		148			Airflow	SCFM	55			
Average Power	Watts	30		111			Average	Watts	30			
Sensible Recovery Efficiency		77.4%		62.5%			Sensible		63.4%			
Adjusted Sensible Recovery Efficiency		81.1%		67.7%			Adjusted Total		65.7%			
Fan Efficacy	L/S/W	0.9		0.63			Fan Efficacy	L/S/W	0.78			
	CFM/W	1.9		1.3				CFM/W	1.66			
Fan Efficacy												
Static Pressure	Pa	25	50	75	100	125	150	175	200	225	250	300
	In W.G	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.2
Net Supply Airflow	L/S	68	70	71	72	72	72	71	71	69	68	64
	CFM	144	147	150	152	153	152	151	149	147	144	135
Gross Supply Airflow	L/S	69	71	72	73	73	73	73	72	70	69	65
	CFM	146	150	153	154	155	155	154	152	149	146	137
Gross exhaust Airflow	L/S	74	75	76	76	75	74	72	70	68	65	60
	CFM	158	160	160	160	159	156	153	149	144	139	126
Power	Watts	111	123	131	142	151	160	165	171	171	170	168