

O X Y G E N 8

PURA HP

Residential Cross-Flow ERV for
Vertical FXTQ

Who We Are

Oxygen8 is reinventing how buildings provide healthy and comfortable air in an energy efficient way. We work to enhance living and working environments with 100% fresh, filtered air using smart technology for maximum comfort and value.

[ox·y·gen·ate]

Nothing is more refreshing and essential to the human body than oxygen, which happens to be the eighth element in the periodic table. We oxygenate businesses, classrooms, senior care facilities and other buildings with 100% fresh air so people can work, live, and breathe in a safe and comfortable environment.

Why We Do What We Do

To Create Healthy Indoor Environments

People are getting sick while working in offices, learning in classrooms and convalescing in senior care facilities. Traditional centralized HVAC systems that recirculate air without proper filtration and humidity control are the root cause of poor IAQ. To prevent the transmission of bacteria and viruses, new HVAC systems must provide dedicated outdoor air and eliminate recirculation, have small zoned ventilation systems, high filtration, control humidity levels and used fixed-plate ERV technology that eliminates contaminant cross-over between outside and exhaust streams.

To Move Toward Building Electrification

To reduce greenhouse gases, many North American cities are moving toward net-zero energy buildings over the next decade, which will drive demand for all-electric HVAC systems and low energy technologies. We are here to meet that demand with our all-electric heating and cooling solutions.

For Better Building Design

Super-insulated buildings significantly reduce heating requirements, while climate change and developers' desires for large amounts of glazing will increase cooling needs. The integration of VRV with ERV helps to reduce energy consumption and meet ventilation requirements.

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Pura with Heat Pump for Multi-Unit Residential

Pura HP is a vertically mounted Pura ERV with timed exhaust defrost, complete with a pre-assembled plenum and supports for simple coupling with Daikin's vertical FXTQ heat pump.

Size and Airflow Ranges

Pura HP

Dimensions: 24" L x 7.5" W x 23.25" H + Plenum

Airflow Range: 45 – 120 cfm

Weight: 42 lbs + Plenum

Mounting: Vertical

Pura Standard Features

Variable Speed ECM Fans

Voltage: 115V/1ph/60Hz

Crossflow ERV core

Corded and hard-wired options are available

Applications

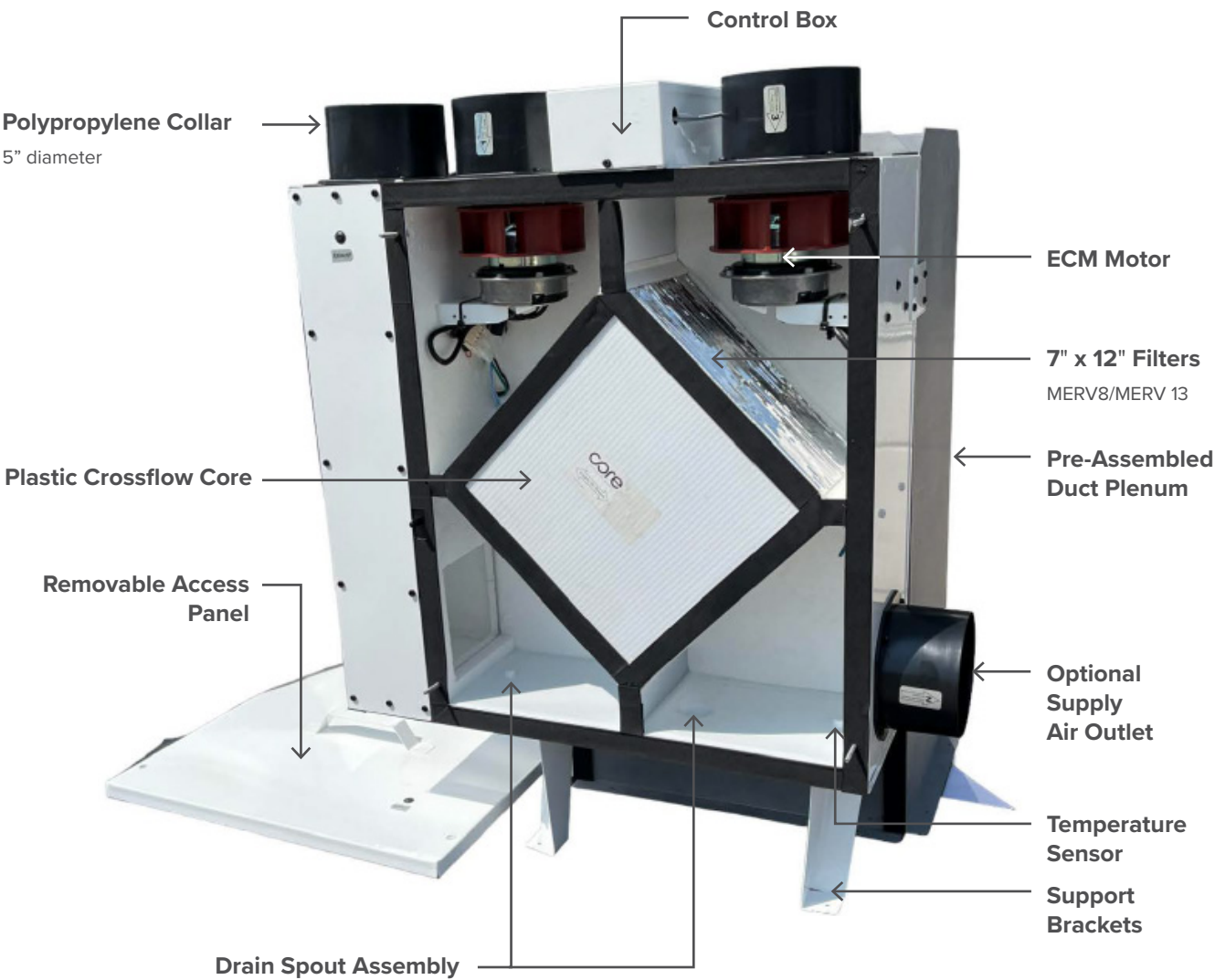
Pura was designed for conditioned indoor residential spaces.

Defrost Strategy

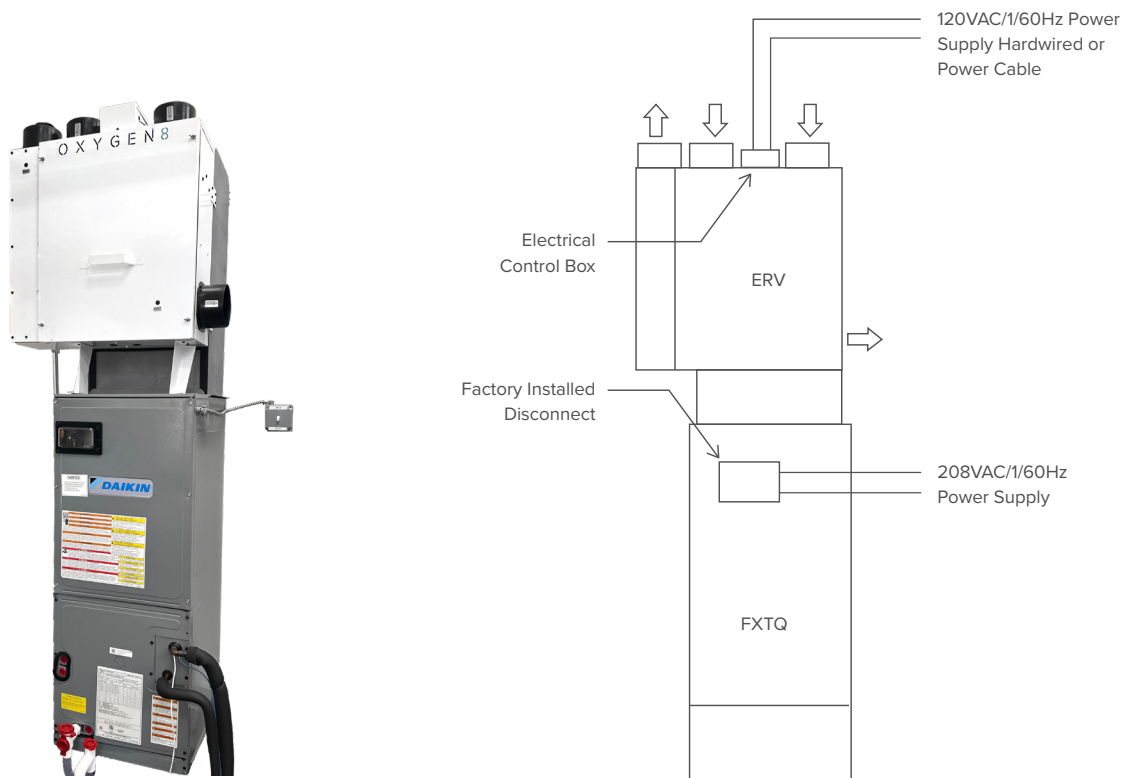
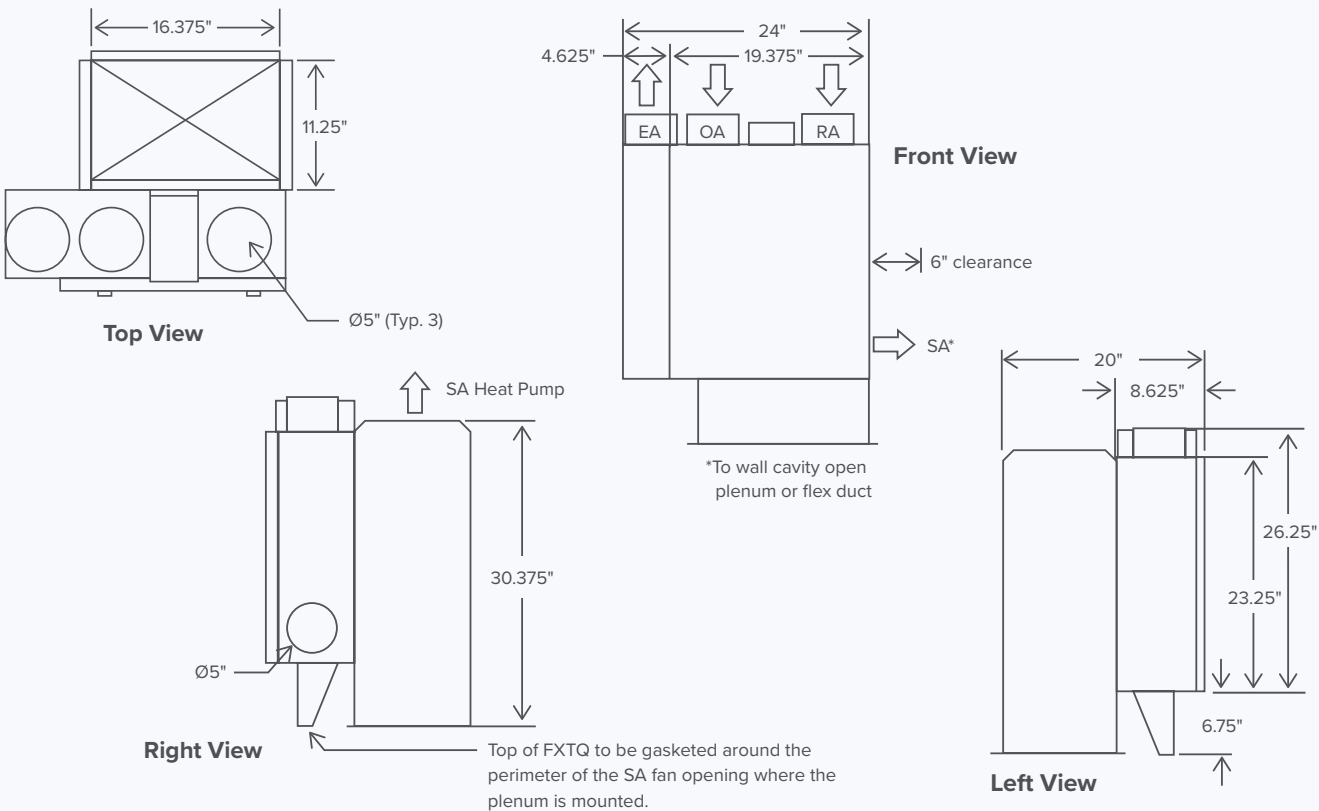
Pura defrost optional can all be considered "timed" defrost as they rely on a timer rather than another sensor to control the defrost functionality. Pura ED and HP have a timed exhaust defrost strategy, and Pura RD has a recirculating defrost strategy.

Shipping Note The unit can be shipped with or without a flexible duct. The unit ships with a pre-assembled plenum - the option for a detached plenum for field assembly is also available.

System Overview



Dimensions and Configuration

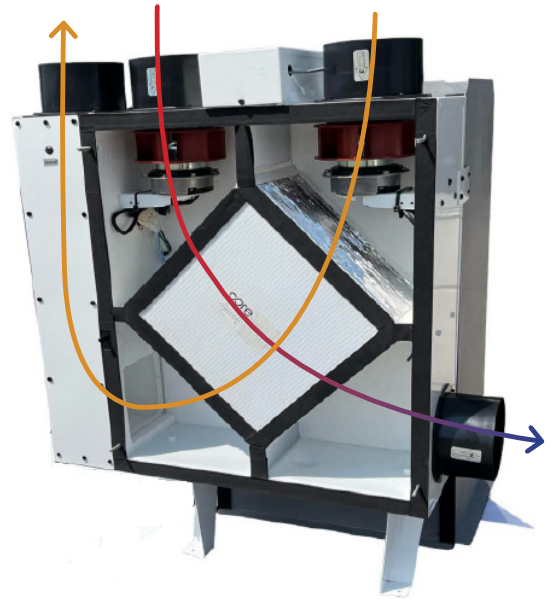


Exhaust Defrost Strategy

Pura's defrost options can be considered "timed" defrost as they rely on a timer rather than another sensor to control the defrost functionality.

Timed Exhaust Defrost

Timed exhaust defrost will start at temperatures equal or below 41°F/5°C measured in the supply air section of the unit. When the temperature sensors measure the supply air temperature below 5°C 41°F (5°C), it will shut off the supply air fan and signal the exhaust air fan to operate at the "high" airflow rate as set on the control board. The defrost sequence will continue until the supply air temperature sensors reads 59°F (15°C) or above. Once the temperature reaches 59°F (15°C) or above, the supply motor will turn back on to its "normal" airflow setting and the exhaust air fan will return to its "normal" airflow.



Frost Prevention Strategies

When the unit operates without a frost prevention strategy it means that it will switch into a defrost mode every time the supply air temperature is below 41°F/5°C and the supply fan will shut off. In order to provide continuous operation of the unit in a normal mode, frost prevention methods should be used.

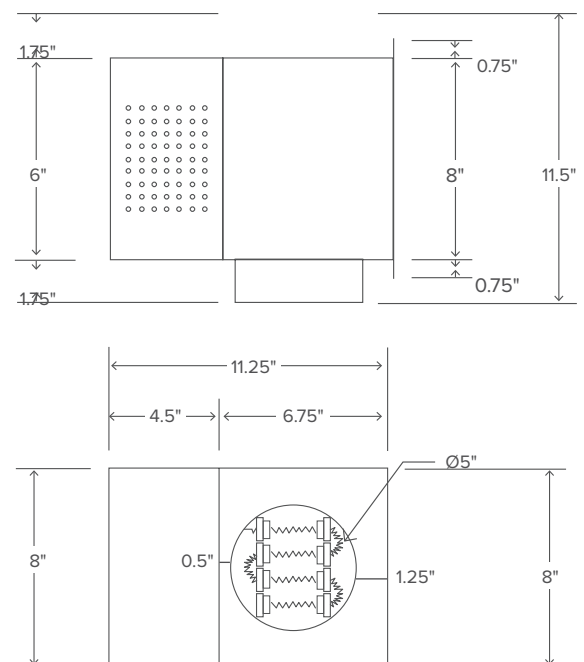
Electric Pre-Heaters

Pre-heaters are used to heat up the outside air above the frost threshold and provide continuous operation of the unit. The heater is self-controlled with no external control connection. A separate power connection is required. The heater works based on on-board LAT sensor and a flow meter.

Standard Heater Sizes:

Power (kW)	Voltage (V/PH)	FLA (A)	MCA (A)	RFS (A)
0.5	120/1/60	4.17	5.21	15
1	120/1/60	8.33	10.41	15
1.5	120/1/60	12.5	15.63	25
2	120/1/60	16.67	20.84	35
2.5	120/1/60	20.83	26.04	45
3	120/1/60	25	31.25	50

Electric Heater Top View



Heaters come with built-in thermostat and are shipped loose. Non-standard sizes are available upon request.

Optional Accessories

Timers and Switches

Pura HP unit can be connected with up to four timers and one intermittent switch.

- 120VAC 5/10/15/30 min timer*
- 120VAC 10/20/30/60 min timer*
- 5VDC 20/40/60 min timer**
- 5VDC (low/intermittent/high) switch**
- On/off switch**

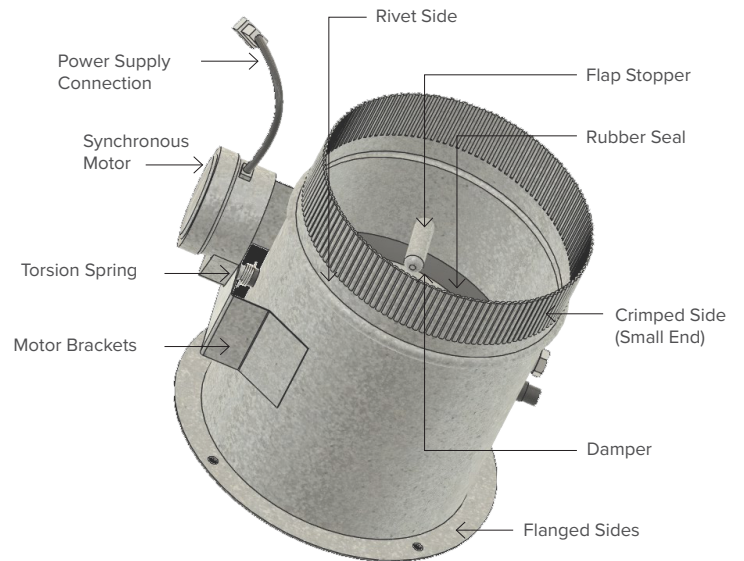
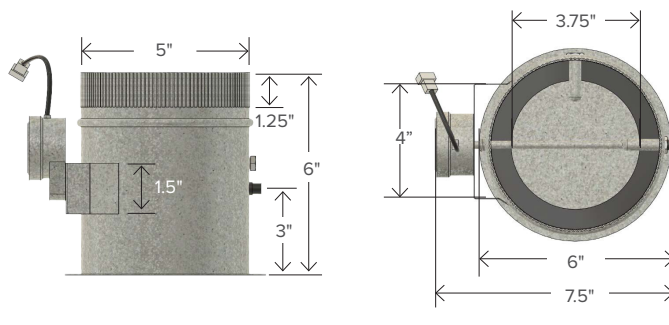
*Separate power connection required | **Dry contact connection

Pura HP does not include a wall controller.



Motorized Dampers

Pura HP is compatible with 5" round motorized spring return dampers (with and without flange). A 120VAC motor is attached directly to the damper shaft. Dampers require a separate 120VAC/1/60 Hz power connection.



Standard Accessories

Pura HP is shipped with standard **Mounting Brackets**

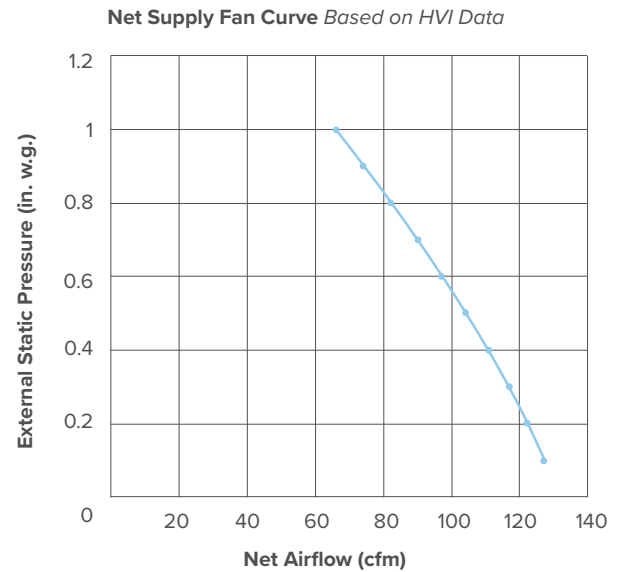


Performance and Sound Data

Fan Performance

External Static Pressure		Net Supply Air Flow		Power
Pa	in w.g.	L/s	cfm	Watts
25	0.1	60	127	86
50	0.2	58	122	87
75	0.3	55	117	87
100	0.4	52	111	87
125	0.5	49	104	87
150	0.6	46	97	86
175	0.7	43	90	85
200	0.8	39	82	83
225	0.9	35	74	83
250	1.0	31	66	81

Pura HP is not HVI certified.



Core Performance

Temp Mode	Supply Temp		Net Airflow		Power Consumed (Watts)	SRE (%)	ASRE (%)	Latent Recovery / Moisture Transfer	TRE (%)	ATRE (%)
	°C	°F	L/s	cfm						
Heating	0	32	24	51	28	76	80	0.49	-	-
Heating	0	32	30	64	32	75	79	0.44	-	-
Heating	0	32	40	85	44	74	78	0.40	-	-
Cooling	35	95	30	64	36	-	-	0.37	47	49

Sound Data

Frequency (Hz)	ERV (9dB @ 0.2 in. w.g. SP)							
	160 cfm		120 cfm		95 cfm		65 cfm	
63	35.5	33.8	39.5	33.2	29.1	29.8	23.5	21.9
125	42.6	38.9	37.7	35.7	35.4	32.8	28.1	27.2
250	46.4	44.9	43.5	42.4	36.9	37.4	27.7	27.2
500	50.8	49.8	44.9	45.4	38.8	38.4	27.3	26.9
1000	48.7	47.4	43.7	42.5	37	36	24.9	24.6
2000	42	40.6	36.6	35.7	30.4	29	18.6	18.4
4000	33.5	31.7	26.5	24.7	17.7	16.1	6.1	7.1
8000	22.4	22.4	14.9	15.1	8.5	8.9	6.1	6.1
Sones	3.35		2.2		1		0	

Pura HP FAQ

Can controls be connected to a bathroom light switch?

Yes.

Can owners have remote access to controls from a smart phone?

No.

What are Pura HP's fan speed modes?

Adjustment dials on the controller are used for low and high speed setting for supply and return air fans

Does Pura have bypass?

No.

Are the motors variable speed? What is the flow range?

Yes, motors are ECM. The controller provides the fixed speeds. The standard airflow range is 45 – 120 cfm.

Can Pura RD be mounted both horizontally and vertically?

Pura HP can have vertical installation only.

How do I mount the unit?

Pura HP can come with plenum and support brackets pre-assembled, and is mounted to a Daikin FXTQ in the field. Gasketing must be applied around the FXTQ SA opening prior to mounting the Pura HP.

Can Pura have higher MERV rated filters?

Pura HP uses MERV 13 filters for outside air, and MERV8 filters for return air.

How do you remove filters?

Once the front access panel is removed, filters can be easily removed from the designated slot.

Do the cores have to be cleaned?

Yes, depending on the environment and the particulate in the outdoor and return air streams.

What certifications does Pura have?

CSA, UL

*Pura HP is not HVI certified

What are the competitive advantages of these units?

Pura HP is a high-efficiency, compact and light weight ERV that integrates seamlessly with Daikin FXTQ

What is the maximum static pressure?

Pura is sized for 0.5 ESP, however fan curves will be shown in design specs. The maximum static pressure is approximately 1 in. W.C.

To access the internals, does the drain connection need to be removed before opening the access door?

No, the optional drain connection does not interfere with the removal of the front access panel.

Are units reversible in field?

No, units cannot be reversed in the field.

Is Pura HP offered with single point power with the Daikin FXTQ unit?

No, the Pura HP ERV operates off a separate 120V power connection from Daikin's 208V power source.

Can you supply air directly into the FXTQ supply plenum from the ERV?

No, the ERV supply air must enter the main supply air stream via the FXTQ air intake.

Do you need a flexible duct connection feeding from the ERV SA port directly to the FXTQ air intake?

No, if the Pura HP and FXTQ are in a wall cavity, the ERV SA can freely discharge to the space since the FXTQ will negatively pressurize the wall cavity. It is recommended to use a flexible duct connection in mechanical closet installations.

Is there an interlock between Pura HP and FXTQ?

No, both units are continuously operating and don't require a control interlock. The FXTQ must be set to run at low-low mode at a minimum and provides sufficient negative static for the system to balance.

Notes

[illegible]

