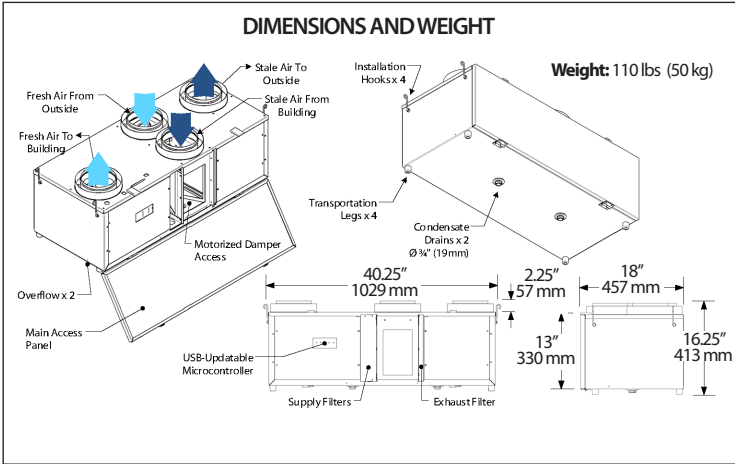
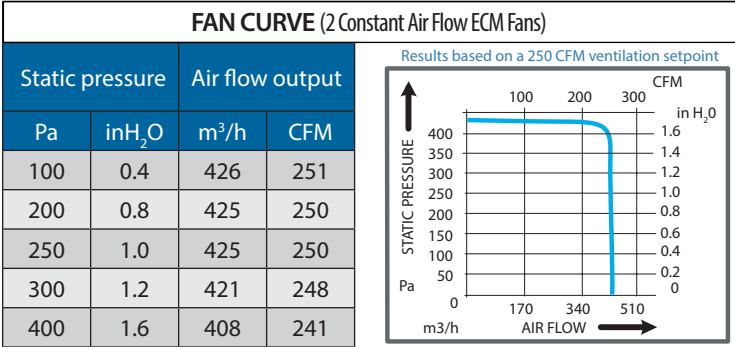


PentaCare V12<sup>®</sup> Compact ATU specifications



ANSI/UL STD 1995  
STD CAN/CSA 22.2 No 236

VENTILATION/AIR EXCHANGE MODE: ENERGY PERFORMANCE  
(CAN/CSA-C439-09 Standard, the one HVI uses, results provided by Exova Lab, Dec. 2017)

Fresh air from outside	Sensible Recovery Efficiency (SRE) <i>"When all the electricity is deducted"</i>	Apparent Sensible Effectiveness (ASE) <i>"The Thermal efficiency"</i>				
HEAT RECOVERY PERFORMANCE						
°F	°C	CFM	m <sup>3</sup> /h	L/s	%	%
32	0	100	170	47	116	178
32	0	249	423	117	87	112
-13	-25	100	170	47	72	98

CFM = Cubic Feet per Minute    m<sup>3</sup>/h = Cubic meter per Hour    L/s = Liter per Second

MOISTURE REMOVAL (Calculated using AHAM DH-1 Protocol)			
Test conditions	Gallons per day	Pints per day	Liters per day
Outdoor 80°F/60% RH Indoor 80°F/60% RH Airflow @ 180 CFM (in Cooling)	14	112	53

SOUND PRESSURE LEVELS (SPL) (Measured 3.28 ft (1 m) away)	
Test conditions with compressor ON and fully ducted	SPL
100 CFM @ 0.2 H <sub>2</sub> O	35 dB(A)
150 CFM @ 0.3 H <sub>2</sub> O	37 dB(A)
180 CFM @ 0.4 H <sub>2</sub> O	39 dB(A)
250 CFM @ 0.7 H <sub>2</sub> O	43 dB(A)

COOLING + HEATING IN RECIRCULATION (Calculated using AHRI 210/240 Protocol)

Heat pump heating test conditions	BTU/H	COP	HSPF					
			Region I	Region II	Region III	Region IV	Region V	Region VI
Outdoor 47°F/43°F Indoor 70°F/60°F Airflow 250 CFM, 1 H <sub>2</sub> O	8700	3.0	10.6	10.4	10.0	9.5	8.6	10.4
Outdoor 35°F/33°F Indoor 70°F/60°F Airflow 250 CFM, 1 H <sub>2</sub> O	6700	2.7						
Outdoor 17°F/15°F Indoor 70°F/60°F Airflow 250 CFM, 1 H <sub>2</sub> O	5600	2.4						
Heat pump cooling test conditions	BTU/H	EER	SEER					
Outdoor 95°F/75°F Indoor 80°F/67°F Airflow 250 CFM, 1 H <sub>2</sub> O	11200	11.6	14.1					
Outdoor 82°F/65°F Indoor 80°F/67°F Airflow 250 CFM, 1 H <sub>2</sub> O	11500	13.4						

Electrical Specifications				Electronically Commutated Motor Fans [x2]			Fresh Air Range ASHRAE 62.2 & CSA F326 Compliant	Hermetic Rotary Compressor			Refrigerant
Tension	Phase/Hz	Circuit	Breaker	Power	FLA	Airflow Range		Power	RLA	LRA	R-410A
120 V	1/60	12.3 A	15 A	136 W max.	2 A	80-250 CFM ± 9 %		20-180 CFM	725 W	6.6 A	
Coils Filters rating				High Efficiency Filter rating		Casing		Color		Round Ports [x4]	
MERV 8 (EN G4)				HEPA MERV 15 (EN F9)		100% Aluminium		Glossy White		ø 6-8 in (150-200 mm)	

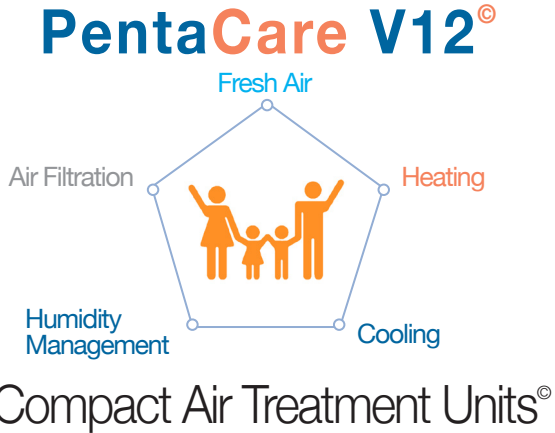
Non-contractual document. All data and information contained in this document are subject to change without notice. Pictures, tables and drawings presented for information only. © MINOTAIR Ventilation Inc. (PENTACARE-V12-ENG-052018)

5-YEAR LIMITED WARRANTY. Please refer to the User Guide for more detail.

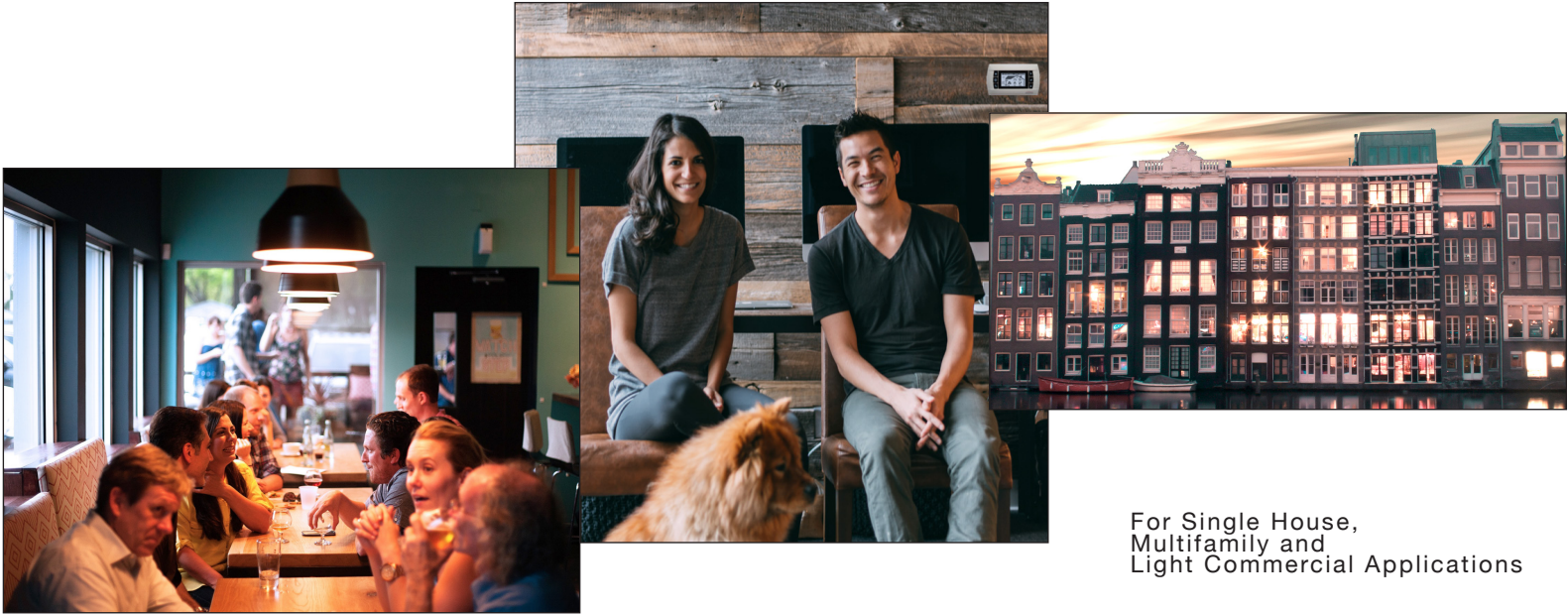
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TOLL FREE: 1.855.888.2292



Providing unrivalled levels of indoor comfort & health



For Single House,  
Multifamily and  
Light Commercial Applications

The most compact “All-in-one”  
HVAC solution for Passive Houses and Apartments  
with the best verified heat recovery performances in America

As tested by Exova Lab

HVI CERTIFICATION PENDING (Testing is done and passed)  
PASSIVE HOUSE USABLE WITH PHIUS  
COMPLIANT WITH ASHRAE 62.2 , CSA F326 AND CAN/CSA C439-09

# The PentaCare V12<sup>®</sup> is 4 machines in 1:

Heat Recovery Ventilator (HRV) + Heat Pump + Dehumidifier + High Efficiency HEPA Air Filtration device.

And it's using our PentaCare Formula<sup>®</sup> to take care of you:

## Air Filtration

### HIGH EFFICIENCY HEPA AIR FILTRATION

Our HEPA filter is **top of its class** at MERV 15/F9 filtration level. This impressive level of air filtration is made possible by the a special filtration medium and our powerful energy efficient ECM Constant Airflow fan technology.

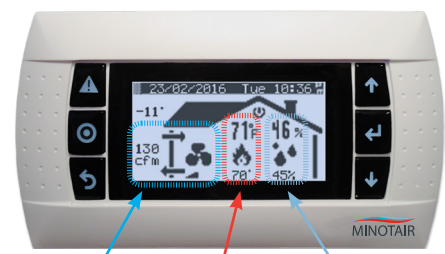
## Humidity Management

### AUTOMATIC DEHUMIDIFICATION IN HOT AND HUMID WEATHER

The PentaCare V12 uses its **HUMIWATCH 365<sup>®</sup>** exclusive system to eliminate excessive moisture better than all other HRV, ERV or heat pump based air exchangers. The end result: Minotair gets rid of up to 112 pints of water per day (this is about 50% more than our closest competitor).

### PIONEERING HUMIDITY RECOVERY IN HEATING SEASON

A first in the market: our **“Automatic Shower Detector”** feature recirculates the warm moist air from your shower automatically when the indoor air is too dry.



Ventilation - Temperature - Humidity

### USER-FRIENDLY WALLMOUNT CONTROL.

Provides a birds-eye view of the main factors pertinent to the comfort and air quality of your home.

### CONSTANT AIR FLOW FANS

Once only seen in commercial applications, you can count on our constant airflow ECM fans to deliver the right amount of fresh air in your ducts up to 1.6 inch of static pressure. As a result, our fans will do **REAL-TIME CALIBRATION OF INTAKE & EXHAUST AIRFLOWS** to help your home achieve balanced air flow pressure.

### VOC AND CO<sup>2</sup> POLLUTANT SENSORS

Key word here is flexibility! You can choose your own sensors made by renown and specialized manufacturers and easily connect them to our machines. So you can do precise IAQ Multi-Room Sensing. Like monitoring a new-born bedroom in priority. (OPTION)

**UPDATABLE CONTROLLER** (updates done by USB key). Our controller is the only one in the industry to be updatable and of industrial grade. Over time, not only will you benefit from the latest features and updates, but you will also stay away from obsolescence. In this regard the PentaCare V12 is in a league of its own once again!

### ENERGY-EFFICIENT FREE COOLING

Useful during some cool nights (in summer for example) to both cool and freshen your home naturally at almost no cost! And for a maximum effect you can also use the **Turbo Cooling mode** that will add cooling to that already naturally cool night air!

### HUMIDIFIER MODULE

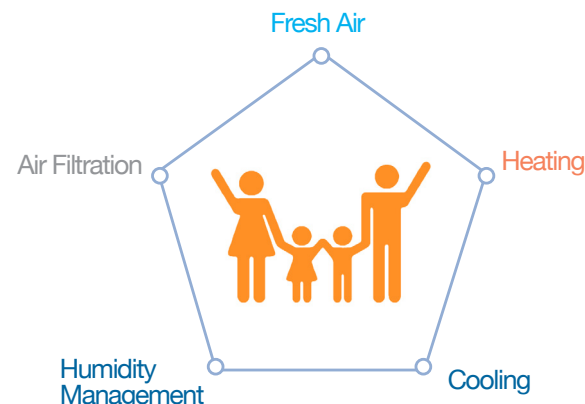
For homes still having too dry of an indoor climate in winter, our humidifier module will provide up to 17 gallons of moisture per day. The module also comprises a water economizer that will not only save up to 80% of water but will maximize the generation of moisture. Available in 2018. (OPTION).

### 5000 WATTS ELECTRICAL DUCT HEATER (EDH)

Totally controlled by our microcontroller, the heat intensity is fully variable to generate the precise amount of auxiliary heat required the heating season. Minotair makes the EDH mandatory when the PentaCare V12 is used as the main heating source such as in a passive house or apartment.

### DUCTWORK DESIGN AND LOAD CALCULATIONS SERVICES AVAILABLE

By partnering with engineering and other technical firms, you can rely on professionals to take care of these very important details. Service available throughout the USA and Canada. (FEES APPLICABLE).



## Fresh Air

### FRESH AIR SUPPLY + AIR POLLUTANTS REDUCTION

The PentaCare V12 brings in fresh air and gets ride of the pollutants contained in stale air.

## Heating + Cooling

The PentaCare V12 performs a very precise and efficient distribution of treated fresh air (filtered + cooled or heated or dehumidified) directly to all the rooms serviced by the ductwork. That means a healthier and more comfortable place to live.

### FRESH AIR ALONG WITH “NET BTU” COOLING & HEATING

In a certain temperature range, the PentaCare V12 performs like no other HRV/ERV by supplying conditioned fresh air with a surplus heat (or cooling in summer) that will reduce the heating load, all while ventilating.

## Triple HEAT Recovery System<sup>®</sup>: Or how the PentaCare V12 achieves above 100% in heat recovery efficiency!

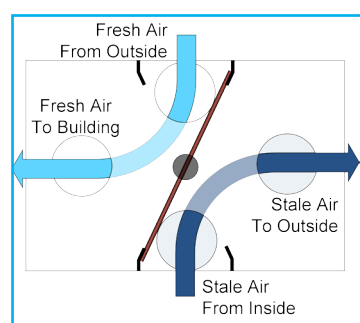
The PentaCare V12 uses Minotair's innovative Triple HEAT Recovery System<sup>®</sup> to recover heat from the stale air, heat contained in moisture, and heat generated from the compressor work. These 3 heat sources add-up into a thermal efficiency of 178% and a power efficiency of 116% resulting in a net positive energy balance (see spec sheet section for more details). These are the best verified heat recovery performances in America and were confirmed by the Exova Lab, the one that HVI uses.



Beyond its simple look lies a state of the art machine

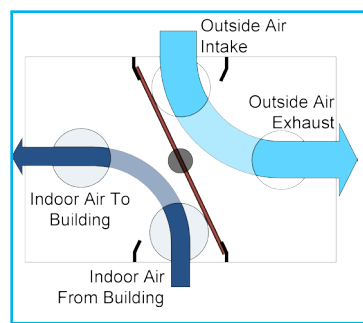
## OUR UNIQUE AXIS DAMPER<sup>®</sup>

The center point of the PentaCare V12 is its unique Axis Damper which constitutes the basis for its modes of operation.



### VENTILATION / AIR EXCHANGE MODE

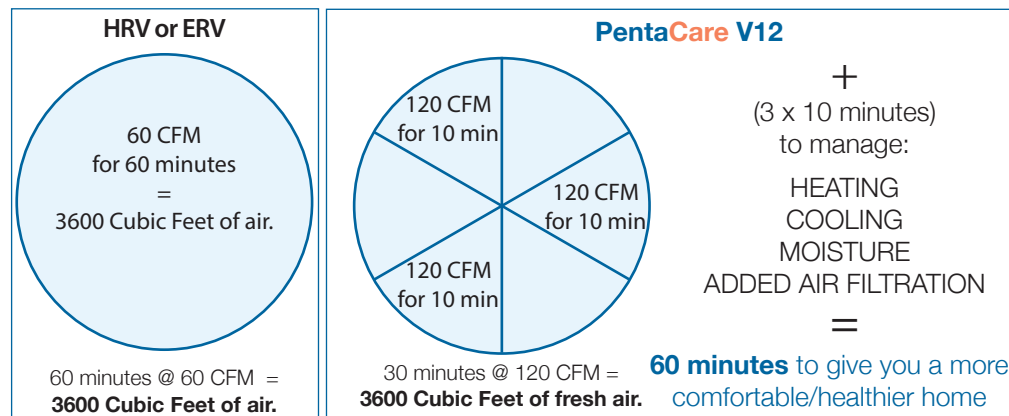
For fresh air, pollutants removal, active heat recovery, “net BTU” heating & cooling and summer fresh air free cooling & turbo cooling.



### RECIRCULATION MODE

For indoor air heating, cooling, dehumidification and added filtration.

Below is an example of how our Axis Damper<sup>®</sup> works.  
For ease of explanation we use a one-hour window.



This example above is **one of many multiple ways** on how the PentaCare V12 very effectively manage all the aspects of indoor climate, with our advanced algorithms making a great difference!

### MINOTAIR DYNAMIC CALCULATOR<sup>®</sup>

To provide data to insert into your Passive House modeling tools (PHPP and WUFI Passive) based on the design conditions of the fresh air, heating and cooling requirements. Gives also useful validation data for heating and cooling loads for all types of buildings (including non-Passive House buildings). (FREE).

### MULTIFAMILY REMOTE MANAGEMENT

With BACnet<sup>™</sup> & Modbus<sup>®</sup> connectivity, building managers will be able to remotely monitor and control **up to 207 units** through their BMS software (OPTION). Moreover, the included “Tenant Mode” will provide control to the subset of features of your choice.