

maxivent by ECONOX

HP HRU 300 MVHR UNIT WITH HEAT PUMP

RESIDENTIAL COMFORT AND QUALITY



Ventilation and
Heat Recovery



Cooling/Heating



Dehumidification



A⁺



ALL - IN - ONE FOR ALL YOU NEED

An exceptional combination of heat recovery and heat pump for high efficient, healthy and comfortable indoor air!

HP HRU 300 MVHR unit with heat pump is an innovative all-in-one solution from top brand Maxivent by Econox. This unit combines air filtration, heating and cooling, heat recovery, and dehumidification. The HP HRU 300 provides comfortable, healthy indoor air while saving energy and reducing costs. This makes it an ideal choice for buildings, where windows often stay closed to avoid noise, dust, and energy loss.

Equipped with a heat exchanger and heat pump system, the HP HRU 300 MVHR unit with heat pump offers double energy recovery. For example, fresh air at 35°C during summer can be cooled to 23.5°C, while fresh air at 2°C during winter can be heated to 35.5°C. The HP HRU 300 can also act as an air conditioner during autumn or spring, or at night when outdoor temperatures range between 10°C and 28°C. Additionally, it removes excess humidity, prevents mold growth on furniture, and maintains comfortable indoor temperature and humidity levels.

VENTILATION AND FILTERING



HP HRU 300 brings in fresh outdoor air and extracts the exhaust air. The unit filters both fresh air and also return air against particules like dust. HP HRU 300 have two pieces of ISO Coarse 95% (G4) filter in supply air and return air side. Upon request, it is possible to replace fresh air filter as ISO ePM1 65%(F8) filters for finer filtration.



DEHUMIDIFICATION

The two airstreams pass through the heat exchanger and condenser, reducing the moisture in the fresh air.



HEAT PUMP WITH DC INVERTER TECHNOLOGY

Following the first heat recovery stage, the air is conditioned for summer or winter conditions by means of the heat pump. Featuring DC inverter technology, it dynamically adjusts its speed and output to match the load demand, delivering energy-efficient performance with minimal sound level.



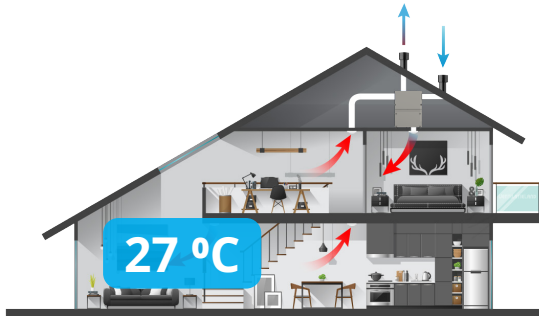
HIGH EFFICIENT COUNTER - FLOW HEAT EXCHANGERS

HP HRU 300 brings in fresh outdoor air and extracts the exhaust air. During this process, the high-efficiency counter-flow heat exchangers allow the supply air to be pre-conditioned by the heat from the return air. This means the fresh air is already tempered before the main heating or cooling process, while also recovering a portion of the heat that would otherwise be wasted.

HOW IT WORKS

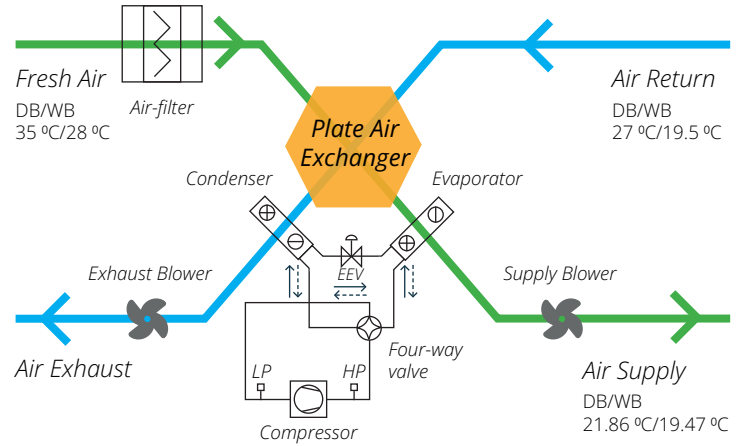


Summer
35 °C

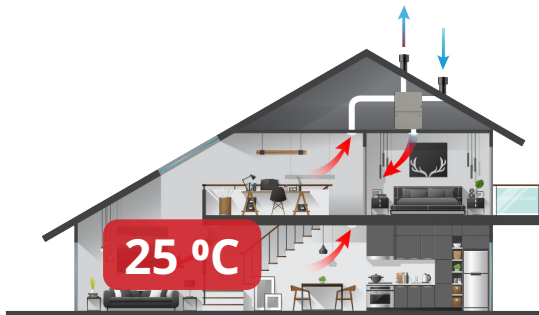


Airflow: 300 m³/h
Power: 847W

EER 4.28

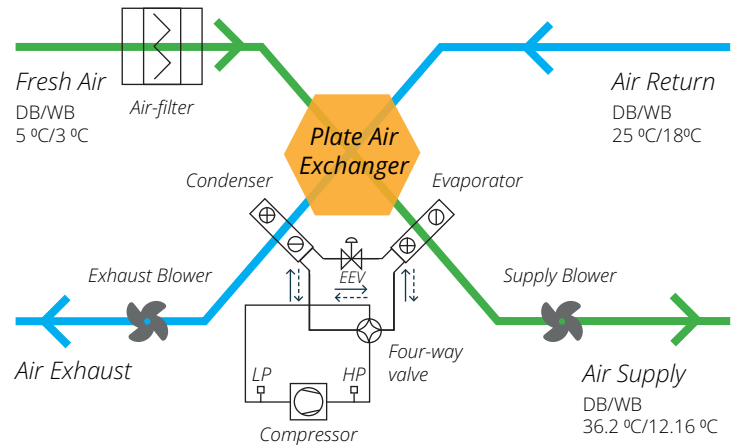


WINTER
5 °C



Airflow: 300 m³/h
Power: 790W

COP 5.65



A CLOSER LOOK INTO THE UNIT DESIGN

EC FANS

The HP HRU 300 is equipped with EC fans as it has been designed for high energy efficiency and low power consumption. The fan motors are 0-10V controlled. With the intuitive touchscreen panel, the fan speed can be adjusted to one of 10 different steps. This allows you to fine-tune the HP HRU 300 to your exact needs for maximum efficiency. The fans are engineered for optimal energy performance, offering adjustable speeds, long-lasting durability, quiet operation.

COUNTER-FLOW ENTHALPY HEAT EXCHANGER

High efficient and durable counter-flow enthalpy heat exchangers recover the exhaust air heat up to 90% and the humidity up to 80%. It is washable, anti-bacterial, easy to maintain and offers a lifespan of up to 15 years.

VARIOUS FILTER OPTIONS

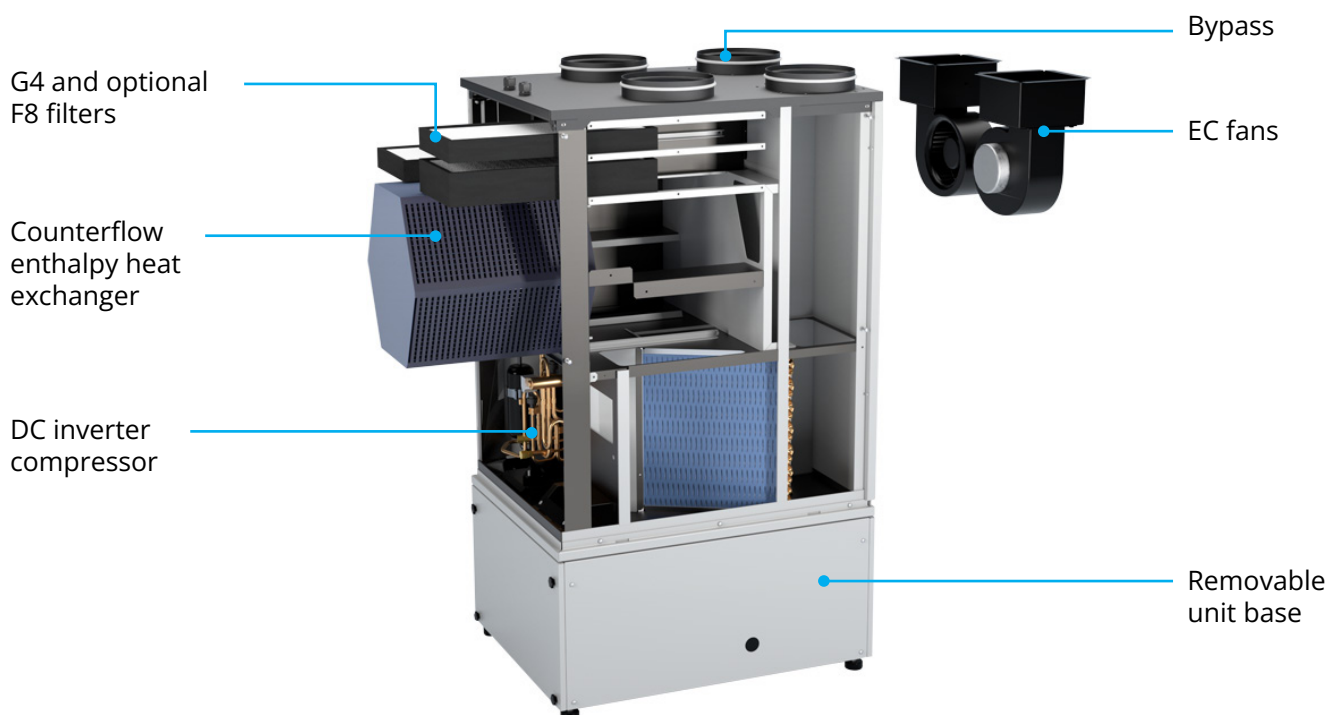
The standard filters include ISO Coarse 65% (G4) for both fresh and return air, with an optional ePM1 65% (F8) filter for fresh air. The primary filter effectively removes dust, pollen, and other pollutants from incoming fresh air while protecting the heat exchanger from clogging or corrosion. For enhanced filtration efficiency, an optional air disinfection filter is also available.

BYPASS

HP HRU 300 has %100 summer bypass function. During summer, the unit switches to bypass mode based on automatically measured outdoor temperature.

UNIT BASE

Removable unit base allows to use the unit without the extension for floor mounting.



A CLOSER LOOK INTO THE UNIT DESIGN

COMPRESSOR WITH DC INVERTER TECHNOLOGY

Compressor with DC inverter technology provides the main heating / cooling functions of HP HRU 300. The compressor is manufactured by the top brand "GMCC". It is designed to compress and expand refrigerant for efficient heat transfer between indoor and outdoor air streams. Featuring DC inverter technology, it dynamically adjusts its speed and output to match the load demand, delivering energy-efficient performance with minimal noise. The unit operates reliably across a wide temperature range from -15°C to 50°C and supports both R32 and R410a refrigerants.

DO YOU KNOW WHAT EXCEPTIONAL ADVANTAGES 'DC INVERTER COMPRESSORS' HAVE OVER 'FIXED FREQUENCY COMPRESSORS'?

- Higher efficiency
- Quieter operation
- Accurate and faster temperature control
- Smoother start - stop
- Wider range of operation temperature (-15°C to 50°C instead of average -7°C to 40°C)
- Energy saving
- Longer lifespan and more durable



KEY ASPECTS



Integrated controller
Monitoring indoor air quality for CO₂, humidity, TVOC levels and allows dirty filter programming



Budget friendly, reduced electricity cost with the help of high efficient heat exchanger.



The best compressor technology with DC inverter



Control over APP



Wide ambient temperature range (-15°C to 50°C)



High COP > 5.5

**Lab conditions: indoor 21°C/13°C, outdoor -7°C/-9°C.*



An independent air conditioner in suitable seasons and environments.



Quiet operation with 37/42 dB(A) sound power



Optimal indoor air quality sensors via Zigbee or WIFI technologies

Advantages Compared with Standard ERV

Description	SUMMER CONDITIONS		WINTER CONDITIONS	
	Temperature	Relative Humidity	Temperature	Relative Humidity
Outdoor Air	35°C	59.10%	2°C	88.84%
Return Air	27°C	49.80%	21°C	39.16%
Supply Air (Standard ERV)	29.24°C	55.48%	15.68°C	73.57%
Supply Air (HP HRU ERV)	23.5°C	72.11%	35.56°C	17.87%

COUNTERFLOW ENTHALPY HEAT EXCHANGER

BENEFITS

1. INCREASED COST EFFECTIVENESS

Operation without condensate under normal conditions eliminates the need for a condensate drain, reducing costs for your customers.



2. INCREASED DURABILITY OF THE BUILDING FABRIC

Maintaining a consistent humidity level prevents cracks in delicate materials like wooden flooring, prolonging their lifespan.



3. FROST-RESISTANT DOWN TO -30°C

Thanks to its high permeability to water molecules, the membrane surface remains free of condensation water, preventing both condensation and ice blockage even in extreme conditions as low as -30°C.

4. IMPROVED COMFORT WITH OPTIMAL INDOOR AIR QUALITY

- Achieves high efficiency with up to 90% heat recovery and 80% humidity recovery.
- Eliminates dry air during winter months.
- Ensures a comfortable reduction in humidity during summer

The counterflow enthalpy heat exchanger efficiently transfers heat and moisture between indoor and outdoor air streams without allowing them to mix. It recovers up to 80% of the energy from exhaust air, significantly reducing the heating and cooling load on the compressor. Designed for durability, it is washable, easy to maintain, and offers a lifespan of up to 15 years.



Anti-mold &
Anti-bacteria



High strength
& stability



Special polymer
membrane



Washable



Long service life

ADVANCED LCD REMOTE CONTROL PANEL



SETTINGS & FUNCTIONALITIES

WI-FI FUNCTIONS

Wi-Fi function is available to control and monitor the ventilation system from anywhere in the world using a smart phone. User can monitor the indoor air quality at your hand for healthy living.



The ventilator enables group control via the app, with no restrictions on the number of devices. Users can effortlessly manage all units within the group.

Users can set up scenes based on weather conditions, schedules, or changes in device status.

 **85%** —→ Stop Running

For instance, if the outdoor relative humidity exceeds 85%, users can configure the ventilator to stop operating, preventing excess humidity from entering the indoor space. The unit will automatically adjust its operation based on these settings.



Download here the app

Users can integrate devices into their home screen using the Tuya APP. For example, they can add single-room ventilators, exhaust fans, or light switches and manage them as desired.

MONITORING INDOOR AIR QUALITY

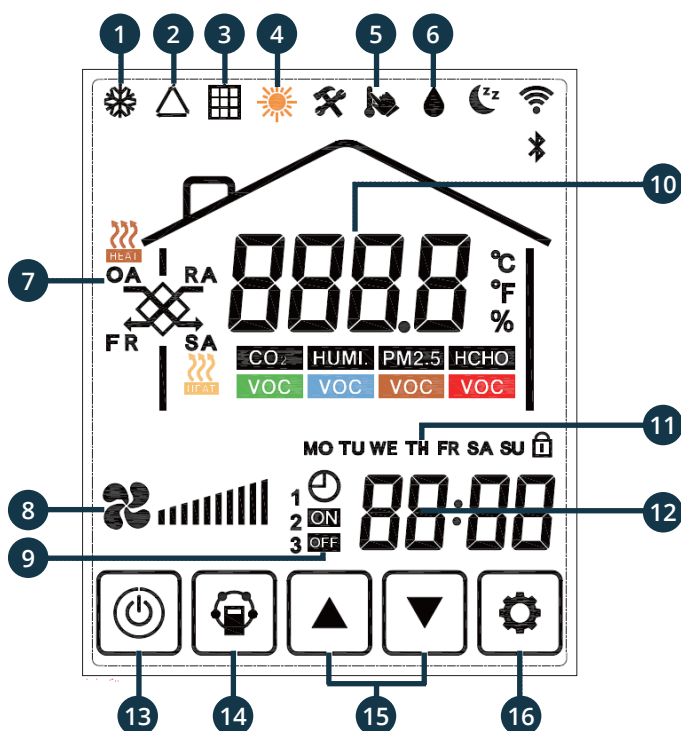
Easily monitor local weather, temperature, humidity, and CO2 levels for a healthier living environment.

VARIABLE SETTINGS

Schedule settings, speed adjustments, bypass control, filter and time alarms, and temperature configuration.

GROUP CONTROL

- Intelligent control based on local weather conditions.
- Control multiple units with a single APP.
- Seamless integration and linkage with other Tuya IoT-enabled devices.



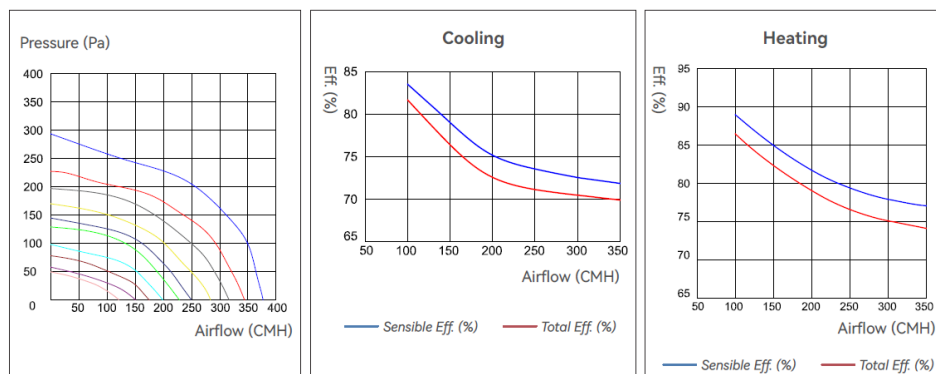
- | | |
|--------------------------|-------------------------|
| 1. Cooling mode | 9. Weekly timer on/off |
| 2. Ventilation mode | 10. Temperature display |
| 3. Filter alarm | 11. Week day |
| 4. Heating mode | 12. Clock |
| 5. SA setting | 13. ON/OFF button |
| 6. Dehumidification mode | 14. Mode button |
| 7. Temperature type | 15. Up/Down button |
| 8. Fan speed | 16. Set button |

TECHNICAL PARAMETERS

* The parameters are tested according to EN13141-7 standards.

Model		Unit	HP HRU 300
Rated airflow		m ³ /h	300
Exhaust airflow (ventilation mode)		m ³ /h	300
Exhaust airflow (heating/cooling mode)		m ³ /h	300
External static pressure		Pa	100
Ventilation mode	Temperature efficiency (heating)	%	79
	Temperature efficiency (cooling)	%	73
	Enthalpy efficiency (heating)	%	76
	Enthalpy efficiency (cooling)	%	71
	Input power	W	172
	Input current	A	1.4
Cooling RA:27/190°C OA:35/240°C	Nominal cooling capacity	W	2450
	Max cooling capacity (350CMH)	W	2670
	Input power (cooling)	W	1113
	Operation current (cooling)	A	5.41
Heating RA:20/120°C OA:7/-0°C	Nominal heating capacity	W	3130
	Max heating capacity (350CMH)	W	3470
	Input power (heating)	W	920
	Operation current (heating)	A	4.52
Sound pressure		dB(A)	37 / 42
Electrical connection			220V 1P 50/60Hz
Dimension (WxLxH)		mm	600×760×1342
Weight		kg	195
Air inlet/outlet diameter		mm	60
Air inlet/outlet height		mm	40
Unit base height		mm	32
Drainage pipe		mm	R32
Refrigerant			-15~50
Operation temperature		°C	675

PERFORMANCE CHART

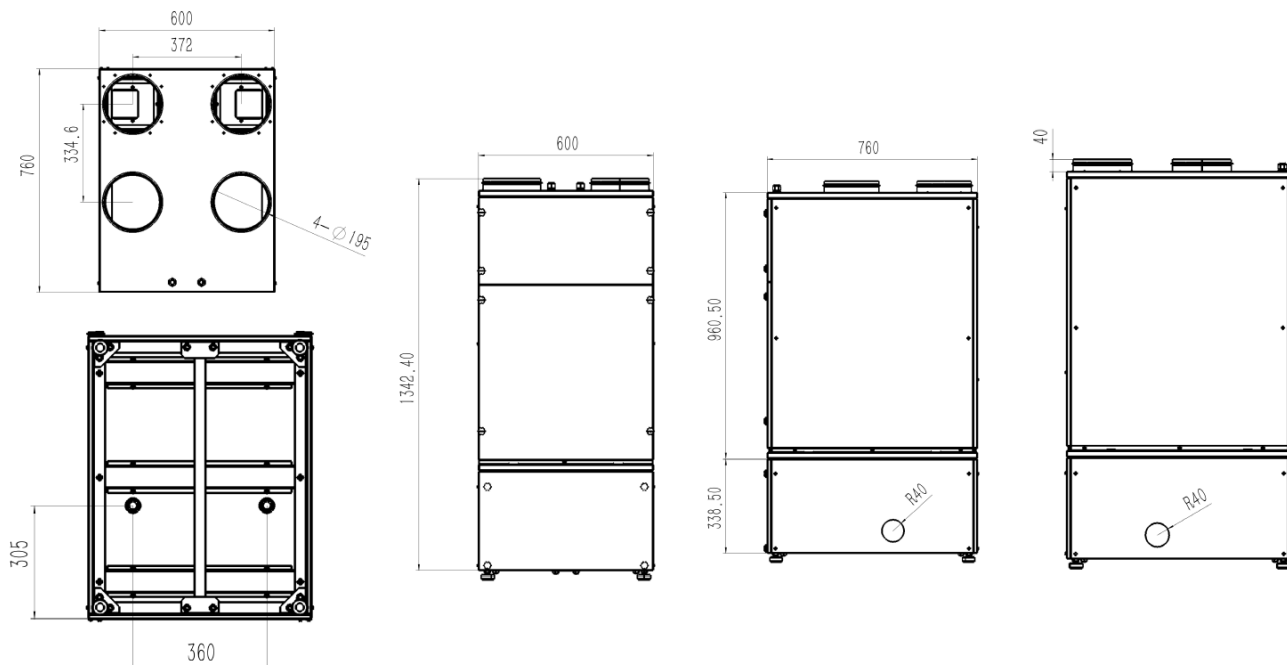


ECO-DESIGN INFORMATION

* According to Commission Regulation (EU) 1254/2014

Model	HP HRU 300
Energy class-Average	A+
Specific energy consumption-Average (KWh/m2.a)	-42.08
Specific energy consumption-Cold (KWh/m2.a)	-82.63
Specific energy consumption-Warm (KWh/m2.a)	-16.57
Maximum internal and external leakage rates (%)	< 3% internal, < 3% external
Visual filter warning	Timer
The annual electricity consumption (AEC) (kWh electricity/a)	1.80
The annual heating saved-Average (KWh primary energy/a)	46.58
The annual heating saved-Cold (KWh primary energy/a)	91.13
Electric power input of the fan drive at maximum flow rate (W)	172 (Ventilation mode)
The annual heating saved-Warm (KWh primary energy/a)	21.06
Reference flow rate (m3/s)	0.06
Reference pressure difference (Pa)	50
Specific power input (SPI) {W/(m3/h)}	0.34
Control factor	0.65
Type control system	Local demand control
Type of airflow	DF
Type of motor	EC motor
Type of heat recovery system	Recuperative
Thermal efficiency of heat recovery (%)	82
Maximum flow rate (m3/h)	300
Sound power level dB(A)	35

DIMENSIONS



OPTIONAL IAQ MODULE

The wireless IAQ module uses Zigbee signals to communicate with the HP HRU 300 MVHR unit's touch screen control panel. It detects indoor air quality and transmits the data to the control system, which adjusts the ERV to maintain optimal indoor air conditions.



1. Easy installation with no wiring or code pairing required.
2. Real-time monitoring of air quality in the user's living space.
3. Supports connection of up to 15 IAQ sensors to a single ERV.
4. Zigbee networking ensures long transmission distances and stable data communication.
5. Powered via a Micro USB 5V DC supply, compatible with mobile phone chargers.
6. Integrates with the APP for smarter and more advanced control options.

