

Energy Recovery Range

Features & Benefits

- 2 model sizes covering 500 to 1500m³/hr
- 90% efficient aluminium energy recovery cell
- High performance EC/DC motors
- Compact low profile unit (360mm high)
- Internal or External mounting as standard
- Robust aluminium cell construction
- Simple control functionality



Construction

The unit is manufactured with a frameless construction and incorporates single skinned Aluzinc panels with a highly thermal and acoustically efficient internal insulating foam. The unit is suitable for internal or external mounting as standard.

The unit is constructed with removable top and bottom access panels allowing full maintenance access.

The removable panels provide access to the following:

- ✓ Supply or extract fan
- ✓ Supply or extract filter (when fitted)
- ✓ Heat exchanger
- ✓ Frost heater (when fitted)

A separate side section access is provided for wiring termination and set-up/ commissioning. The user control interface therein is within a separate viewing and access panel allowing commissioning without the need to access to the wiring section. This controller can be demounted for remote installation if required.

Construction

The frameless single skinned construction, with Aluzinc panels internally lined with a 90kg/m³ high efficiency acoustic and thermally insulating foam (fire retardant to BS476 part 7 class 1 and part 6 class O), minimises noise and thermal breakout from the casing. Aluzinc construction allows for the units to be mounted either internally or externally as standard (IPX4). An optional inlet cowl is available for external applications if required.

The casing is designed to be as compact as possible for concealed false ceiling applications with access panels on both top and bottom as standard for ease of access and maintenance.

Performance and Sound

Extensively tested in accordance with BS 848 part 1 and 2, the published dB(A) figures are free field sound pressure levels with spherical propagation at reference level of 2×10^{-5} Pa. The inlet and outlet sound power level spectra figures are dB with a reference of 10^{-12} Watts.

Motor and impeller

All units contain a pair of Class 1 EC/DC external rotor motors with backward curved impellers carefully selected for maximum performance coupled with minimum sound and power consumption, fully compliant with the requirements for ERP 2015. The assembly is balanced to DIN ISO 1940 grade 6.3. Bearings are greased for life for maintenance free operation coupled with long service life for added peace of mind.

Electrical supply is 230V, 50Hz single phase.

Energy Recovery Cell

The ERV range includes an Aluminium counter flow plate heat exchanger offering higher efficiencies of up to 90%.

By utilising Aluminium heat exchangers the Vent-Axia ERV range of units can be installed in most environments including those with high humidity without the need to regularly maintain or replace the heat exchanger cell. The Aluminium cells are designed to be maintenance free (other than basic cleaning in situ) and to last the life of the unit.

Internal Unit Functionality

Flow Imbalance

The supply and extract flows on the standard unit can be offset by up to 20% to give an imbalanced flow as required.

Summer Bypass

The Standard ERV Hi-Box include as standard a Summer Bypass facility and integral controls to control its operation. The damper operates on both the Heat Recovery route and Bypass route enabling a full 100% bypass maximising the energy recovery benefits of free cooling when available.

Frost Protection

Integral to the standard unit is a 2 stage 2kW electric heater providing frost protection. The control for the inbuilt heaters is fully integrated and automatic ensuring the heat recovery cell does not freeze up under very low ambient conditions. The frost protection system will switch in each of the two stages as required when the ambient temperature falls below 0°C.

Condense Drain

All versions are fitted with a gravity condensation drain. An optional condensation drain pump is available for mounting in the condensation pipework external to the unit, includes float switch.

Filters

The ERV standard unit includes a G4 replaceable synthetic filter as standard.

Control

The Standard ERV unit comes complete with an integral controller providing manual variable speed control and the ability to control the summer bypass and frost protection functions. This allows the unit to be set to the customer requirements for continuous operation. The controller is fitted to the unit but can be remotely mounted on site if required. An integral time clock also provides for scheduling of the run for the unit. A boost facility can be manually selected via the unit controller. The controller LCD display shows the hours run and filter life information during operation and is fitted as standard to the unit although this can be remotely mounted on site.



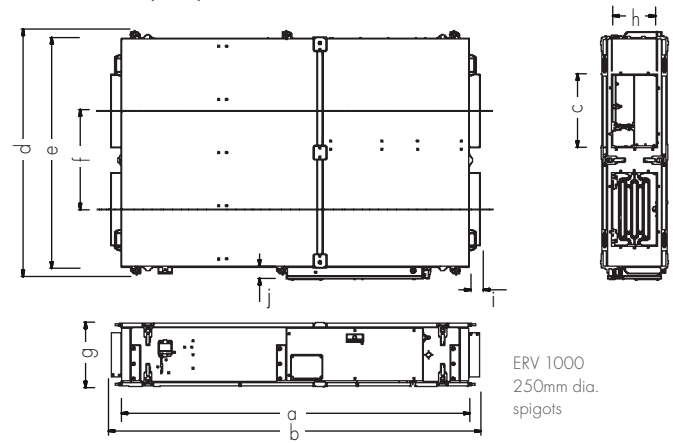
Models

Stock Ref
ERV1000HIS
ERV1500HIS

Accessories

| Model | Stock Ref |
|-----------------------|---------------|
| Filter G4 (ERV1000) | 445851 |
| Filter G4 (ERV1500) | 447251 |
| Weathercowl (ERV1000) | 445832 |
| Weathercowl (ERV1500) | 446591 |

Dimensions (mm)



| Model | A | B | C | D | E | F | G | H | I | J |
|----------|------|------|-----|------|------|-----|-----|------|----|----|
| ERV 1000 | 1800 | 1920 | - | 940 | 900 | 450 | 352 | 250Ø | 60 | 65 |
| ERV 1500 | 1900 | 2020 | 400 | 1290 | 1250 | 583 | 350 | 250 | 60 | 65 |

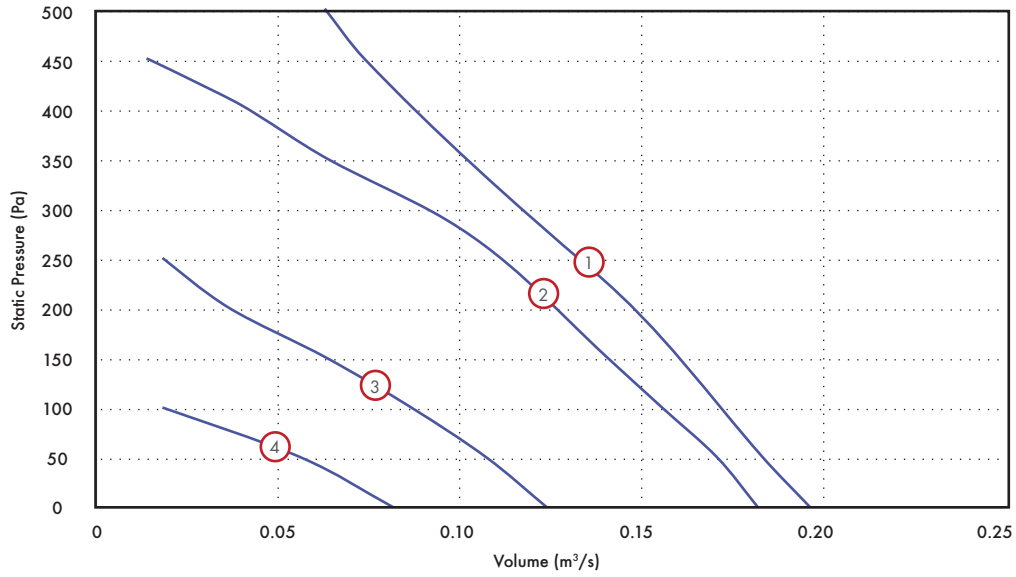
ERV Comparison Table

| | Totus ² Range | ERV-HiBox Standard |
|------------------------------|-------------------------------------|---|
| Model / Stock Reference | All | ERV1000HIS ERV1500HIS |
| HR Cell 90% | ✓ | ✓ |
| Aluzinc Acoustic Casing | ✓ | ✓ |
| EC/DC Motors | ✓ | ✓ |
| Condensate Drain | Pumped | Gravity |
| Condensate Pump | ✓ | Option |
| Filter G4 | ✓ | ✓ |
| Control Functionality | Sentinel Demand Ventilation control | Manual speed control and basic HR control |
| Bypass inc Actuator | ✓ | ✓ |
| Electric Frost Heater | ✓ | ✓ |
| Wall Controller | ✓ | ✓ |
| Isolator Switch | ✓ | ✓ |
| BMS Control | ✓ | x |
| External Damper Control | ✓ | x |
| Proportional Sensors Control | ✓ | x |
| Constant Pressure Control | ✓ | x |
| Weathercowl (ERV1000) | Option 445832 | Option 445832 |
| Weathercowl (ERV1500) | Option 446591 | Option 446591 |

Note: Part numbers shown as option are available at extra cost and are supplied loose

Performance Guide

ERV1000HIS



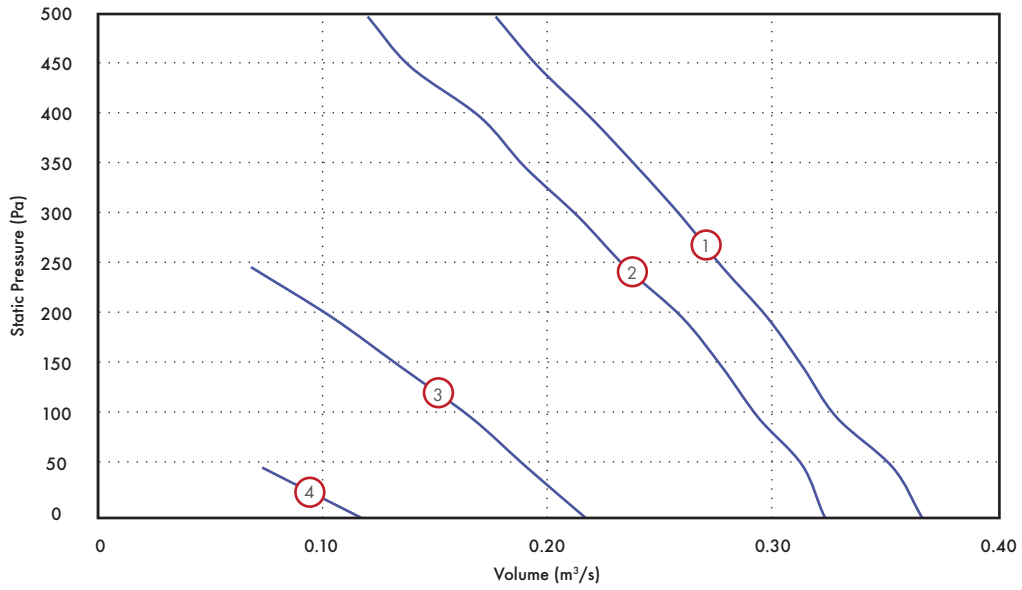
| Stock Ref | Curve | Speed | Airflow, m ³ /s @ Pa | | | | | | | | | | | Supply | F.L.C Amps |
|------------|-------|---------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|-------------|------------|
| | | | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | | |
| ERV1000HIS | ① | Max Supply | 0.20 | 0.18 | 0.17 | 0.16 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | 0.07 | 0.06 | 230V/1/50Hz | 3.0 |
| | | SFP | 1.71 | 1.84 | 1.98 | 2.14 | 2.32 | 2.53 | 2.86 | 3.28 | 3.81 | 4.71 | 5.67 | | |
| | ② | Balanced 100% | 0.18 | 0.17 | 0.16 | 0.14 | 0.13 | 0.11 | 0.09 | 0.07 | 0.04 | 0.01 | 2.5 | | |
| | | SFP | 1.44 | 1.55 | 1.70 | 1.87 | 2.02 | 2.27 | 2.58 | 3.00 | 3.60 | 3.66 | | | |
| | ③ | Balanced 80% | 0.12 | 0.11 | 0.09 | 0.06 | 0.04 | 0.02 | | | | | 1.0 | | |
| | | SFP | 0.89 | 1.03 | 1.21 | 1.51 | 2.04 | 2.51 | | | | | | | |
| | ④ | Balanced 40% | 0.08 | 0.06 | 0.02 | | | | | | | | 0.5 | | |
| | | SFP | 0.57 | 0.80 | 1.64 | | | | | | | | | | |

Sound Power Level Spectra dB (ref 10⁻¹² Watts)

| Stock Ref | Speed | Test Mode | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K | dB(A) @ 3m |
|------------|--------------|-----------|----|-----|-----|-----|----|----|----|----|------------|
| ERV1000HIS | Max Supply | External | 58 | 65 | 69 | 54 | 53 | 54 | 48 | 46 | 35 |
| | | Room side | 55 | 59 | 55 | 50 | 49 | 53 | 37 | 36 | |
| | | Breakout | 59 | 59 | 61 | 50 | 46 | 49 | 36 | 34 | |
| | Balanced 85% | External | 58 | 63 | 69 | 54 | 53 | 52 | 45 | 45 | 34 |
| | | Room side | 53 | 58 | 55 | 46 | 48 | 50 | 34 | 34 | |
| | | Breakout | 57 | 58 | 59 | 47 | 45 | 47 | 34 | 33 | |
| | Balanced 65% | External | 54 | 58 | 64 | 49 | 47 | 42 | 35 | 36 | 28 |
| | | Room side | 49 | 53 | 53 | 39 | 40 | 38 | 26 | 29 | |
| | | Breakout | 54 | 54 | 55 | 41 | 38 | 36 | 27 | 30 | |
| | Balanced 35% | External | 47 | 52 | 48 | 39 | 37 | 30 | 26 | 29 | 22 |
| | | Room side | 48 | 48 | 38 | 33 | 31 | 27 | 22 | 28 | |
| | | Breakout | 48 | 51 | 39 | 35 | 31 | 28 | 26 | 29 | |

Performance Guide

ERV1500HIS



| Stock Ref | Curve | Speed | Airflow, m ³ /s @ Pa | | | | | | | | | | Supply | F.L.C Amps | |
|------------|-------|---------------|---------------------------------|------|------|------|------|------|------|------|------|------|--------|---------------|-----|
| | | | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | | | 500 |
| ERV1500HIS | ① | Max Supply | 0.37 | 0.35 | 0.33 | 0.31 | 0.30 | 0.28 | 0.26 | 0.24 | 0.22 | 0.20 | 0.18 | 230V/1/50Hz | 3.0 |
| | | SFP | 1.71 | 1.77 | 1.91 | 2.01 | 2.10 | 2.26 | 2.40 | 2.58 | 2.79 | 3.05 | 3.31 | | |
| | ② | Balanced 100% | 0.32 | 0.31 | 0.29 | 0.28 | 0.26 | 0.24 | 0.21 | 0.19 | 0.17 | 0.14 | 0.12 | | 2.5 |
| | | SFP | 1.37 | 1.60 | 1.71 | 1.81 | 1.93 | 2.11 | 2.29 | 2.54 | 2.79 | 3.29 | 3.71 | | |
| | ③ | Balanced 80% | 0.22 | 0.19 | 0.17 | 0.14 | 0.10 | 0.07 | | | | | | | 1.0 |
| | | SFP | 0.91 | 1.04 | 1.19 | 1.43 | 1.78 | 2.56 | | | | | | | |
| | ④ | Balanced 40% | 0.12 | 0.07 | | | | | | | | | | | 0.5 |
| | | SFP | 0.62 | 0.97 | | | | | | | | | | | |

Sound Power Level Spectra dB (ref 10⁻¹² Watts)

| Stock Ref | Speed | Test Mode | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K | dB(A) @ 3m |
|------------|--------------|-----------|----|-----|-----|-----|----|----|----|----|------------|
| ERV1500HIS | Max Supply | External | 66 | 70 | 75 | 60 | 57 | 52 | 50 | 45 | 41 |
| | | Room side | 61 | 62 | 65 | 54 | 52 | 46 | 42 | 41 | |
| | | Breakout | 65 | 68 | 69 | 54 | 49 | 45 | 40 | 40 | |
| | Balanced 85% | External | 64 | 68 | 72 | 57 | 53 | 49 | 45 | 42 | 37 |
| | | Room side | 58 | 61 | 60 | 52 | 49 | 43 | 38 | 39 | |
| | | Breakout | 62 | 66 | 64 | 51 | 46 | 43 | 38 | 39 | |
| | Balanced 65% | External | 59 | 64 | 57 | 46 | 45 | 40 | 35 | 32 | 29 |
| | | Room side | 54 | 56 | 48 | 42 | 40 | 34 | 30 | 31 | |
| | | Breakout | 59 | 62 | 50 | 41 | 38 | 34 | 29 | 30 | |
| | Balanced 35% | External | 58 | 53 | 46 | 37 | 37 | 29 | 25 | 29 | 22 |
| | | Room side | 49 | 46 | 40 | 33 | 32 | 25 | 23 | 30 | |
| | | Breakout | 52 | 52 | 41 | 32 | 30 | 27 | 25 | 31 | |