

TECHNICAL SPECIFICATION

Railvent

An air-cleaning unit for underground rail platform halls, capturing particulates where rail operations concentrate them. Ready for deployment.



~30x

higher average particulate concentrations on the London Underground than near busy London roadside monitoring sites

2 stage

electrostatic + HEPA filtration

Ready

for deployment in underground platform halls

HOW IT WORKS

Railvent is a recirculating air handling unit, designed to sit within the track network beneath the rails, away from the platform. It starts extracting as trains approach, drawing air in through a curved inlet from platform level and passing it through electrostatic and HEPA filtration, capturing iron-rich particulates before they disperse to waiting passengers.

It needs no changes to existing HVAC systems.

KEY COMPONENTS

- **Curved inlet** with a mesh guard, to take air from platform level and keep out large debris
- **Electrostatic filter**, withdrawn from the side for servicing
- **HEPA filter**, withdrawn from the side; the class of filter used in hospitals
- **EC fans**, controlled by a 0–10 V signal with no inverter needed; quieter and cheaper to run than AC fans
- **Isolators** above the fan and filters for safe access
- **Building management system (BMS)** connection, with its own hardware and software controls

CONSTRUCTION

The unit is built to EN 1886 performance standards, with a galvanised steel casing, white-coated outer panels, 25 mm mineral wool insulation and aluminium profiles. Revision panels with turn bolts give access to each section, and the unit is delivered in one piece.

SPECIFICATION

UNIT	
Type	Recirculating air handling unit, indoor
Location	Within the track bed, beneath the rails
Dimensions (L × W × H)	2,470 × 510 × 585 mm
Weight	approx. 124 kg
Standard	EN 1886
Casing leakage at ±400 Pa	0.23% / 0.25%
FILTRATION	
Electrostatic (ESP)	2 sections, 594 × 518 mm
HEPA	1 section, 600 × 525 mm
Air inlet	Top of the unit, with anti-bird screen
FAN & MOTOR	
Fan type	Plug fan
Motor	EC, IE5 efficiency class, IP54
Motor power	1.18 kW
Supply	3 × 400 V, 50 Hz
Fan control	0–10 V (EC fans)
Supplied with	Cut-off switch, EC motor connection box
SOUND PRESSURE AT 2 M (±4 DB)	
Inlet / outlet / casing	67.5 / 70.9 / 54.5 dB(A)
CONTROLS	
Integration	BMS connection

Figures are for the current unit configuration. Air volume and pressure are set for each project.