

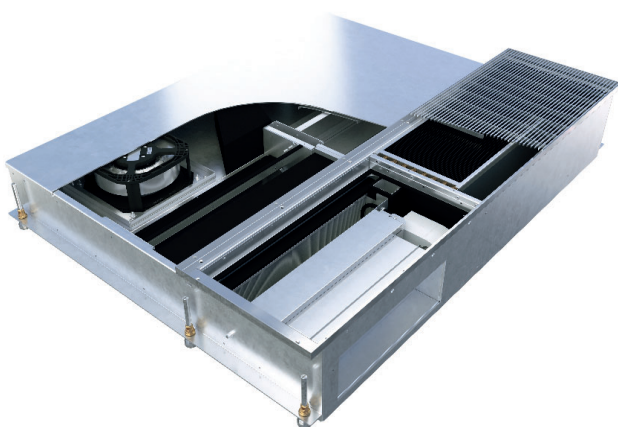
Time to breathe!

Decentralised ventilation unit FVP *pulse* System PulseVentilation



pulse
ventilation

Simply natural ventilation
(supply and return) with only one
fan and one facade opening.



- **Instationary air flow:** Air conditioning with high ventilation effectiveness and thermal comfort by impulse ventilation
- **Economical solution** thanks to low investment and maintenance costs
- **Only one facade opening,** very simple structural integration without flow short circuit
- **High operational reliability** thanks to innovative design and control concepts
- **Flexible,** two versions for installation in sills (-V) and false floors (-B)

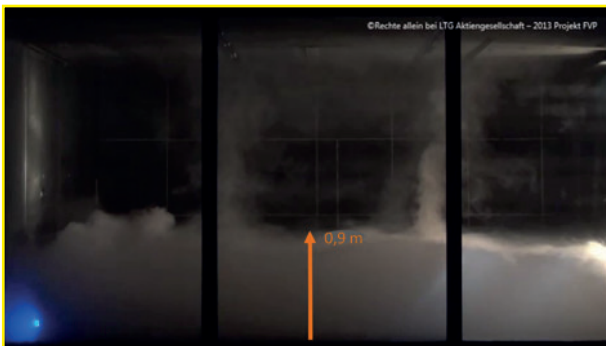
For air-conditioning of rooms directly via the facade, including highly efficient heat recovery.

Function

Outdoor air is cyclically supplied (breathing IN) and exhaust air exhaled (breathing OUT) on the same path. A valve system controls the direction of the air. Therefore only one fan and only one facade opening are necessary.

Since the air is not conveyed simultaneously, there are no short-circuit flows.

The transient mode of operation results in a highly inductive and pulsating room flow. This leads to good mixing of the supplied air with the room air and a rapid decrease in the temperature differences and flow velocities.



Visualisierung einer instationären Raumluftströmung im Kühlfall, Höhe des Luftstroms ca. 0,9 m bei 8 K Untertemperatur

Characteristics

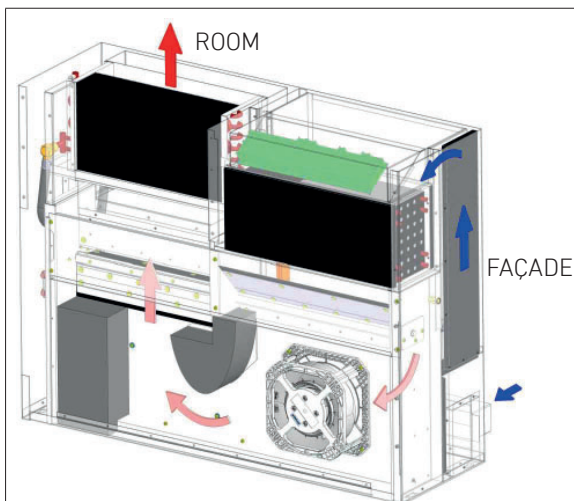
- **High-efficiency transient heat recovery**, up to 90 %.
- **Innovative ventilation concepts can be implemented**
 - Hybrid ventilation: On hot days, switchover to supply-air-only mode is possible. The supply air flow rate and the cooling capacity are then doubled while the acoustics are unaffected. The return air escapes from windows opened at an angle.
 - Nocturnal cooling: Cooling at night is easily achieved in the supply-andreturn-air-only mode.
 - Demand-controlled ventilation: CO₂ switches or presence detectors register a need for ventilation. The associated equipment starts to breathe.

Product data

		FVP-V*	FVP-B*
Supply/exhaust air, heating, cooling		■	■
Desiccant operation		■	-
Max. cooling capacity ¹⁾	[W]	≤ 1400 ⁶⁾	≤ 830 ¹⁾
Max. heating capacity ²⁾	[W]	≤ 2400 ²⁾	≤ 2550 ²⁾
Nominal supply air flow rate	[m ³ /h]	120	120
Fan power consumption	[W]	25 ⁵⁾	18 ⁵⁾
Sound pressure level at V _{nom} (with 6 dB room absorption)	[dB(A)]	37 ⁵⁾	35 ⁵⁾
Dimensions [L x B x H]	[mm]	90x322x762	1150x980x225 ³⁾ /233 ⁴⁾

- * sill-mounted 1) 17 °C cold water inlet, 32 °C intake temp.
- ** floor mounted 2) 75 °C hot water inlet, -12 °C intake temp.
- standard 3) Dimensions for stainless steel grid
4) Dimensions for aluminium grid
5) 200 m³/h fresh air (hybrid) resp. 100 m³/h (pulse)
6) 6 °C cold water inlet, 32 °C intake temp.

Example: breathing IN, winter situation (type FVPpulse-V)



- The heat recovery unit is still warm from the outlet cycle. The Breathing IN cycle now starts: the outside air is drawn in through the facade opening and supply air filter.
1. The outside air flows through the heat recovery unit and is heated.
 2. The air passes through the fan's inlet chamber (lower level).
 3. The EC fan transports the air from the inlet chamber (lower level) into the pressure chamber (upper level)
 4. The supply air passes through the silencer.
 5. On the upper level, the supply air passes through the damper and into the supply air duct.
 6. After leaving the supply air duct, the air is cooled or heated by the heat exchanger and is discharged out through a supply air grille.