

► Decentralised
ventilation units ►►

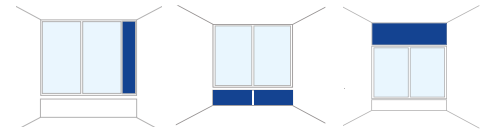


**Fresh air for learning
and working.**

**SCHOOLAIR-HV units
for healthy air conditioning
of training facilities
and office buildings**

TROX[®] TECHNIK
The art of handling air

▶ TROX SCHOOLAIR Type HV ▶▶



The perfect ventilation solution – for classrooms and much more besides

Decentralised ventilation systems are ideal for energy-efficient refurbishment of schools and training facilities. They are used for the controlled ventilation of classrooms, conference and meeting rooms, as well as for group rooms in daycare facilities for children. The direct installation on the façade or ceiling allows decentralised units to be integrated into existing facilities without any extensive planning and without the loss of usable space.



Fresh air with moisture recovery reduces the transmission of pathogens in daycare facilities for children

Maximum freedom of design

For specialist consultants this means the greatest possible freedom of design, because all components for filtration, heat recovery, thermal treatment of the air and control are already integrated in the unit. The units can be connected to the central building management system and controlled decentrally. The integrated air quality measurement makes for completely demand-based fresh air supply.

TROX SCHOOLAIR-HV – High performance in the smallest of spaces

The SCHOOLAIR-HV unit series from TROX impresses especially with its high air performance in the smallest of spaces and breaks totally new ground in matters of heat recovery. In contrast to recuperative heat exchangers, where the airflows are separate and pass along numerous plates, rotary heat exchangers used in the HV units operate regeneratively. The thermal energy is temporarily stored in the storage mass, a solid, slowly rotating wheel, and then, as the wheel comes into contact with the other airflow, is transferred to this other airflow. This process results in much higher efficiency levels.

Healthy air for learners

As the rotary heat exchanger recovers the moisture from the air, no condensation forms, which in turn removes the need for frost protection, i.e. the heat exchanger needs not be switched off if the temperature falls below zero. The protection against drying of the air means a substantial reduction in the risk of infection especially in the classrooms, and so makes for better health.

Unit		SCHOOLAIR-B-HV	SCHOOLAIR-V-HV	SCHOOLAIR-D-HV
Dimensions	[mm]	2100 x 740 x 403	600 x 2200 x 408	3555 x 405 x 1030
Volume flow rate range	(m ³ /h)	150 - 600	150 - 600	300 - 1100
Efficiency		Year-round high heat recovery efficiency		
Acoustics		Quiet operation		



► The advantages at a glance ►►

High air performance

- Nominal airflow from 400 to 800 m³/h
- Boost function (600 to 1100 m³/h) offers additional reserve and can, for example, be activated for the temporary flushing of the room during breaks
- Demand-based control of airflow with installed air quality sensor
- Energy-efficient fans without impeller housing
- Patented fan and sound attenuator combination

Heat recovery all year round

- Unique rotary heat exchanger concept
- Can be operated all the year round without condensation and frost
- High heat recovery efficiency
- Makes high air change rates possible

Healthy moisture recovery

- Moisture recovery exclusively in the winter
- Clearly reduced risk of infection compared to dry air
- Improved comfort level makes for higher performance
- Reduces risk of infection and makes for better health

Effective heating and cooling register

- Simple connection to an existing line system
- Water side heating/cooling register with much smaller dimensions → less energy required
- Electric reheater optionally available
- Noticeably smaller heating capacity is necessary in the central heating system due to year-long usable heat recovery
- Makes possible heating in winter and cooling in summer

Clean filtration

- Integrated fine dust filter of at least ISO ePM1 60% (formerly F7) for fresh air results in a definite reduction of fine dust, pollen and pathogens in the room air
- Enlarged filter areas raise the service life and increase the energy efficiency
- Extract air filter up to ISO coarse 90% (formerly G3) protects the components of the units

Quiet operation, high energy efficiency

- Patented upstream and downstream sound attenuators for quiet operation and improved energy efficiency due to reduced flow losses

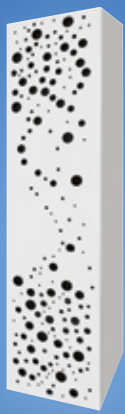
Demand-based room control

- FSL-CONTROL III incl. air quality sensor and optional CO₂ indicator light

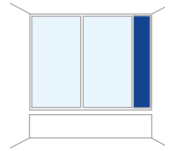


All components and individual room controllers integrated in one casing





► SCHOOLAIR-V-HV ►►



High-tech in a streamlined design

The vertical construction type of the SCHOOLAIR-V-HV facilitates excellent integration of the ventilation unit, such as for room-high glazed or element façades.

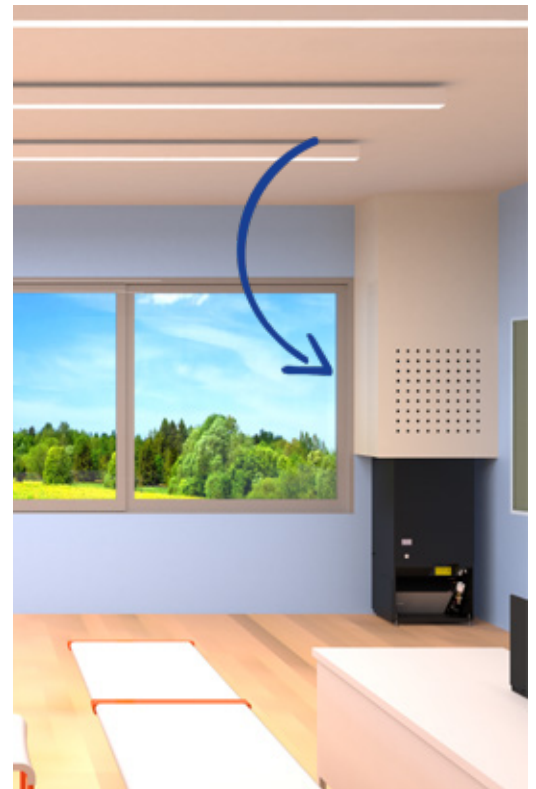
The rotary heat exchanger used for heat recovery is especially compact and unique in this unit class.

Increased performance in the smallest of spaces

Just two units with a rated performance of 400 m³/h provide a standard classroom with the required fresh air in order to achieve and ensure an average CO₂ concentration of less than 1000 ppm according to VDI 6040.

Effective heat recovery

As heat recovery is available all year round, heating from other sources can be reduced, this results in a more compact construction style and definite savings in investment and energy running costs.



SCHOOLAIR-V-HV

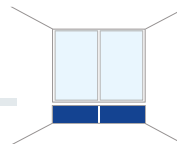
- ◀▶ *W x H x D:*
605 x 2200 x 413 mm
- ↻ *42 - 167 l/s, 150 - 600 m³/h*
- ❄ *Cooling capacity
up to 1300 W*
- 🔥 *Heating capacity
up to 3100 W*

TROX SCHOOLAIR-V-HV at a glance

- Vertical installation on the sill or next to the window
- Rotary heat exchanger with high heat recovery efficiency
- Moisture recovery for a healthy climate
- Condensation-free, year-long operation
- Water side heating and cooling register with low energy requirement
- Optionally with electric reheater
- Air quality sensor for BMS control
- Centrifugal EC fans without impeller housing
- Patented upstream and downstream sound attenuators integrated
- Can be combined with freely designable outer casing



► SCHOOLAIR-B-HV ►►



Simple integration into the façade

The horizontal under sill unit SCHOOLAIR-B-HV has a rotary heat exchanger for greater output in the smallest space. Since the sill can be used in standard concrete or brick façades with casement windows, integration of the ventilation units is possible without the loss of space.

Smart technology for a more healthy climate

Since the SCHOOLAIR-B-HV has the same technical components as the vertical version, the performance data are almost identical. Due to the consistent humidity level, the room air will never become too dry even with high air changes, which has been proven to reduce the risk of infection.

Due to its high energy efficiency

The unit lowers the operating costs and protects the environment and resources. These characteristics make the SCHOOLAIR-B-HV an ideal and energy efficient solution for new as well as for refurbished buildings.



TROX SCHOOLAIR-B-HV at a glance

- Horizontal installation on an external wall
- Rotary heat exchanger with high heat recovery efficiency
- Moisture recovery for a healthy climate
- Condensation-free, year-long operation
- Water side heating and cooling register with low energy requirement
- Air quality sensor for BMS control
- Centrifugal EC fans without impeller housing
- Patented upstream and downstream sound attenuators integrated
- Can be combined with freely designable outer casing



SCHOOLAIR-B-HV

◀▶ *W x H x D:*

2100 x 740 x 403 mm

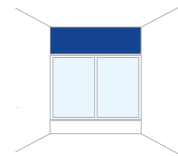
↻ *42 - 167 l/s, 150 - 600 m³/h*

❄ *Cooling capacity
up to 1300 W*

🔥 *Heating capacity
up to 2300 W*



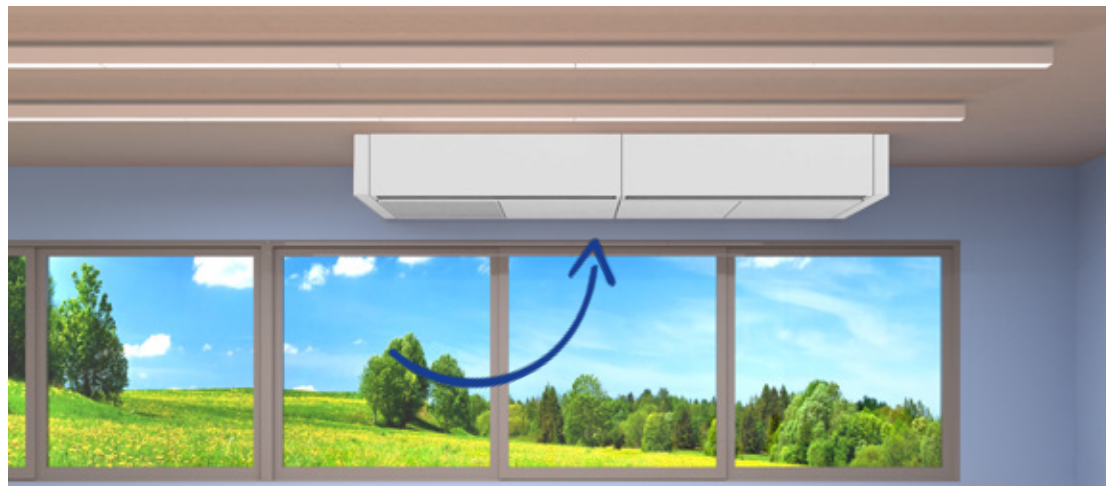
► SCHOOLAIR-D-HV ►►



The stand-alone solution

The new SCHOOLAIR-D-HV ceiling unit is a completely unique solution for ventilation and air conditioning of classrooms. Thanks to the high nominal airflow of 800 m³/h the CO₂ load of a fully occupied room can be easily lowered to below 1000 ppm with only a single unit.

Maximum performance in the smallest space



Due to its extremely flat construction the SCHOOLAIR-D-HV is installed directly under the ceiling or in the suspended ceiling. With its unique room flow concept it creates optimum comfort at a minimum use of energy. The SCHOOLAIR-D-HV is the most compact unit of its performance class.

Easy installation and the best hygiene

Due to its compact construction, both low installation and maintenance costs are guaranteed. A drain-off of condensate is – as with all other units of the HV type – not necessary and the integrated large area filters care for the best air quality over a long service life.

TROX SCHOOLAIR-D-HV at a glance

- Installation independent of the sill concept under the ceiling or in the suspended ceiling
- Rotary heat exchanger with high heat recovery efficiency
- Moisture recovery in winter for a healthy climate
- Condensation-free, year-long operation
- Special grille for optimum introduction of fresh air
- Air quality sensor for BMS control
- Centrifugal EC fans without impeller housing
- Patented upstream and downstream sound attenuators integrated
- Housing colour freely selectable according to RAL



SCHOOLAIR-D-HV

◀▶ W x H x D: 3555 x 405 x 1030 mm

↻ 83 - 306 l/s, 300 - 1100 m³/h

⚙ Heating capacity up to 3700 W



► SCHOOLAIR references ►►





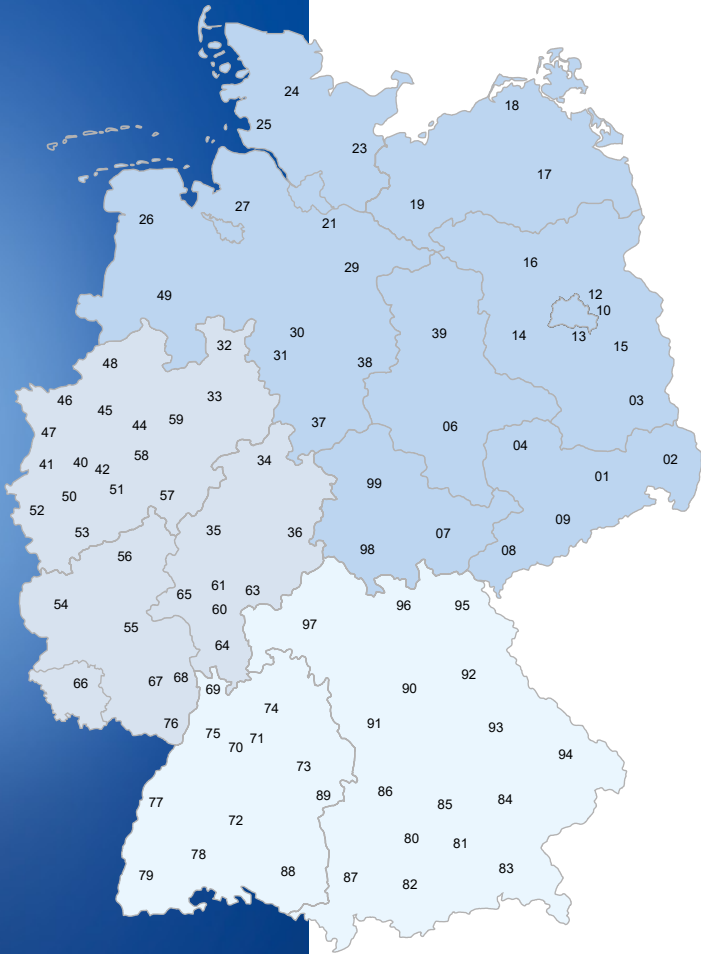
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