

Rotary heat exchanger for heat recovery



Tested to VDI 6022



Filter change



Electric air heater



Control system connections

Decentralised ventilation

SCHOOLAIR-D-HV-EH



Supply and extract air unit with electric air heater and rotary heat recovery unit, secondary air option, for installation below the ceiling slab

Ready-to-operate decentralised ventilation unit that provides good comfort levels and is used for the ventilation of internal spaces such as classrooms or conference rooms and day nurseries

- Freely suspended installation or partially or fully integrated in a suspended ceiling
- Acoustically optimised EC fans with low specific fan power, SFP = 0 to EN 16798-3
- Rotary heat recovery unit (75% heat recovery efficiency) with moisture recovery in winter
- Electric air heater with 3000 W max. heating capacity
- Heat recovery all year round
- Reduced fine dust and pollen contamination due to integral filters that conform to VDI 6022 – filter class ISO ePM1 60% and extract air ISO coarse 90%
- Easy filter change, no tools required
- Motorised shut-off dampers, normally closed (NC)
- Installation without interruption of school operations

Optional equipment and accessories

- Modular control system FSL-CONTROL III, specially for decentralised ventilation systems



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Function

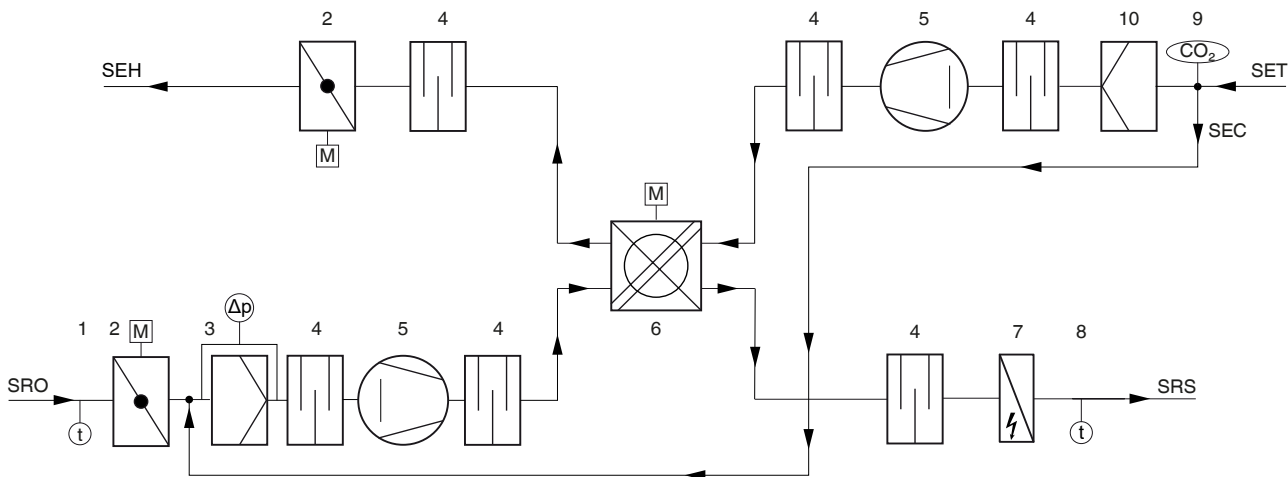
Functional description

Decentralised supply and extract air units for room ventilation and for dissipating heat loads. An EC centrifugal fan takes in the outdoor air which then flows through the motorised shut-off damper and the outdoor air filter. The outdoor air then flows through the rotary heat recovery unit, which can be switched off if it is more energy efficient. If necessary, the air is heated by the electric air heater before it is discharged through the supply air grille towards the ceiling (Coanda effect) with a high propulsive force, yet without creating a draught.

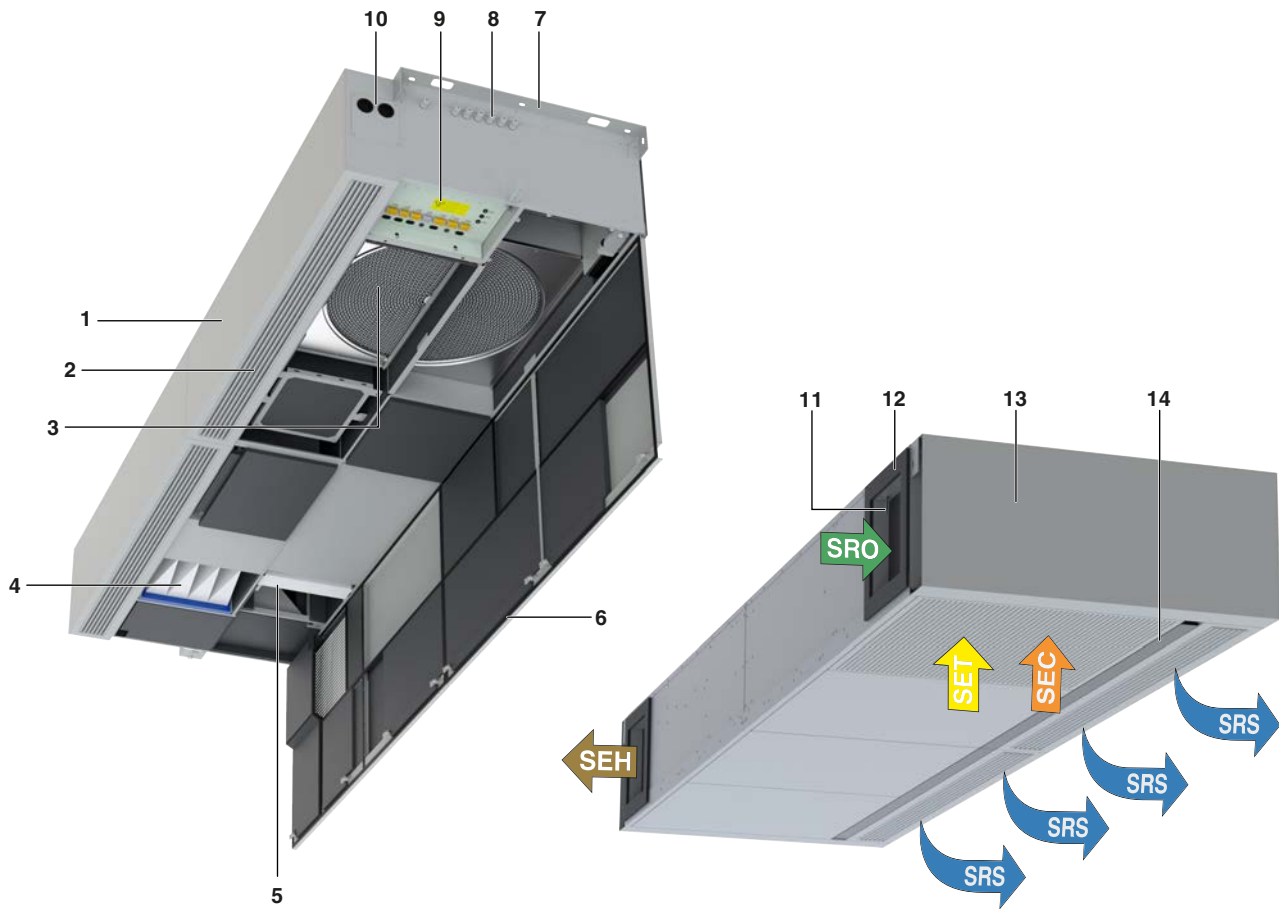
The extract air first passes the extract air filter, then flows through the heat recovery unit, the extract air fan and the motorised shut-off damper before it is discharged to the outside as exhaust air. If the indoor air quality is sufficient, FSL-CONTROL III closes the outdoor air dampers and changes to secondary air operation, which is more energy efficient in any case. The control system compares the room air quality setpoint

value to the actual value measured by the CO₂ sensor and switches automatically between outdoor air and secondary air operation.

If the power fails, the outdoor air and exhaust air dampers are closed to ensure fire protection and frost protection and to avoid draughts. This is ensured by a capacitor in each actuator. The supply air is discharged near the ceiling with a medium velocity. Rather than flowing immediately downwards, the air moves along the ceiling (Coanda effect) and reaches every corner; this ensures complete ventilation even of large rooms. Once the air reaches the opposite wall, it moves downwards and eventually through the entire space. The airflow reaching the occupied zone has a very low velocity and rises on heat sources, for example on people and devices. This is called natural convection. As a result, the air is exchanged primarily in these areas. The stale air is extracted under the ceiling and led to the outside.



- SEH Single room exhaust air
- SET Single room extract air
- SRO Single room outdoor air
- SRS Single room supply air
- SEC Secondary air (optional)
- 1 Outdoor air temperature sensor (optional)
- 2 Shut-off damper with actuator (outdoor air and exhaust air)
- 3 Outdoor air filter ISO ePM1 60 %, with differential pressure monitoring
- 4 Sound attenuator
- 5 Fans (supply air and extract air)
- 6 Rotary heat exchanger for heat recovery
- 7 Electric heater
- 8 Supply air temperature sensor
- 9 CO₂ sensor (optional)
- 10 Extract air filter ISO coarse 90 %



SEH Single room exhaust air
 SET Single room extract air
 SRO Single room outdoor air
 SRS Single room supply air
 SEC Secondary air (optional)

- 1 Casing
- 2 Supply air grille
- 3 Rotary heat exchanger for heat recovery
- 4 Outdoor air filter ISO ePM1 60 %
- 5 Extract air filter ISO coarse 90 %
- 6 Inspection access panel (4 pieces)
- 7 Fixing brackets
- 8 Cable glands
- 9 Controls access panel
- 10 Access to electrics
- 11 Outdoor air temperature sensor (optional)
- 12 Seal
- 13 Side cover (only for installation situation -F)
- 14 Cover strips

Technical data

Width	3363 mm, 3555 mm, 3905 mm, 3900 mm
Height	410 mm, 440 mm
Depth	1030 mm, 1099 mm
Volume flow rate	300, 500, 800 m ³ /h (boost 1100 m ³ /h)
Nominal volume flow rate	800 m ³ /h
Sound pressure level at nominal flow rate and 8 dB room attenuation	35 dB(A)
Sound power level	22 – 53 dB(A)
Heat recovery efficiency	75 %
Supply voltage	230 V AC \pm 10 %, 50/60 Hz
Power rating	3680 VA
Weight	340 kg

Specification text

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design program.

SCHOOLAIR-D-HV-0-EH/3363×410×1030/0/C3

Decentralised ventilation unit for ceiling installation

Please note: The ceiling ventilation unit variant described here is fitted with an integral single room control system that allows for independent operation in a classroom. The parameters for standard control of a classroom according to our control system description are stored in the controller

Ventilation unit for schools – ceiling installation – master unit TROX SCHOOLAIR-D-HV-0-EH ventilation unit for ceiling installation, for supply and extract air, also for secondary air operation (depending on room air quality), rotary heat recovery unit, electric reheating function:

- Just one unit fulfils the increased fresh air requirement for an entire classroom
- Suitable for suspended ceiling installation with the bottom edge of the ventilation unit flush with the suspended ceiling
- 2-part casing made of galvanised sheet steel, all internal ducts are sealed and insulated, internal cable penetrations are sealed, exposed surfaces are powder-coated (RAL 9010, GE20; alternatively RAL 7012, GE20)
- Intake and discharge sides with noise and heat insulation made of mineral wool faced with glass fibre scrim (fire rating class A, non-combustible according to DIN 4102, part 1), erosion resistant up to air velocities of 20 m/s, or closed cell insulation material (fire rating class B)
- The unit meets the hygiene requirements of VDI 6022
- Interior fixing points and unique 2-part casing simplify ceiling installation
- Connection to the outdoor air and exhaust air openings (by others) in the wall at the back of the unit, with perimeter closed cell sealing tape, $d=10$ mm (the intake and outlet resistance of the construction provided by others should not exceed 40 Pa at the nominal volume flow rate), alternatively with duct connections
- Supply air discharge and room air extract (extract grille) on different sides
- Supply air discharge on the underside, innovative supply air opening that ensures complete room ventilation with the unit installed at the front of the room (above the blackboard or whiteboard) or near the opposite external wall
- The inspection access panels are hinged and fitted with special fasteners to facilitate maintenance. The underside of the unit it has to be freely accessible for maintenance or possible deinstallation
- 2 centrifugal fans (plug fans) with energy-efficient EC motors, supply air and extract air fans classified as SFP 1 (< 500 W/ (m^3/s)) according to EN 16798-3:2017-11; the connecting cable requires a power rating of 3680 VA
- Suitable for 3 speed levels (300, 500 and 800 m^3/h as well as boost level of 1100 m^3/h), signalling by means of integral single room control system; the volume flow rate can be corrected at a later stage by adjusting the control voltage
- Sound attenuators on the upstream and downstream sides provide maximum reduction of sound power levels
- The technical requirements of EU directive 1253/2014 for non-residential ventilation systems are fulfilled and documented in accordance with the directive
- Integral rotary heat exchanger for heat recovery, with high heat recovery efficiency (> 75 %), modulating control by integral single room control system
- Motorised shut-off dampers in the outdoor air and exhaust air ducts, normally closed when there is no power (energy storage), 230 V open/close actuator, signalling with integral single room control system
- Automatic switching to secondary air mode (only with an air quality sensor) if the room air quality (measured with the integral CO₂ sensor, for example) is within the defined limits. The outdoor air damper closes, the secondary air damper opens and the extract air fan is switched off.
- Integral electrical components are completely wired with FSL-CONTROL III, control components are integrated. Cable for connection (connection by others) to the power supply (L, N, PE), with wire end ferrules, approx. 1 m routed out of the casing. As a transfer point to the existing electrical system:
 - Supply voltage (230 V): 3 wires, 3×1.5 mm² (L, N, PE)
- Integration with bus system as an option, connection of control panels etc. in the customer area of the control system; transfer point to the controls (by others):
 - Rail mount terminals type Wago 260 for the connection (by others) of
 - Digital inputs DI
 - Digital outputs DO
 - Master-slave connection RS485
 - Central BMS connection (optional) RS485
 - Control panel
- RJ45 socket as service access to the user interface or building automation system (optional) with TCP/IP
- The following sensors are included in the unit as part of the single room control system (the actual room temperature is captured at the control panel):
 - Indoor air quality sensor CO₂
 - Supply air temperature measurement downstream of the heat exchanger
 - Outdoor air temperature measurement in the outdoor air intake
- Outdoor air filter as a pocket filter with non-woven glass fibre, ISO ePM1 (fine dust filter):
 - Filter class to ISO 16890: ISO ePM1 60 %
 - Eurovent certification for fine dust filters
 - Meets the hygiene requirements of VDI 6022
 - High energy efficiency class according to Eurovent
 - Non-woven glass fibres, sewn
 - Enlarged filter area due to filter pockets

- Low initial differential pressure and high dust holding capacity, ideal airflow conditions due to wedge-shaped filter pockets
- Quick installation and filter change due to easy and safe handling
- Filter area $\geq 1.4 \text{ m}^2$
- Extract air filter with pleated filter medium, hence large filter area
 - Filter class to ISO 16890: ISO Coarse 90 %
 - Low differential pressures at high volume flow rates
 - Filter media made of synthetic fibres
 - Moisture-resistant frame made of non-woven fibres
 - Tested to ISO 16890
- Quick filter change as the filter chamber is immediately accessible once the cover has been opened
- Differential pressure measurement for filter monitoring, evaluation by means of integral single room control system
- The heat exchanger is an electric air heater
 - Output: 3000 W maximum
 - The surface temperature does not exceed 60 °C to safely prevent the smouldering of dust
 - Including control loop with temperature sensor, NTC 10 k Ω , and power controller
 - Supply air temperature: 25 °C maximum
 - Including safeguards:
 - Thermal cut-out, mechanical, auto reset
 - Safety temperature monitor, mechanical, no auto reset

Unit dimensions and weight:

Width: approx. 3363 mm (without fixing brackets)

Height: approx. 410 mm

Depth: approx. 1030 mm (without seals)

Weight: approx. 340 kg

FSL-CONTROL III Regler

Including control system FSL-CONTROL III, as described below: FSL-CONTROL III is described as stand-alone single room control equipment with a simple timer. Optional expansions, such as connection to the central BMS provided by others via Modbus TCP / Modbus RTU, BACnet MS/TP or BACnet IP, humidity sensors, return flow temperature sensors, electromotive valve actuators or pressure-independent control valves are included in the product range, but must be replaced with the standard components in the following description. A room temperature signal is also required. Various room control panels and sensors are available for this purpose. The corresponding optional equipment text modules can be found in the appendix of the following standard equipment for room-autonomous operation. We recommend commissioning by our technical service. You will find related text modules below.

TROX control module FSL-CONTROL III (order code ...-C3-MA ...):

- Single room controller for mounting on DIN mounting rail in the unit or in a separate control casing
- 42 digital or analogue inputs and outputs
- MicroSD card (at least 2 GB) as integral flash memory. The trend data is stored here and can be accessed via the RJ45 service socket.
- Equipped at the factory with a software package for master units specially developed for decentralised ventilation units.

- The software enables simple master-slave communication via Modbus RTU
- Up to 10 slave devices can be connected to one master device
- The software provides 3 types of operation (Off, Automatic and Manual), 3 operating modes (Occupied, Unoccupied and Standby) and 4 operating mode overrides (Boost, Class, Night Ventilation and Fan Forced Circuit)
- Basic distinction between room temperature control by controlling heating and cooling valves or modulating bypass damper or supply air temperature control for isothermal ventilation
- CO₂-guided air quality control
- Year-round heat recovery use
- Filter monitoring
- Configurable DI, e.g. for connection (by others) of PIR sensors, window contacts, holiday switching, etc.
- Alarm signals type A (= switch-offs) and type B (= notifications)

Real time clock (RTC)

Real Time Clock (RTC/real time clock) (order code ...-T/...):

- Component of the Master Software Package
- Enables a simple timer
 - 7 days with 10 switching points each
 - Automatic summer / winter time changeover
 - Temporal activation of night purge

CO₂ sensor

CO₂ sensor (order code .../C/...):

- Sensor arranged in the extract air intake of the master unit for recording the indoor air quality and corresponding control of the outdoor air flow rate
- Measurement via an NDIR sensor, which works on an infrared basis and compensates for any contamination by its 2-beam measurement principle
- Measuring range 0 – 2000 ppm

Supply air temperature sensor

Supply air temperature sensor (order code .../Z/...):

- Supply air temperature sensor with NTC thermistor as sensing element, resistance 10 k Ω at 25 °C, measuring range 0 – 50 °C
- Especially fast response time due to perforated measuring tip

Fresh air temperature sensor

Outdoor air temperature sensor (order code .../A/...):

- Outdoor air temperature sensor with NTC thermistor as sensing element, resistance 10 k Ω at 25 °C, measuring range -30 – 50 °C

Optional control accessories

Optional equipment to increase the comfort of the FSL-CONTROL III:

TROX control panels for FSL-CONTROL III

At least one room temperature signal is required per room.

There are several variants of TROX control panels available, optionally with or without step switching. Additionally we offer a room temperature sensor RTF without control elements. Control panels provided by others have to be integrated with the bus

Digital control panels for surface mounting:

For operation and adjustment of the ventilation units.

- Supplied loose as an accessory. Connection to the master via Modbus serial line. Project-specific software including setpoint value adjuster, various status displays, selector switch, CO₂ traffic light. Touch-sensitive colour display 3.5" 320 × 240 pixels. Sensor: NTC 10 kΩ. Degree of protection: IP 20. Type: Schneider TM172DCLWT. Dimensions (H × B × T): 120 × 86 × 25 mm, weight: 340 g, colour: white. Installation: Surface mounting or on a standard flush box. Supply voltage: 24 V DC. Power consumption: 3.2 VA/1.3 W. Other design frames are available upon request and for a surcharge.

Control panels with selector switch for surface mounting:

Control panel with selector switch, for surface mounting, type Honeywell

- Supplied loose as an accessory, with room temperature sensor, setpoint adjuster (blue or white), override button, LED and 3-step switch as well as switches for Off and Automatic, for mounting on a 60 mm flush box or for surface mounting, NTC thermistor as sensor, resistance 20 kΩ at 25 °C, dimensions (B × H × T): 99 × 104 × 30 mm, operating temperature: 6 to 40 °C

Control panel with selector switch, for surface mounting, type Thermokon

- Supplied loose as an accessory, with room temperature sensor, setpoint adjuster, override button, LED and 3-step switch as well as switches for Off and Automatic, casing made of PVC0, pure white (RAL 9010), for mounting on a 60 mm flush box or for surface mounting, NTC thermistor as sensor, resistance 20 kΩ at 25 °C, dimensions (B × H × T): 84.5 × 84.5 × 25 mm, operating temperature: -35 to 70 °C

Control panels without selector switch for surface mounting:

Control panel without selector switch, for surface mounting, type Schneider

- Supplied loose as an accessory, with mode display, push button and setpoint adjuster, sensor NTC 10 kΩ, protection level: IP 20, surface mounting or on a 70 mm flush box, dimensions (B × H × T) 84 × 116 × 24 mm, light grey/white

Control panel without selector switch, for surface mounting, type Thermokon:

- Supplied loose as an accessory, with mode display, push button and setpoint adjuster, NTC thermistor as sensor, 20 kΩ, protection level IP 20, dimensions (B × H × T): 84.5 × 84.5 × 25 mm

Room temperature sensor for surface mounting:

Room temperature sensor TROX RTF, surface mounting

- Supplied loose as an accessory, room temperature sensor without any control elements, measuring range -35 to 70 °C, NTC thermistor as sensor, 20 kΩ, screw terminal, d = 1.5 mm, protection level IP 20, surface mounting or on a 70 mm flush box, dimensions (B × H × T): 85 × 85 × 30 mm, casing made of ABS, RAL 9010

Control panels without selector switch for flush mounting:

For manual operation of the ventilation units with a high-quality look and the matching design frame from a wide range of switch

programmes, the unit is suitable for particularly design-oriented facilities.

Control panel without selector switch, for flush mounting, type Thermokon, switch from Berker S.1 range, polar white

- Supplied loose as an accessory, with mode display, push button and setpoint adjuster, NTC sensor 20 kΩ, protection level: IP 20

Control panel without selector switch, for flush mounting, type Thermokon, switch from Berker Q.3 range, white

- Supplied loose as an accessory, with mode display, push button and setpoint adjuster, NTC sensor 20 kΩ, protection level: IP 20

Control panel without selector switch, for flush mounting, type Thermokon, switch from Busch-Jäger future range® linear, white

- Supplied loose as an accessory, with mode display, push button and setpoint adjuster, NTC sensor 20 kΩ, protection level: IP 20

Other switch programmes on request.

Control panels without selector switch and without setpoint value adjuster, for flush mounting:

Control panel without selector switch and without setpoint value adjuster, for flush mounting, type Thermokon, switch from Gira E2 range

- Supplied loose as an accessory, with mode display and push button, NTC sensor 20 kΩ, protection level: IP 20

Other switch programmes on request

Interface for establishing a connection to a central BMS (by others): Modbus TCP interface including web server (order code .../MT/...)

To increase comfort, we recommend integration into a central building management system provided by others. FSL-CONTROL III offers the possibility to be connected to a central BMS provided by others using Modbus TCP protocol. Additionally incl. web server for simplified configuration, commissioning and remote monitoring of the device. The central BMS is not included in the supply package from TROX, only the interfaces listed above are available here.

- Modbus TCP interface (Ethernet)

BACnet IP interface including web server (order code .../BI/...)

To increase comfort, we recommend integration into a central building management system provided by others. FSL-CONTROL III offers the possibility to be connected to a central BMS provided by others using BACnet IP protocol. Additionally incl. web server for simplified configuration, commissioning and remote monitoring of the device. The central BMS is not included in the supply package from TROX, only the interfaces listed above are available here.

- BACnet IP interface (Ethernet)

Modbus RTU (order code .../MR/...)

To increase comfort, we recommend integration into a central building management system provided by others. FSL-CONTROL III offers the possibility to be connected to a central BMS provided by others using Modbus RTU protocol. The central BMS is not included in the supply package from TROX, only the interfaces listed above are available here.

- Modbus RTU interface (RS485)

BACnet MS/TP (order code .../BM/...)

To increase comfort, we recommend integration into a central building management system provided by others. FSL-CONTROL III offers the possibility to be connected to a central BMS provided by others using BACnet MS/TP. The central BMS is not included in the supply package from TROX, only the interfaces listed above are available here.

- BACnet MS/TP interface (RS485)

Commissioning of the decentralised ventilation units

Commissioning / parameter setting of decentralised ventilation units without connection to the central building management system

- Visual inspection of the unit connections carried out by others for compliance with the respective installation specifications from the installation and configuration instructions: air connections, heating/cooling connection, electrical connections, integration into the installed outer casing, connections of external components
- Checking and, if necessary, adapting the project parameters pre-set in the factory with regard to customer-specific adaptations
- Functional test of the individual components (control elements, fans, valves, dampers, sensors)
- Checking the project-specific control functions including any special functions such as volt-free switch contacts
- Documentation of the device settings as well as their use in a service report. The service report must be signed by your company as the customer or your representative
- The invoice is made as a flat rate, derived from the number of devices and distance

Commissioning / parameter setting of decentralised ventilation units with connection to the central building management system

- Visual inspection of the unit connections carried out by others for compliance with the respective installation specifications from the installation and configuration instructions: air connections, heating/cooling connection, electrical connections, integration into the installed outer casing, connections of external components, central building management system connections
- Checking and, if necessary, adapting the project parameters pre-set in the factory with regard to customer-specific adaptations
- Functional test of the individual components (control elements, fans, valves, dampers, sensors)
- Checking the project-specific control functions including any special functions such as volt-free switch contacts
- Function test of the communication to the central BMS in cooperation with the ordered controls company:
 - Checking that the settings that are provided by others comply with the specifications in the installation and configuration instructions
 - Input test of the data points sent by the customer
 - Output test of the output data points
 - Trial operation of the operating conditions switchable by the central BMS
- Documentation of the device settings as well as their use in a service report. The service report must be signed by your company as the customer or your representative
- The invoice is made as a flat rate, derived from the number of devices and distance

Instruction in operation and maintenance

- One-off instruction for the operation of the decentralised ventilation units consisting of:
 - Description of the equipment functions on the unit that has already been put into operation
 - Description of the room control panel and the room conditions that can be influenced by it
 - Description of maintenance work
- The invoice is a flat rate and is carried out by the responsible sales representative

Order code

SCHOOLAIR-D – HV – 0 – EH – 0 / 3363 × 410 × 1030 / 0 / C3 / MA – T / MT / C / Z / A
 | | | | | | | | | | | |
 1 2 3 4 5 6 7 8 9 10 11 12 13 14

1 Type

SCHOOLAIR-D Ventilation unit for ceiling installation

2 Variant

HV High volume flow rate and rotary heat recovery unit

3 Installation situation

0 Installation integrated in suspended ceiling

F Freely suspended installation

T Partially integrated in suspended ceiling

Z Installation in a pre-assembled frame

4 Heat exchanger

EH With electric air heater

5 Construction

0 without duct connection

B With 2 × raised edge on the back of the unit (DN 315) (not with installation situation Z)

KL With duct connection on the left when seen from the room (270 × 270 mm) and raised edge at the rear (DN 315) (not with installation situation Z)

KR With duct connection on the right when seen from the room (270 × 270 mm) and raised edge at the rear (DN 315) (not with installation situation Z)

KLR With duct connection on the left when seen from the room (270 × 270 mm) and on the right when seen from the room (270 × 270 mm) (not with installation situation Z)

6 Nominal size [mm]

Width × height × depth

3363 × 410 × 1030 (only with installation situation 0)

3555 × 410 × 1030 (only with installation situation F)

3905 × 410 × 1030 (only with installation situation T)

3900 × 440 × 1099 (only with installation situation Z)

7 Exposed surface

0 RAL 9010, pure white, GU 30

P1 RAL 7012 (basalt grey), GU 30 or alternatively RAL-CLASSIC at choice, GU 30

8 Control system

OR Without control system

C3 With FSL-CONTROL III

In the selection OR, the options 9 – 14 are not available

9 Control function

MA Master

SL Slave

10 Real time clock¹

Only with control function MA

No entry: Without real time clock

T With real time clock

11 Interface¹

No entry: Without interface

MT With Modbus TCP

MR With Modbus RTU (only with control function MA)

BI With BACnet IP

BM with BACnet MS/TP (only with control function MA)

12 Air quality sensor

Only with control function MA

No entry: Without air quality sensor

C With CO₂ sensor

V With VOC sensor

13 Supply air temperature sensor

Z With supply air temperature sensor

14 Outdoor air temperature sensor¹

Only with control function MA

No entry: Without outdoor air temperature sensor

A With outdoor air temperature sensor

¹ Without selecting an interface, an outdoor temperature sensor must be selected, the use of the real-time clock is recommended in this case

Order example: SCHOOLAIR-D-HV-0-EH-0/3363×410×1030/C3/MA-T/MT/C/Z/A

Type	SCHOOLAIR-D
Variant	High volume flow rate and rotary heat recovery unit
Installation situation	Installation integrated in suspended ceiling
Heat exchanger	With electric air heater
Construction	Without duct connection
Nominal size [mm]	3363 × 410 × 1030
Exposed surface	RAL 9010, pure white
Control system	With FSL-CONTROL III
Control function	Master
Real time clock	With real time clock
Interface	With Modbus TCP
Air quality sensor	With CO ₂ sensor
Supply air temperature sensor	With supply air temperature sensor
Outdoor air temperature sensor	With outdoor air temperature sensor

Order example: SCHOOLAIR-D-HV-Z-EH-0/3900×440×1099/P1/C3/MA/MT/C/Z

Type	SCHOOLAIR-D
Variant	High volume flow rate and rotary heat recovery unit
Installation situation	Installation in a pre-assembled frame
Heat exchanger	With electric air heater
Construction	Without duct connection
Nominal size [mm]	3900 × 440 × 1099
Exposed surface	RAL 7012 (basalt grey)
Control system	With FSL-CONTROL III
Control function	Master
Real time clock	Without real time clock
Interface	With Modbus TCP
Air quality sensor	With CO _{2s} sensor
Supply air temperature sensor	With supply air temperature sensor
Outdoor air temperature sensor	Without outdoor air temperature sensor

Order example: SCHOOLAIR-D-HV-T-EH-KR/3905×410×1030/0/C3/SL/BI/Z

Type	SCHOOLAIR-D
Variant	High volume flow rate and rotary heat recovery unit
Installation situation	partially integrated in suspended ceiling
Heat exchanger	With electric air heater
Construction	with duct connection on the right when seen from the room (270 × 270 mm) and raised edge Rear (DN 315)
Nominal size [mm]	3905 × 410 × 1030
Exposed surface	RAL 9010, pure white
Control system	With FSL-CONTROL III
Control function	Slave
Real time clock	-
Interface	With BACnet IP
Air quality sensor	-
Supply air temperature sensor	With supply air temperature sensor
Outdoor air temperature sensor	-

Variants

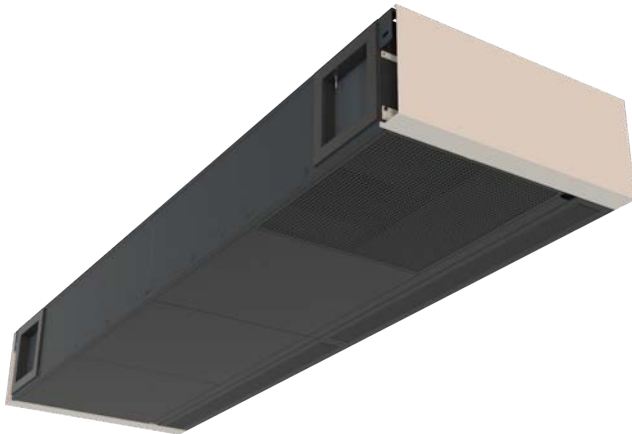
SCHOOLAIR-D-HV-0, for flush ceiling installation



Special features

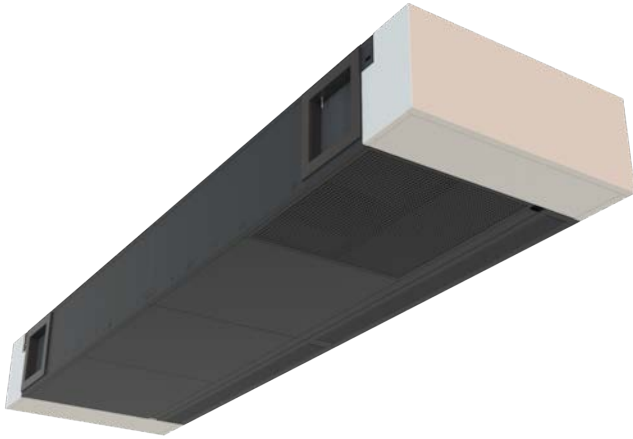
- Suitable for suspended ceiling installation with the bottom edge of the ventilation unit flush with the suspended ceiling
- Factory mounted L bracket at the side makes fixing the unit to the ceiling construction easy (fixing by others)
- Some constructions (B, KL, KR and KLR - see order code) facilitate connection to the ductwork (by others)
- Dimensions: 3363 × 410 × 1030 mm

SCHOOLAIR-D-HV-F, for freely suspended installation

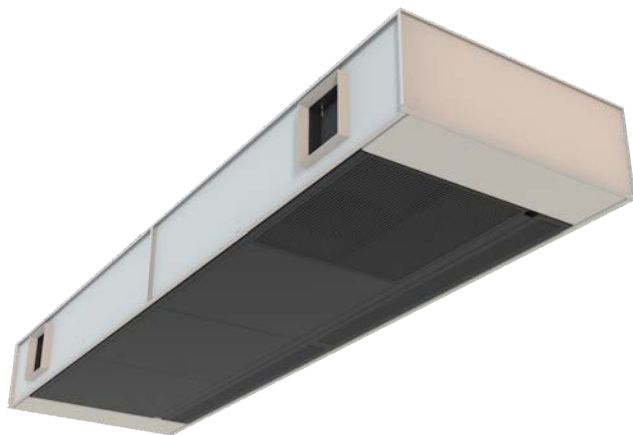


Special features

- Suitable for freely suspended installation
- Cover plates can be slid in from the front, no tools required
- Panels on the side provide access to fixing points, water connections and electrics
- Some constructions (B - see order code) facilitate connection to the ductwork (by others)
- Dimensions: 3555 × 410 × 1030 mm

SCHOOLAIR-D-HV-T, for partially integrated ceiling installation**Special features**

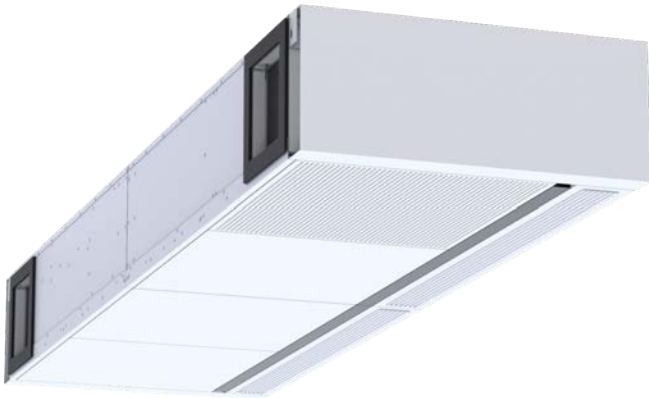
- Suitable for partial integration into a suspended ceiling
- Cover plates on the underside can be opened, no tools required
- Panels on the side provide access to fixing points, water connections and electrics
- This variant is also suitable for freely suspended installation with duct connection (see order code, constructions B, KL, KR and KLR)
- Dimensions: 3905 × 410 × 1030 mm

Construction Z: consists of two parts, i.e. frame and ventilation unit**Special features**

- Suitable for installation into a frame that is to be installed beforehand in a suspended ceiling
- The frame will be delivered and installed in advance. Any jobs required on site by others (e.g. outdoor and exhaust air connections, preparing water and electricity connections) can be carried out before the unit itself is delivered. The ventilation unit can be installed in the frame at a later stage.
- The unit can be connected to existing ducts (see order code, constructions B, KL, KR and KLR)
- Dimensions: 3900 × 440 × 1099 mm

SCHOOLAIR-D-HV, colour variant

- Alternatively, surface coated RAL 7012, GU30

SCHOOLAIR-D-HV, colour variant

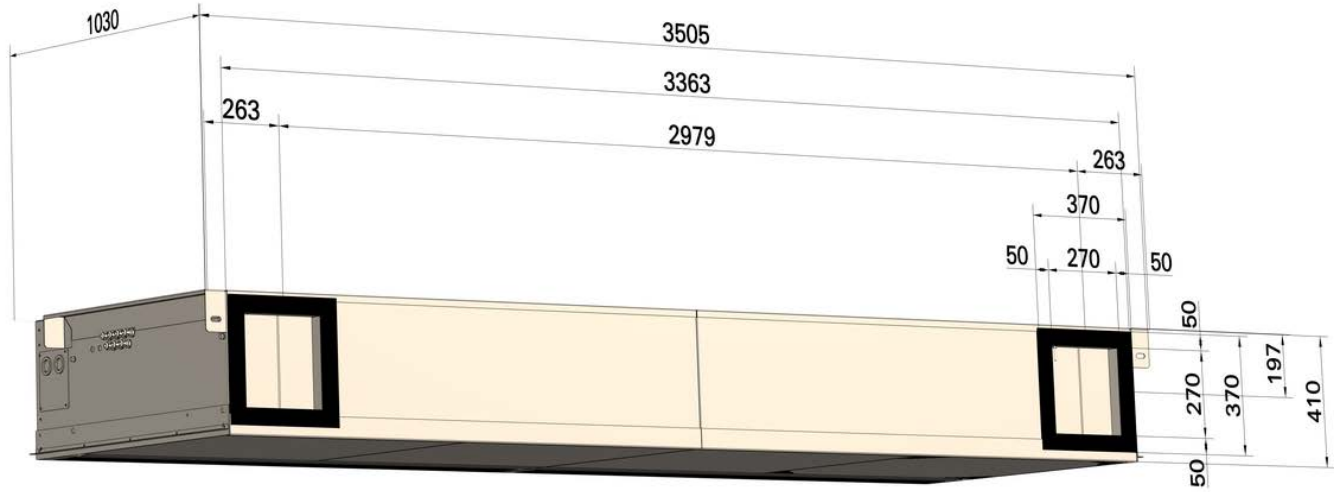
- Surface coated RAL 9010, GU30, with cover strips coated RAL 7012, GU30

SCHOOLAIR-D-HV, colour variant

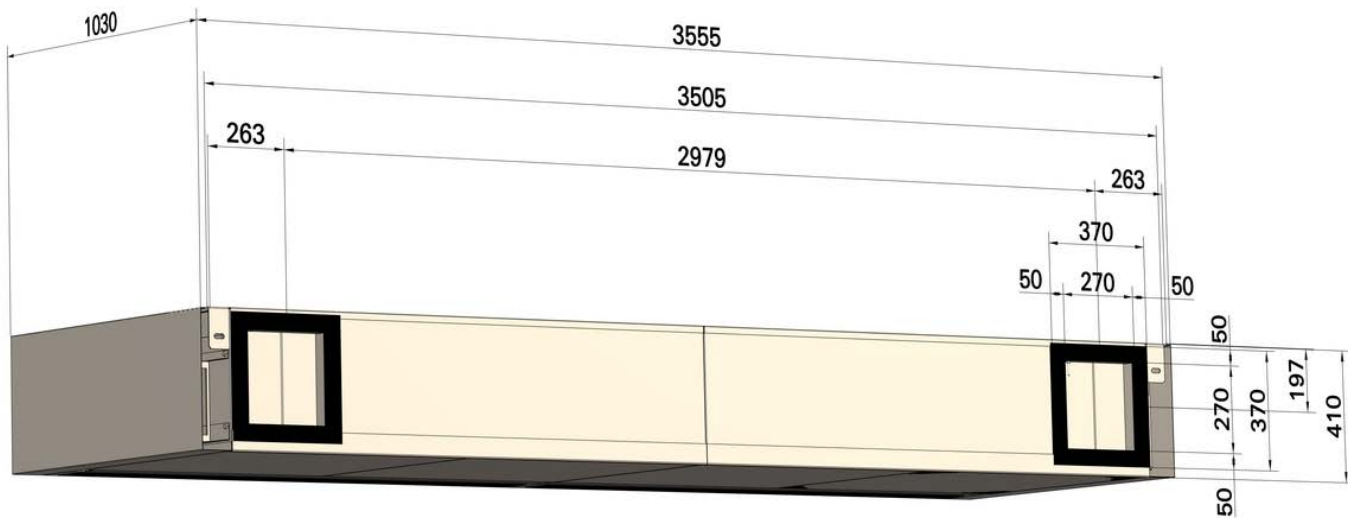
- Alternatively, surface coated RAL 7012, GU30, with cover strips coated RAL 9010, GU30

Dimensions

Construction 0: for flush ceiling installation



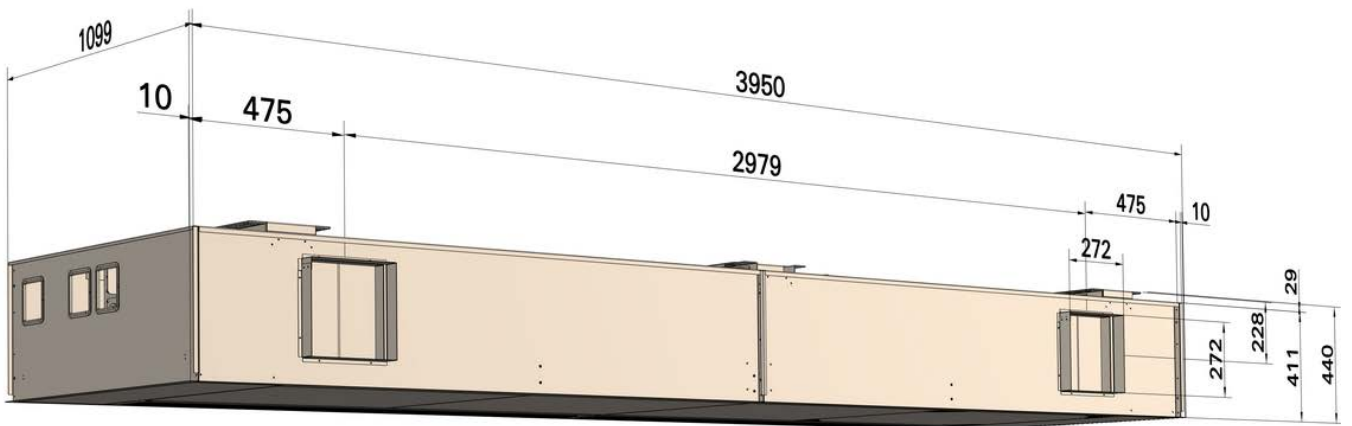
Construction F: for freely suspended installation



Construction T: for partially integrated ceiling installation



Construction Z: consists of two parts, i.e. frame and ventilation unit



Product details



- Installation below the ceiling slab and near an external wall
- 2-part device casing for easier transport and simple assembly
- The ventilation unit is fitted with two hanging brackets to screw-fix it to the façade system or an external wall
- Weather protection for the fresh air and exhaust air openings to be provided by others
- The fresh air connection is provided by two ventilation openings in the façade system or external wall (to be provided by others), preferably sloping towards the outside
- Free area of ventilation openings: 0.10 m² each
- Depending on the installation situation it may be necessary to fit a suitable partition between the outdoor air and exhaust air ducts.
- Installation and connections to be performed by others; fixing, connection and sealing material to be provided by others
- The electrical connection is on the right-hand side of the unit when seen from the room