**Ventilation unit WS 75 Powerbox S**

Model

Mounting options: ceiling mounted or in a sloped roof.

DN 100 outgoing and outside air connections on side.

Brief description

Intelligent ventilation unit with heat and humidity recovery for controlled ventilation and air extraction with an air volume of 20 to 70 m³/h

Very quiet unit with extremely good sound insulation properties.

Complete separation of exhaust air/supply air ducts throughout the unit. This prevents unwanted recirculation of air. Viruses (e.g. Corona virus) and bacteria are therefore not transmitted.

Hygiene certificate according to VDI 6022, sheet 1 available.

Compact and highly efficient – energy efficiency class A. Sound and energy-optimised fans in EC technology: 6.1 W in level 2 (30 m³/h) for the entire ventilation unit.

Especially suitable for modern new buildings and redevelopments.

Eligible for KfW funding and entry in the TZWL bulletin (NRW funding programme).

Plug & Play: Simple commissioning, free commissioning software.

No pressure fluctuation sensitivity: The integrated/automatic volumetric flow constancy control ensures permanent compliance with the set volumetric flow under all operating conditions (e.g. filter contamination, air valve settings). This also results in easier commissioning/air volume measurement at the valves. The volumetric flows do not require any adjustment.

Various operating modes: Off, Manual, Auto Sensor, ECO exhaust air, ECO supply air.

Display of air quality via LED.

High-quality RLS 1 GS room air control (made of glass) included in scope of delivery.

ISO Coarse 80 % (G4) filter in the exhaust and outside air. On the outside air side, a filter cascade with an ISO ePM1 60 % (F7) pollen filter is optionally available. Filter can be changed without tools.

The Powerbox H is equipped with a state-of-the-art enthalpy heat exchanger with hygiene certificate according to VDI 6022, sheet 1.

Combi sensor (humidity/temperature) integrated as a standard feature in the exhaust air enables demand-driven ventilation operation as well as an intelligent frost protection and dehumidification strategy (excess humidity protection).

Bypass mode / Eco mode: ECO supply air, ECO exhaust air for passive summer night cooling.

The Powerbox can be controlled via the APP (air@home) and via the browser-based web tool (www.air-home.de) using an integrated W-LAN interface.

Standard USB interface for commissioning.

The unit has a multifunction contact for the control of, e.g., alarm / operating display / supplementary heating / pre-heating / shutter.

One input contact (12 V) is available for, e.g., safety shutdown.

Various inputs/outputs enable a control connection to other building service installations, e.g., the heat pump.

Integrated MODBUS interface (TCP) enables integration in the building control system.

The optional K-SM plug-in module enables integration into KNX building control systems.

The optional E-SM plug-in module enables integration into EnOcean systems.

Maximum unit flexibility thanks to a wide range of equipment/connection options

Modern unit module technology allows easy retrofitting (e.g. pre-heating) as well as high user-friendliness for service and maintenance.

Application areas: Rooms up to 60 m²: Student rooms, nursing homes, assisted living, hotel rooms, offices, meeting rooms, waiting rooms.

Features

Housing

Housing with high air tightness made of thermal bridge-free, temperature-resistant, sound-absorbing and heat-insulating EPP material with powder-coated sheet metal cladding (colour: RAL 9016 Traffic White – fine matt structure.

EPP housing with very good hygienic / non-hygroscopic properties.

Material checked by the Institute for Air Hygiene in accordance with VDI 6022.

Unit surface and unit’s internal housing are easy to clean.

Filter:

ISO Coarse 80 % (G4) filter in the exhaust and outside air. On the outside air side, a filter cascade with an ISO ePM1 60 % (F7) pollen filter is optionally available.

Filter exchange without tools.

Recommended accessories:

WS 75 Powerbox S

SVR 100 plug connector (item no. 0055.0188)

WS 75 Powerbox H

Surface-mounting shell installation kit: WS 75 RSAP (item no. 0093.1615) or flush-mounting shell installation kit: WS 75 RSUP (item no. 0093.1616)

Surface-mounting cover: WS 75 APA (item no. 0093.1617) or flush-mounting cover: WS 75 UPA (item no. 0093.1618) or glass flush-mounting cover: WS 75 UPGA (item no. 0093.1619)

Optional accessories:

Soffit element Duo LE (item no. 0093.0088)

Duo LEV soffit element extension (item no. 0093.0089).

Operation

RLS G1 WS room air control included in the scope of delivery: On/off, 5 manually adjustable air levels (e.g. ventilation for humidity protection, ventilation for reduced ventilation, nominal ventilation, intermittent ventilation and intensive ventilation), automatic operation, filter change indicator, fault indicator.

WS 75 Powerbox S: The control is mounted externally on the flush-mounted box.

WS 75 Powerbox H: Control mounted directly on the unit or externally on a flush-mounted box.

Mobile operation via APP (air@home) or browser-based web tool (www.air-home.de) via smartphone, laptop or PC enables, e.g.,

live reporting, user management

Demand-driven automatic operation / time-controlled automatic operation

Manual operation / OFF

ECO mode supply air or ECO mode exhaust air

Filter queries, error messages

USB connection for service/commissioning – free MAICO commissioning software.

Network integration via integrated 2.4 GHz WLAN module.

Smart-Home ready (e.g. Loxone via MODBUS TCP/IP).

Modbus TCP in progress.

Optional KNX plug-in module K-SM for integration into building control system, www.knx.org.

Optional EnOcean plug-in module E-SM for integrating the unit into the “EnOcean world”, www.enocean-alliance.org.

Control

Standard demand-driven volumetric flow regulation (“decisive humidity value”).

Continuously variable demand-driven adaptation of air volumes.

Integrated excess humidity protection function.

3 temperature sensors in outside, outgoing and supply air.

1 combi sensor (temperature and humidity) in exhaust air socket.

Alternative accessory sensors for the exhaust air socket. Combi sensor temperature-humidity-CO2 or temperature-humidity-VOC.

Up to two external sensors of different types (CO2, VOC, humidity) can be connected.

Multifunctional contact for the control of, e.g., operation and fault display, heat register, shutters or cooling.

Input for safety shutdown via 12V contact (e.g. smoke detector, fire alarm, differential pressureless fireplace).

Sleep function: Unit is switched off for an adjustable period of time to fall asleep and then starts up again.

Approvals and certificates

Test report in accordance with DIN EN 13141-8.

Hygiene certificates for housing material (EPP) and heat exchanger.

Entry in TZWL/TZWL bulletin.

Heat exchanger / heat recovery

Highly efficient enthalpy cross-counterflow heat exchanger.

Heat recovery up to 93 % and humidity recovery up to 75 %.

Hygiene certificate (no bacteria, virus growth/virus transfer) according to VDI 6022, sheet 1.

Heat exchanger can be cleaned with water, antimicrobial.

No condensation connection required.

Bypass

Eco mode: ECO supply air, ECO exhaust air for passive summer night cooling.

Frost protection

Prevention of heat exchanger freezing at low temperatures by monitoring the outgoing air temperature.

If there is a risk of frost, the outside air volumetric flow rate is gradually reduced.

Fans

Centrifugal fans in outside air and outgoing air.

Energy-efficient EC direct current motors with integrated volumetric flow consistency control.

4 ventilation levels from 20 m³/h to 70 m³/h, can be adjusted continuously.

Installation information

Installation on the suspended ceiling or interior wall.

Recommended core drill hole: Minimum diameter, 105 mm.

Easy, very time-saving installation by folding down and screwing the fastening lugs directly onto the unit.

Housing cover can be removed with ease.

The system requires no adjustment.

The unit is assembled and ready for service. The electrical supply is connected using permanent wiring.

Technical data

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| Article: | WS 75 Powerbox S |
| Model: | Outgoing and outside air connections on side |
| Number of ventilation levels: | 4 |
| Air flow volume: | 20 m³/h / 70 m³/h (Factory 20 / 30 / 40 / 50 m³/h) |
| SEC average: | -40,82 kWh/(m²\*a) |
| Energy efficiency class: | A |
| Type of voltage: | Alternating current |
| Rated voltage: | 230 V |
| Frequency: | 50 Hz/60 Hz |
| Maximum power consumption: | 5,2 W / 6,1 W / 8,3 W / 11,5 W |
| Stand-by power consumption: | < 1 W |
| Imax: | 0,2 A |
| Degree of protection: | IP 00 |
| Electrical plug-type connection: | Terminal |
| Installation site: | (Suspended) ceiling / Inside wall |
| Type of installation: | Recessed-mounted |
| System type: | decentralised/centralised |
| Housing material: | Plastic EPP |
| Heat exchanger material: | Synthetic material |
| Inner coating material: | EPP |
| Colour: | traffic white RAL 9016 (matt fine structure) |
| Weight: | 17,5 kg |
| Weight including packaging: | 20,5 kg |
| Type of filter: | Outside and exhaust air filter |
| Filter class: | ISO Coarse 80 % (G4) / optional ISO ePM1 60 % (F7) |
| Connection diameter: | 100 mm / 75 mm |
| Width: | 640 mm |
| Height: | 1.040 mm |
| Depth: | 155 mm |
| Width with packaging: | 660 mm |
| Height with packaging: | 1.060 mm |
| Depth with packaging: | 180 mm |
| Airstream temperature at IMax: | -15 °C up to 60 °C |
| Ambient temperature: | 10 °C up to 40 °C |
| Degree of heat provision: | 93 % / at 20 m³/h |
| Heat exchanger construction type: | Enthalpy cross-counterflow |
| Humidity recovery with enthalpy heat exchanger in accordance with DIN EN 13141-7 (A2): | 75 % |
| Permissible humidity in installation room: | 80 % |
| Bypass: | No |
| Frost protection: | optional |
| Enthalpy heat exchanger: | yes |
| Antifreeze circuit: | yes |
| Summer circuit: | ECO exhaust air / ECO supply air |
| Filter monitoring: | with time control |
| Humidity control: | integrated |
| CO2regulation: | WS 75 CO2, PP 45 CO2, SKD |
| Air quality control (optional): | WS 75 VOC, PP 45 VOC |
| KNX connection (optional): | K-SM |
| MODBUS interface: | integrated |
| Control unit included in scope of delivery.: | RLS G1 WS, APP |
| EnOcean wireless integration (optional): | yes |
| Mobile control: | yes |
| Sound pressure level: | 15 dB(A) / 16 dB(A) / 19 dB(A) / 20 dB(A) Flush mounting, distance of 1 m free-field conditions |
| Rated max. element normal difference in noise level Dn,w: | 56 dB measured with backflow preventer and combination wall socket, 62 dB measured with backflow preventer and soffit element |
| Rated sound reduction index Rw,R: | 31 dB measured with backflow preventer and combination wall socket, 37 dB measured with backflow preventer and soffit element |
| Packing unit: | 1 piece |
| Range: | K |
| GTIN (EAN): | 4012799956457 |
| Article number: | 0095.0645 |

Manufacturer: MAICO

WS 75 Powerbox S Ventilation unit