

H-Block air-conditioning unit



- ✱ Compact design
- ✱ Non-frame structure
- ✱ High recuperation efficiency
- ✱ MaR integrated system
- ✱ Easy installation – Plug & Play

H-Block air-conditioning unit

Usage and working conditions

H-block air-handling units are intended for use in normal environment according to the ČSN 33 2000-3 standard. H-blocks are applicable for air distribution and optimization in normal environments with temperatures from -30 °C to 40°C.

Detailed conditions regarding installation, operation and safety are listed in document TP 12107_4. Assembly and operating instruction for H-block air-handling unit type.

Model	Type	Nominal airflow V [m³/h]
H-Block 2	Q020	2000
H-Block 4	Q040	4000
H-Block 6	Q060	6300
H-Block 8	Q080	8000

Detailed technical parameters are available in the calculation program AHUSelect, or you can contact your sales manager.

Description

These air-conditioning units are made as one complex unit. The units are designed for installation on the floor, and are delivered with a base frame. Suction and exhaust holes are located on the upper side of the chamber and are equipped with flexible adapters with end flanges for connection to pipes.

Output pipes of exchangers, service holes and fittings are located on the service side of the unit.

Access to ventilators, filters and the frequency convertor is provided by doors that are fitted with latching hinges.

Structure

The H-Uni units are made of original frameless sandwich panels, registered with the Industrial Property Office in its database of industrial designs.

The structure of the unit chamber consists of 50 mm thick frameless sandwich panels. The shell is made of two steel zinc plates with a thickness of 0.8 mm. Inside the panel is mineral wool insulation with volume weight 50 kg/m³.

H-Block unit functions

- air distribution
 - plug fans with frequency convertors
- heating
 - hot water counterflow exchanger
 - electric
- cooling system
 - water cooling
 - direct evaporator
- heat recovery (HR)
 - plate heat recovery exchanger with bypass
 - rotary recovery exchanger
 - counterflow recovery heat exchanger
- mixing
- filtration
 - bag filters class G3–F7

H-control system of measurement and regulation

The units are equipped with H-Control autonomous operation control system and heat output. This system is easy to operate by PC and web browser. Furthermore it is possible to control the unit via a remote control with LCD display or parent BMS system.

Controlling and action components are assembled, connected and tested during production. The system thus enables:

- smooth control of fans using frequency inverters
- control and protection of hot water heater with the MERUK mixing node
- control and protection of electric heating
- control and protection of water cooler with the MERUK mixing node
- control and protection of direct evaporator coils and condensing unit from many producers, incl. function as condenser
- control and protection of HRE exchangers
- control of all flaps
- signalization of air filter clogging

H-Block air-conditioning unit

Fig. 1 Dimensions of unit

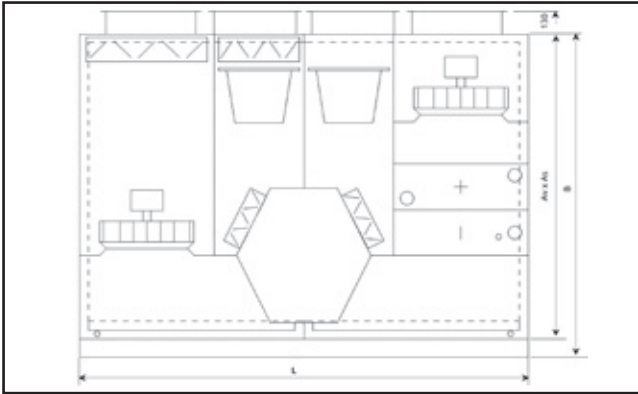
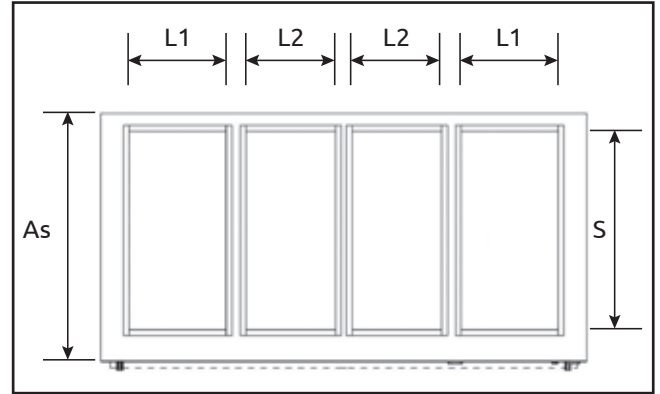


Fig. 2 Dimensions of unit – top view



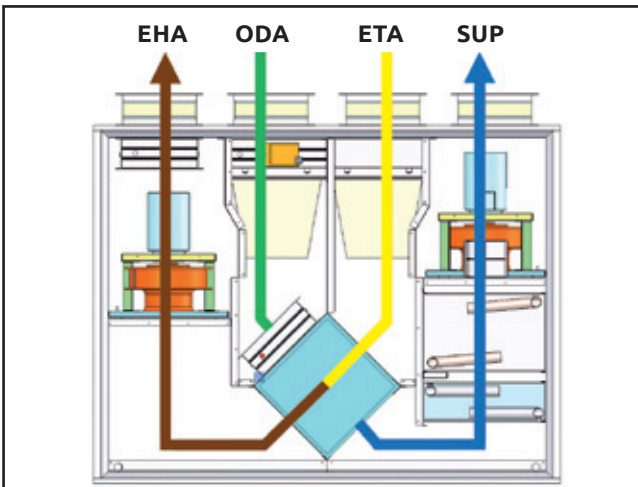
Size of unit [mm]

Type	Av	As	B	L	L1	L2	S
Q020-G	1330	900	1430	1535	212	212	647
Q020-D	1310	900	1410	1575	300	150	650
Q020-R	1310	900	1410	1785	250	230	650
Q040-G	1420	1100	1520	1842	312	312	847
Q040-D	1470	1100	1570	1920	300	300	850
Q040-R	1470	1100	1570	2155	350	300	850
Q060-G	1550	1200	1650	2135	412	378	947
Q060-D	1730	1200	1830	2320	400	400	950
Q060-R	1730	1200	1830	2405	450	400	950
Q080-G	1740	1300	1840	2556	512	472	1047
Q080-D	1780	1300	1880	2560	400	400	1050
Q080-R	1780	1300	1880	2785	450	400	1050

D – recuperation with a plate heat exchanger, R – recuperation with a rotary heat exchanger, G – recuperation with a counterflow heat exchanger, control box dimensions 460 × 448 × 160 (h × w × d) mm.

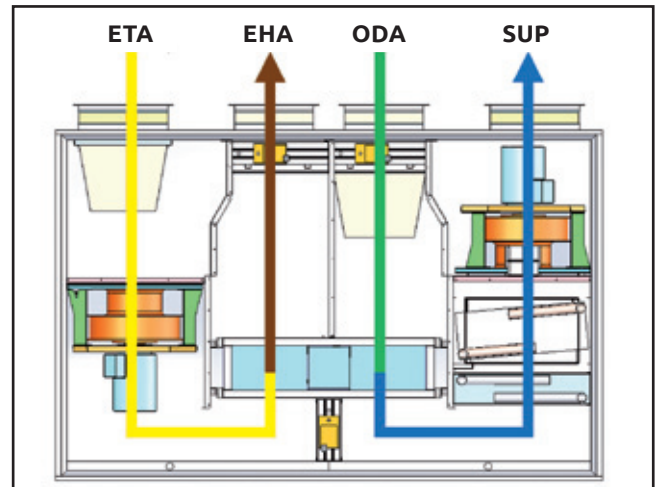
Directions of airflows

Fig. 3 H-Block with plate heat exchanger (D)



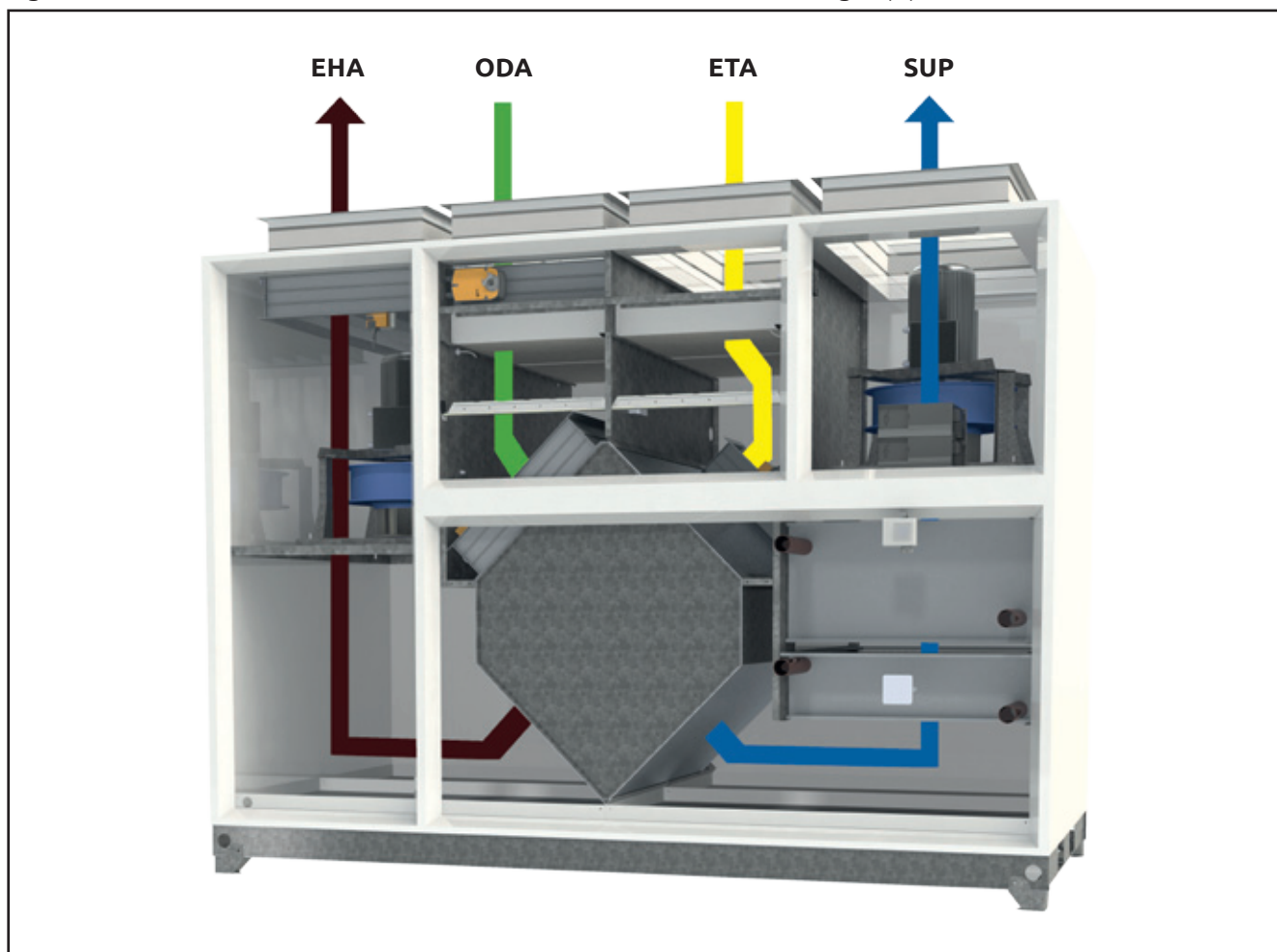
The units are produced in right or left-hand versions.
EHA – exhaust air, **ODA** – outdoor air, **ETA** – extract air, **SUP** – supply air

Fig. 4 H-Block with rotary heat exchanger (R)



The units are produced in right or left-hand versions.
ETA – extract air, **EHA** – exhaust air, **ODA** – outdoor air, **SUP** – supply air

Fig. 5 Functional scheme of H-Block unit with counterflow heat exchanger (G)



The units are produced in right or left-hand versions.

EHA – exhaust air, **ODA** – outdoor air, **ETA** – extract air, **SUP** – supply air

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