Halton Rex RE6, chilled beam - Technical description

Contents

1 Introduction

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1.2 About this document

The purpose of this document is to give technical information and design examples for salespersons, technical support and designers.

1.3 Summary of changes

Release	Date	Description
1.2	03-Oct-2025	2.4 Structure and materials, 2.7 Specification and 2.8 Order code - Removed RAL 9010 as standard colour option.
1.1	04-Sep-2025	3.1 Installation - Clarified text
1.0	12-June-2025	First approved version

2 Product description

2.1 Overview

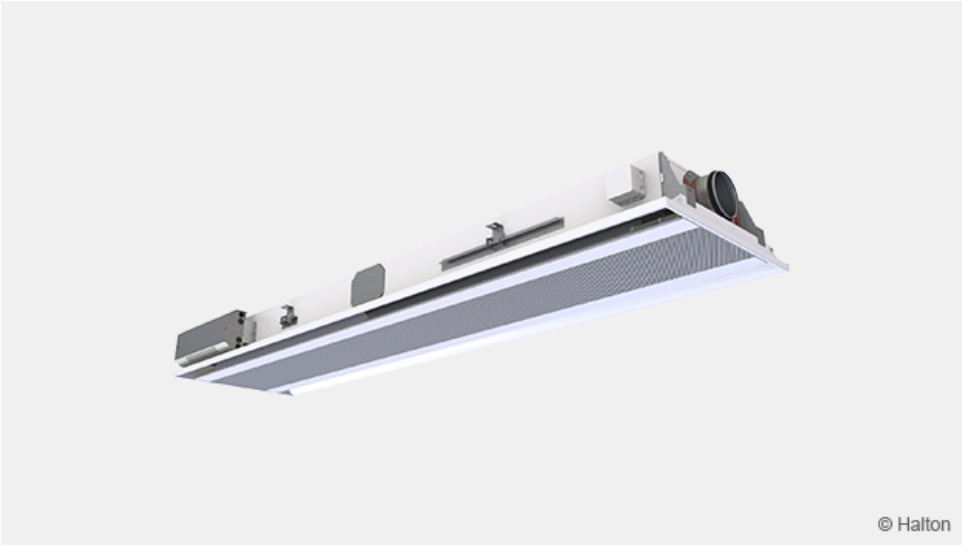


Fig. 1. Halton Rex RE6, Overview

Halton Rex RE6 chilled beam is a versatile system designed for demand-based ventilation systems. It serves as a combined cooling, heating, and supply air unit for flush installation within a suspended ceiling. It is well suited for spaces with high cooling loads, low humidity loads, and variable ventilation requirements. It is an ideal system for applications where high-quality environmental conditions, demand-based ventilation, and individual room control are appreciated.

Halton Rex RE6 is designed for typical office space ventilation requirements. The airflow adjustability is highly flexible, allowing it to be easily adapted to changed operation conditions and requirements from the design to the end of the building life cycle.

Application areas

- Office rooms
- Public spaces
- Open offices and meeting rooms

Key features

- Easy and fast selection with Halton eHIT design tool
- Individually adjustable velocity conditions with Halton Velocity Control (HVC)
- In-built flexibility of operation for partition wall relocations with Halton Velocity Control
- Individually adjustable supply airflow rate for changes in space layout using Halton Air Quality (HAQ) control
- Demand based control of supply airflow rate for efficient use of energy in constant-pressure ductwork zone applications; when the airflow rate changes have no effect on the coil cooling/heating capacities of the chilled beam.
- Normal and low pressure drops available for coils

2.2 Operating principle

The Halton Rex RE6 chilled beam is designed to be installed flush with a suspended ceiling.

The primary supply air enters the plenum of the active chilled beam and is delivered into the room through precision-engineered nozzles and the HAQ-control diffuser. The supply slots, positioned on the underside of the beam, ensure optimal air distribution.

As the high-velocity supply air exits the nozzles, it generates jets that effectively induce ambient room air into the unit. The built-in heat exchanger then conditions this induced air, either cooling it or heating it as required. The resulting mixed airflow is discharged horizontally along the ceiling surface, which enhances air circulation and ensures uniform thermal comfort throughout the space.

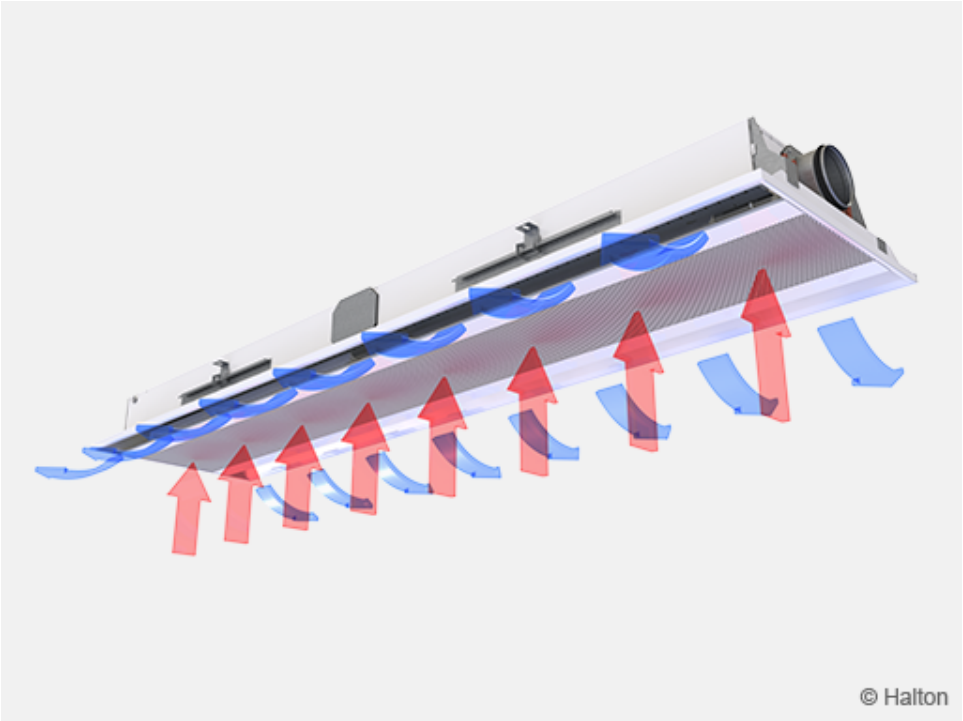


Fig. 2. Halton Rex RE6, operating principle

2.2.1 Velocity control in the occupied zone

The Halton Velocity Control (HVC) is used to adjust room air velocity conditions either when the room layout is changed, (e.g., in cases where the chilled beam is located near the partition wall) or when local, alter the individual velocity conditions. The HVC adjustment impacts the induced room airflow through the heat exchanger. Therefore, it either increases or decreases both the velocities in the occupied zone and the cooling/heating capacity of the chilled beam.

The HVC involves manual velocity adjustment in three different positions, as shown in Fig. 3. The HVC system is divided into sections to enable the adjustment of conditions in different parts of the occupied zone. Depending on the length of the beam, the optimal HVC damper module lengths are between 500 and 1400 mm.

The HVC damper is divided into sections (Pos. 1-3) to enable the adjustment of conditions in different parts of the occupied zone.

It is recommended to design the chilled beam in the normal position, to allow both throttle and boost functions during the building's life cycle.

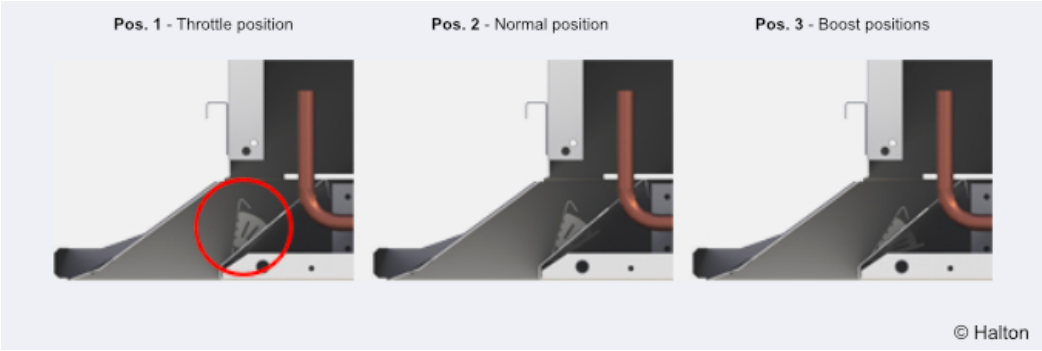


Fig. 3. Halton Velocity Control (HVC) positions

2.2.2 Airflow rate control

The supply airflow of the chilled beam nozzle jets are dependent on effective length and static chamber pressure, which can be adjusted e.g. using separate airflow adjustment damper.

Optional Halton Air Quality control (HAQ) is used for adjusting and/or controlling the outdoor airflow rate in a room space. The airflow rate is dependent on the opening position of the control damper and the static chamber pressure.

Airflow rate adjustment is needed when the use of the space is changed and there is need to adapt the supply airflows. Airflow rate can be adjusted either manually or automatically, on the basis of demand, with a motorised control damper.

For demand-based ventilation, it is possible to retrofit a chilled beam equipped with HAQ manual airflow rate adjustment.

For demand based airflow, there is a recommendation that it should be connected to constant pressure ductwork zone, when,

- the HAQ adjustment has no impact on nozzle jet airflow
- the HAQ adjustment has no impact on either the coil cooling or heating capacities
- the HAQ airflow control has not significant impact to ductwork pressure conditions and respectively to airflow rates of other chilled beams in the same ductwork zone.
- A constant-pressure ductwork zone should be designed based on maximum/boost airflow rates and the same main ductwork size. It ensures uniform ductwork pressure conditions and correct airflow rates based on demand.

The appearance of different units with constant, adjustable, or variable airflow – is identical. The Halton Air Quality control unit's position and the selection of chilled beam nozzle size allow adjustment of the primary airflow rate in the space. The separate airflow adjustment damper installed in the duct branch ois used for balancing the airflows in the ductwork.

When a motorized air quality control (HAQ) unit is used, the maximum and minimum airflow rates are adjusted with the stroke limiters of the damper.

The primary airflow rate of each beam is adjusted using the HAQ control unit during the installation and commissioning. There is no need to change or plug nozzles of the chilled beam.

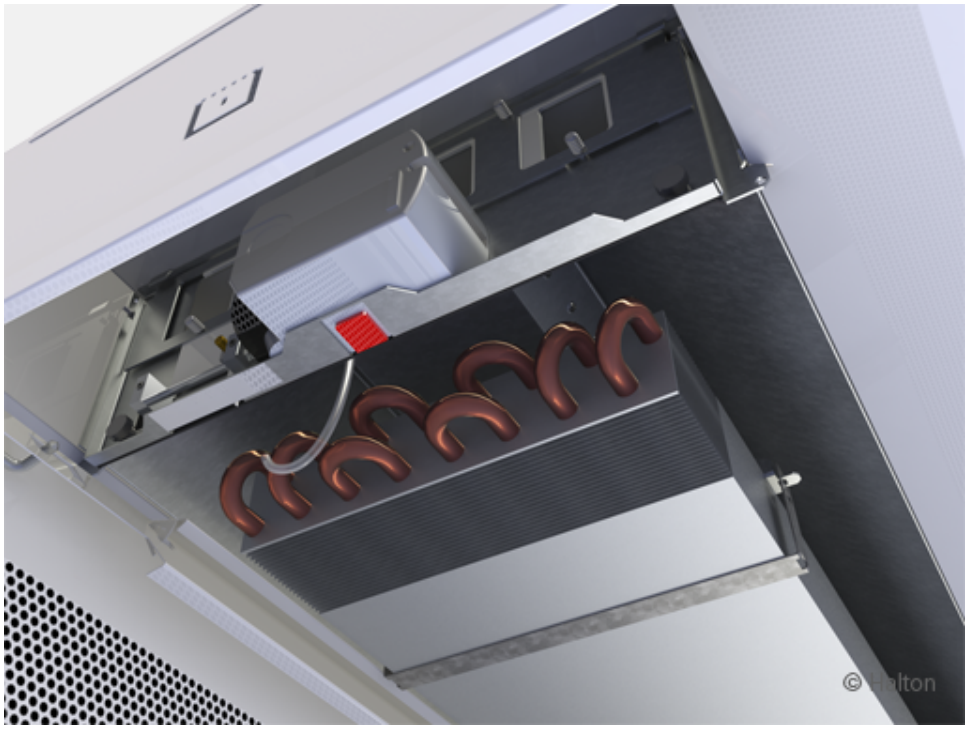


Fig. 4. Halton Air Quality (HAQ), motorized

2.2.3 Air quality and temperature controls

The cooling and heating capacities of the chilled beam are controlled by regulating the water flow rate according to the control signal of the room temperature controller.

Air quality control for a room space can be arranged using, for example, a CO_2 sensor, when room air temperature is controlled separately by regulating the water flow rate. Alternatively, a temperature sensor can be used for air quality control, with the airflow rate modulated in the first sequence. If the temperature exceeds the set point, the water valve starts to open in the second sequence.

In heating mode, it is recommended that the temperature difference between the jet outlet and room air would not be greater than 3 °C. The inlet water temperature of the heat exchanger should not be higher than 35 °C. Optimal heating performance requires an appropriate primary airflow rate. Thus, the air handling unit shall operate during heating periods to ensure proper heating performance.

2.3 Dimensions and weight

Main dimensions

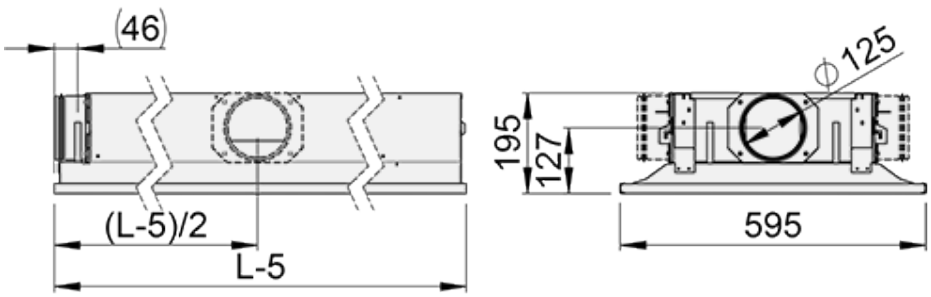


Fig. 5. Total length 1200 - 2400 mm

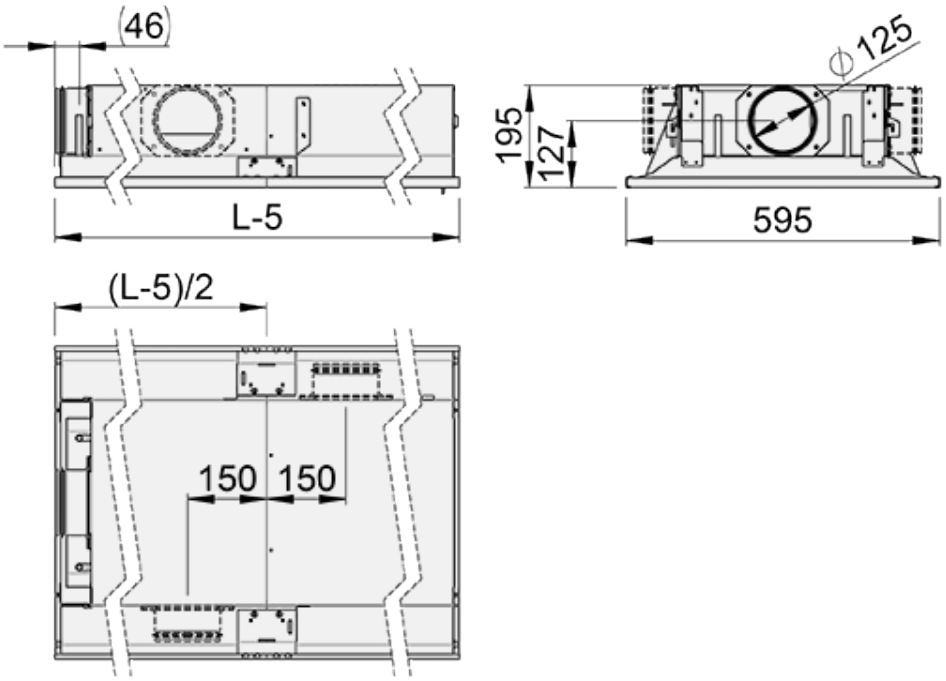


Fig. 6. Total length 2500 – 3600 mm

Note: For lower models (min. 145 mm), please contact sales.

Coil length, L [mm]	L-5 [mm]	Weight [kg/m, water excluded]
900, +100, ..., 3300	1195, +100, ..., 3595 (+1715)	14

Coil pipe dimensions

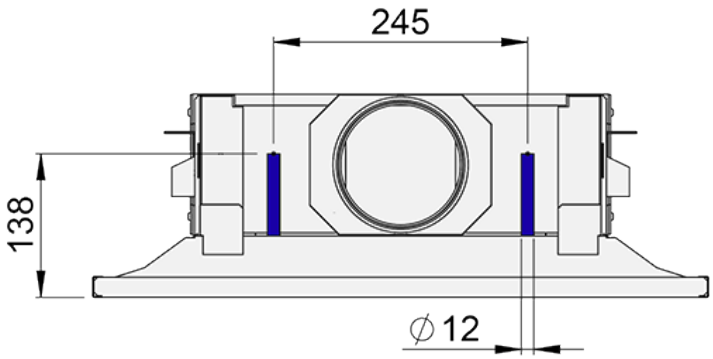


Fig. 7. Model with cooling coil and normal water pressure drop (TC=C and CR=N)

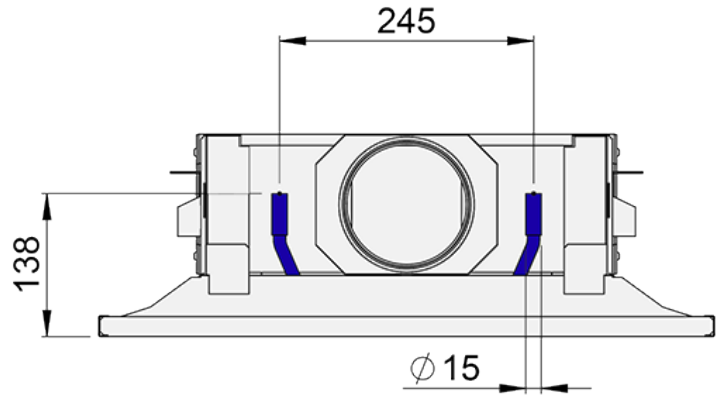


Fig. 8. Model with cooling coil and low water pressure drop (TC=C and CR=L)

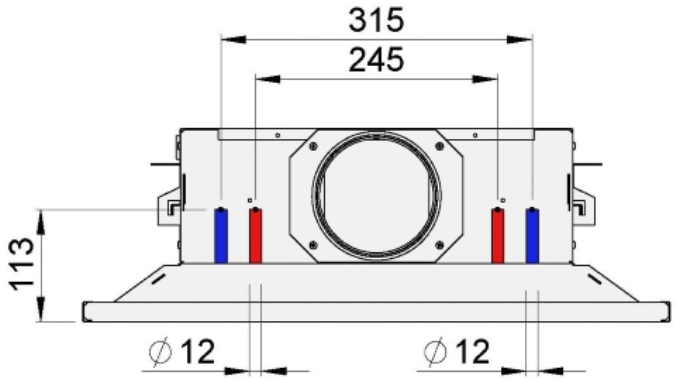


Fig. 9. Model with cooling and heating, and normal water pressure drop (TC=H and CR=N)

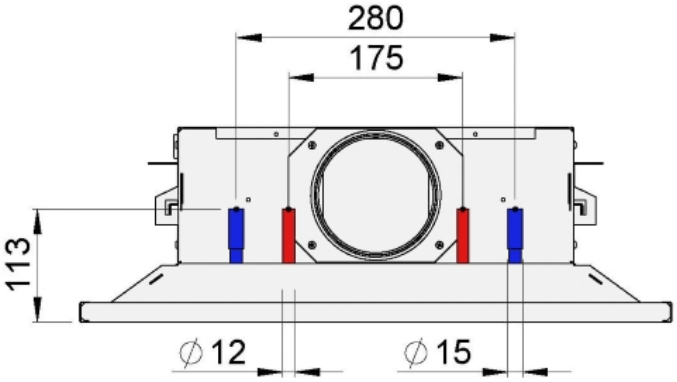


Fig. 10. Model with cooling and heating, and low water pressure drop (TC=H and CR=L)

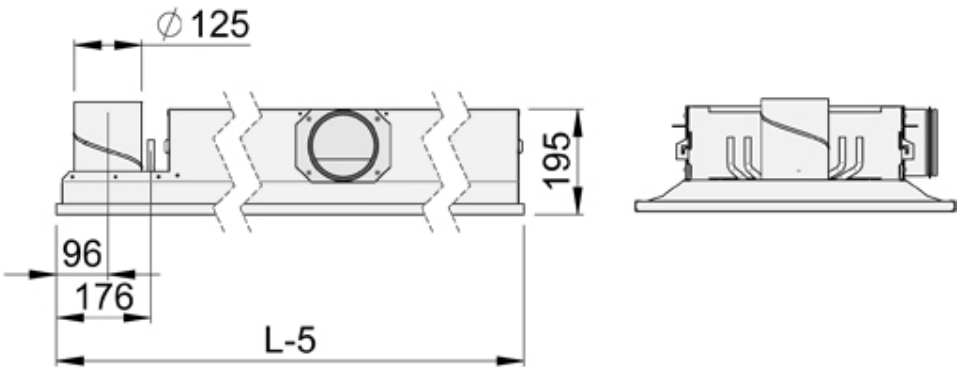


Fig. 11. Model with integrated exhaust (EX=A)

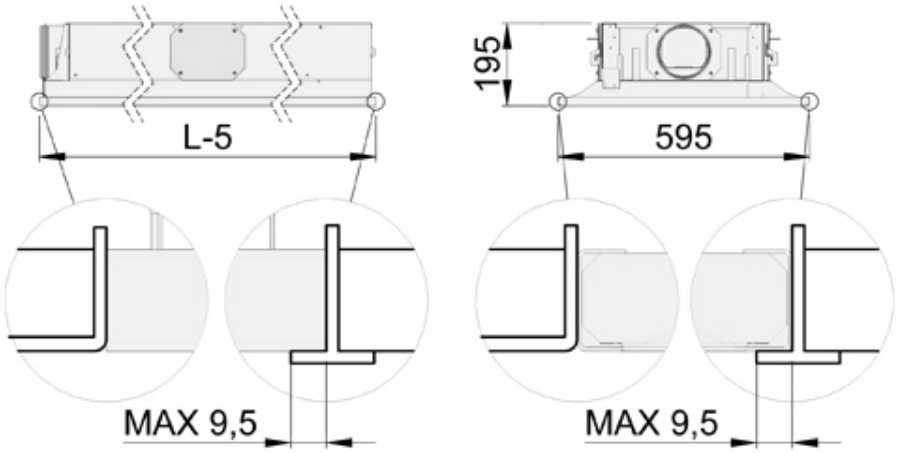


Fig. 12. Integration with suspended ceiling

2.4 Structure and materials

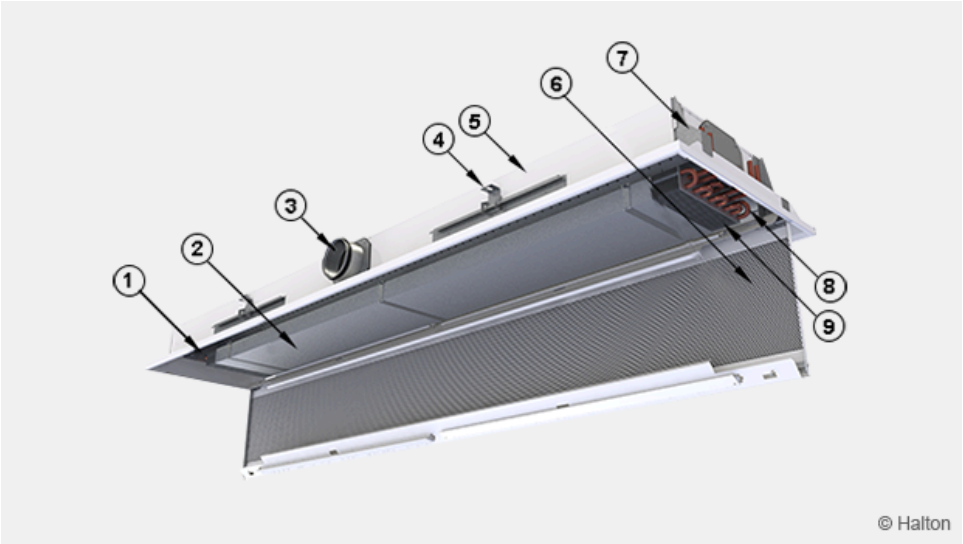


Fig. 13. Halton Rex RE6, chilled beam structure

No.	Part	Material	Description	Note
1	Halton Air Quality control (HAQ)	-	-	-
2	Heat exchanger	-	-	-
3	Supply air plenum	Galvanised steel	-	-
4	Brackets	Galvanised steel	-	-
5	Side plates	Pre-painted galvanised steel	Polyester-painted, white (RAL 9003, 20% gloss)	Special colours available. Polyester-epoxy-painted.
6	Front panel	Pre-painted galvanised steel	Polyester-painted, white (RAL 9003, 20% gloss)	Special colours available. Polyester-epoxy-painted.

No.	Part	Material	Description	Note
7	End plates	Galvanised steel	Polyester-painted, white (RAL 9003, 20% gloss)	Special colours available
8	Coil pipes	Copper	-	-
9	Coil fins	Aluminium	-	-

Cooling/heating water pipe connections are Cu15/Cu12 with wall thickness of 0.9-1.0 mm fulfilling European Standard EN 1057:1996.

The maximum chilled/hot water circuit operating pressure is 1.0 MPa. The supply air duct connection is 125 mm.

2.5 Features and options

Category	Option	Feature	Description
Combined cooling and heating coil	TC = C	Coil with cooling water circulation	Cooling copper water pipe connections are Ø 12 mm with normal pressure drop and Ø 15 mm with low pressure drop. (see "*Dimensions and weight*" section)
	TC = H	Coil with both cooling and heating water circulation	Cooling and heating copper water pipe connections are Ø 12 mm with normal pressure drop. With low pressure drop, cooling water pipe connection is Ø 15 mm and heating Ø 12 mm. (see "*Dimensions and weight*" section)
Halton Air Quality control (HAQ damper)	AQ = MA	Manual operation	-
	AQ = MO	Motorised operation. Power supply: 24 VAC Control signal: 0 ... 10 VDC	-
	AQ = RE	Retrofit	-
Integrated exhaust valve	EX = A	Integrated exhaust valve located in the front end of the chilled beam	Effective coil length L – 500 mm
Adapters for Clip-In ceiling installation	IO = DC	Installation within Clip-In ceiling	Available as tailored solution

Effective coil length

Accessory option	Code	Effective coil length
Without HAQ	AQ=NA	L – 200 mm
With HAQ	AQ=MA, MO, RE	L – 300 mm
Without URH	EX=A	L – 500 mm

Exhaust valve integration

The Halton Rex RE6 chilled beam can be equipped with an integrated exhaust valve, providing air supply and exhaust in the same unit. The integrated exhaust valve decreases the effective length to total length 500 mm (L – 500 mm) (for standard chilled beam L-300 mm).

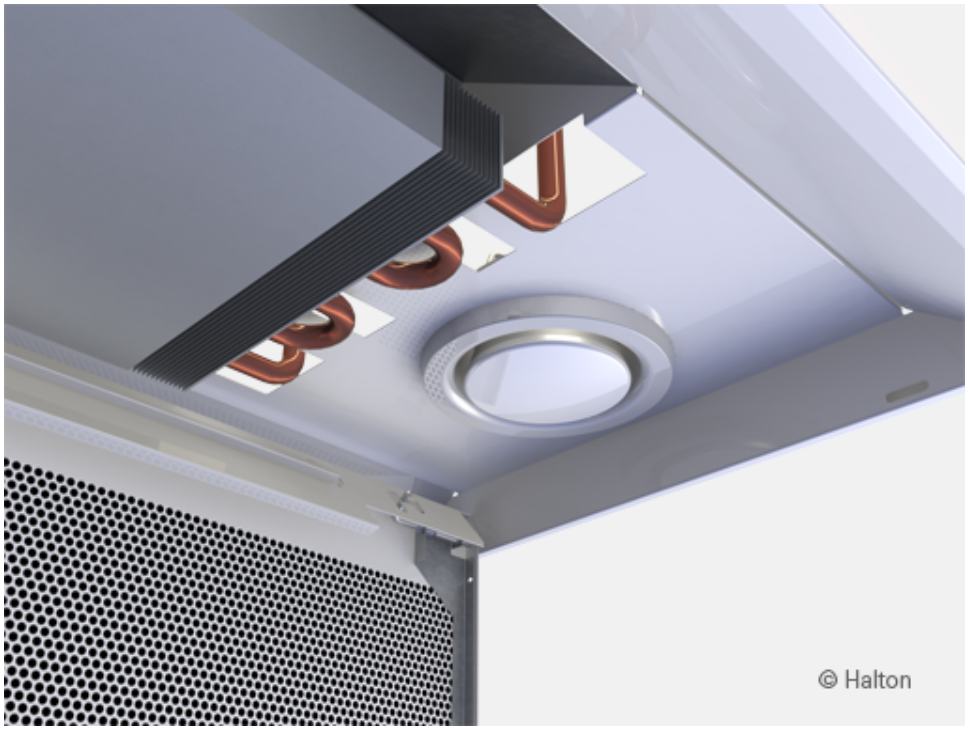


Fig. 14. Halton Rex RE6 with exhaust valve, bottom view

2.6 System package

If required, the system package includes a valve with actuator, controller, humidity sensor, CO_2 sensor, and temperature sensor.

2.6.1 Halton Workplace WRA automation

Halton Workplace WRA room automation system package for Halton Rex RE6.

Halton Workplace WRA is part of the Halton Workplace solution offering.

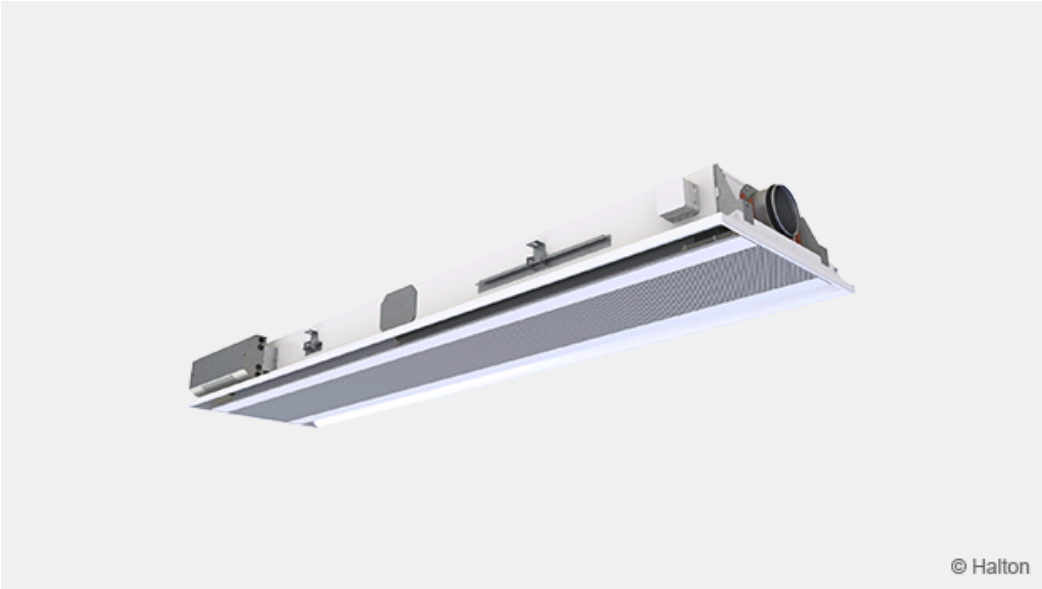


Fig. 15. Halton Workplace WRA room automation controller integrated to Halton Rex RE6 chilled beam

Halton Workplace WRA is a controller specially designed to control the automation system of office spaces and meeting rooms. It controls ventilation airflow, room temperature, and indoor air quality.

Halton Workplace WRA room automation package consists of a controller unit and optional components depending on customer needs: a wall panel and sensors for temperature, CO_2, occupancy, pressure, and condensation.

Depending on the number of controls and sensors required, the controller unit and wall panel are available in options. The Halton Workplace WRA room automation controller is always combined with other Halton products for an adaptable and high-level indoor climate.

2.6.2 Application area

- Controlling the ventilation airflow, room temperature, and indoor air quality in office spaces and meeting rooms
- The Halton Workplace WRA room automation controller is an essential part of the Halton Workplace system, controlling room units and airflow control dampers.
- Overall Halton Workplace system includes the following:
  - Room air conditioning applications with Halton Workplace WRA room automation controller:
    - Active chilled beams
    - Exhaust units
    - VAV dampers
    - Active VAV diffusers
- Halton Max MDC zone control dampers
- Halton Workplace WSO system optimiser

2.6.3 Key features

- Factory-tested controller and wiring, easy to install
- Pre-installed project-specific parameters, quick to commission

- Several operating modes based on occupancy, thermal comfort, and indoor air quality
- Enables fully flexible layout solutions for changing needs in office environments
- Highly energy-efficient and reliable system operation

2.6.4 Operating principle

The Halton Workplace WRA room automation controller operates with the Halton Workplace system's Variable Air Volume (VAV) dampers and active chilled beams. These dampers adjust ventilation airflow, room temperature, and indoor air quality in office spaces.

Each room unit in an office space can have its own dedicated Halton Workplace WRA room automation controller, or a single controller can control multiple room units. The Halton Workplace WRA room automation controller can automatically adjust the system according to users' preferred indoor environment level, bringing maximum flexibility.

Room automation: Halton Rex RE6 active chilled beams controlled with Halton Workplace WRA room automation controllers

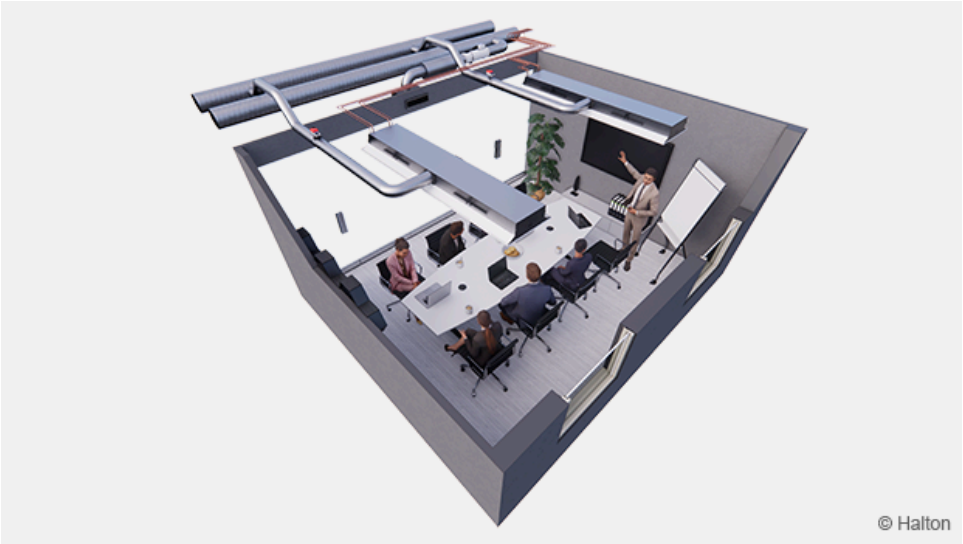


Fig. 16. Halton Rex RE6 active chilled beams with HAQ control and PTS damper, controlled with Halton Workplace WRA room automation controllers

2.6.5 Room automation

In this configuration, two Halton Workplace WRA room automation controllers (DXR2.E12P-102A) control two Halton Rex RE6 active chilled beams. Each Halton Rex RE6 chilled beam has heating and cooling valves, a motorised control, and integrated CO_2 and condensation sensors. Halton Workplace WRA room automation controller has an integrated pressure sensor. The system also includes an exhaust VAV damper and a wall panel (QMX3.P37) with a temperature sensor and display. One Halton Workplace WRA room automation controller can individually control up to four terminal units, and there can be several Halton Workplace WRA room automation controllers in the room.

Design criteria for room automation

- Chilled beam has heating and cooling valves
- Halton Rex RE6 chilled beam has motorised HAQ control
- Condensation, pressure and CO_2 sensor integrated into Halton Rex RE6 chilled beam

- Exhaust airflow control
- External occupancy sensor
- Wall panel with temperature sensor and display
- Window switch control
- Pressure sensor integrated into Halton Workplace WRA room automation controller

Schematic diagram

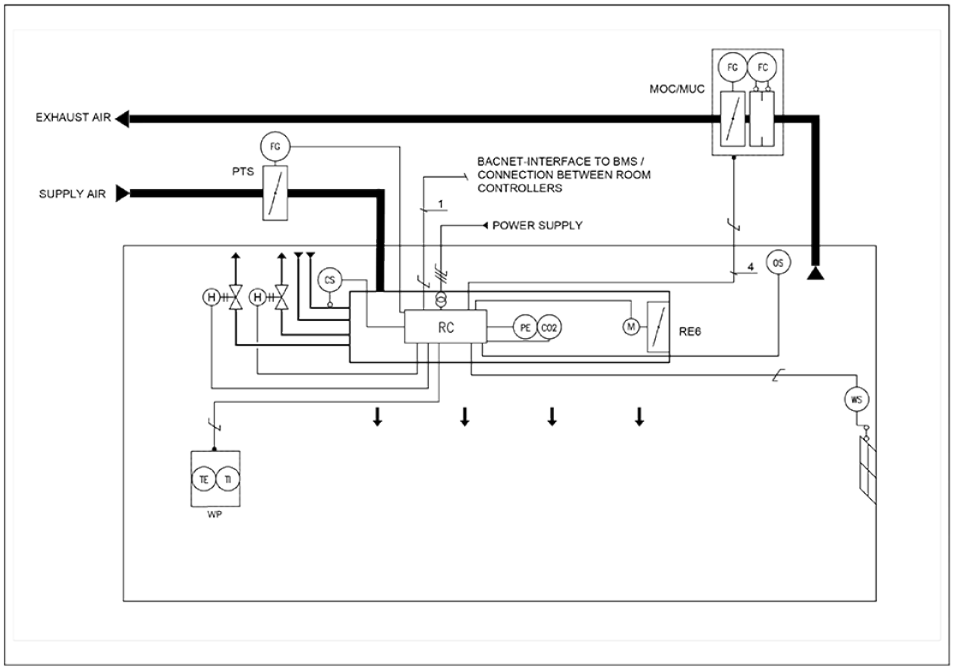


Fig. 17. Schematic drawing: Halton Rex RE6 chilled beam (4-pipe) controlled with Halton Workplace WRA room automation controller

Equipment list

Code	Equipment
RC	Controller unit
FG	Airflow damper actuator
FC	Airflow measurement
H	Water valve actuator
CS	Condensation sensor
OS	Occupancy sensor
PE	Pressure sensor
CO_2	CO_2 sensor
WP	Wall panel
TE	Temperature sensor
TI	Temperature display
WS	Window switch control

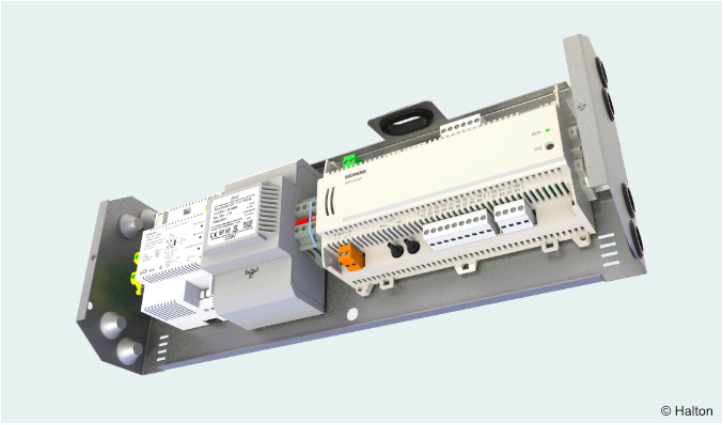


Fig. 18. Factory-installed Halton Workplace WRA room automation controller DXR2.E18-102A

2.6.6 Wiring diagram

For the wiring diagram of this configuration, see the Halton Workplace WRA room automation controller's product page or the section Product selection examples.

Components and order code examples for the system

- 2 x Active chilled beam: Halton Rex RE6
  - RE6-B-2400-2100-R2, SP=N, TC=H, CR=N, AQ=NA, EX=N, CO=SW, ZT=N
- 1 x Exhaust unit: Halton AGC Exhaust grille + Halton PRL Plenum for grilles
  - AGC-N-400-100 FS=CL, ME=A, FI=PN, CO=W, ZT=N + PRL-F-400-100-160
- 1 x VAV damper: Halton Max MUC or Halton Max MOC
  - MUC-G-160, MA=CS
- 2 x Standby, shut-off damper: Halton Rex PTS or Halton Max MOC
  - PTS-A-125, MA=CS, MO=B4, ZT=N
- Automation package: 2 x Halton Workplace WRA room automation controller unit with related components
  - WRA/RE6-E81-H3-EX4, WP=37, LC=NA, SE=CI, SW=NC, ST=IA, SL=OI, PM=P1, TC=H, CV=SP5, RV=NA, ZT=N
- 2 x standby, shut-off damper: Halton PTS

Note: For more information, check Halton Workplace WRA room automation controller's product page.

2.6.7 Cooling and heating water valve selection

Do the water valve selection in the Halton Workplace WRA room automation system package. The water valve sizing depends on the number of secondary and primary chilled beam units that a single controller controls. The whole chilled beam group cooling or heating uses one water value to operate one room controller. The water valve is sized for the whole group when there are multiple chilled beams controlled with a single controller unit. There can be one primary chilled beam with a room controller and up to three secondary chilled beams.

See below the Water valve sizing for 1-4 chilled beams.

Number of chilled beams (pcs.)	Water valve type	Size for cooling (DN)	Size for heating (DN)	Installation
1	ABQM	DN15	DN15	Integrated to chilled beam
2	ABQM	DN20	DN15	Loose
3	ABQM	DN20	DN15	Loose
4	ABQM	DN25	DN15	Loose

Number of chilled beams (pcs.)	Water valve type	Size for cooling (DN)	Size for heating (DN)	Installation
1	VPP46..	DN15	DN15	Loose
2	VPP46..	DN20	DN15	Loose
3	VPP46..	DN20	DN15	Loose
4	VPP46..	DN25	DN15	Loose

2.7 Specification

The active chilled beam has an integral recirculation air path through the perforated front panel. The induced room airflow rate is manually adjustable via three setting positions without influencing the primary air supply flow rate. The airflow rate of the chilled beam is adjustable without plugging or changing the nozzles.

Function

- A supply air unit integrated into the chilled beam allows for wide-range adjustment of the primary airflow rate.
- Adjusting the airflow rate does not affect the induced airflow rate through the coil when static chamber pressure is kept constant (optional).
- The chilled beam unit equipped with a manually adjustable airflow damper shall be able to be retrofitted with a motorised airflow control damper unit.
- Outdoor airflow rate control shall not have any effect on coil cooling and heating capacities.
- The beam with an adjustable airflow rate shall have only one duct connection.
- The appearance of the chilled beams with constant airflow and variable airflow rate shall be the same.
- The air supply to the room space shall be either unidirectional or bi-directional.

Structure

- The front panel shall be openable from either side in order to allow general maintenance and cleaning.
- The front panel shall be removable without any special tools.
- The position of the duct connection can be changeable without the use of any special tools.
- The active chilled beam shall have an airflow adjustment damper as an option and a measurement tap to allow airflow measurement.
- As an option, an exhaust valve shall be integrated into the chilled beam.

Materials

- The active chilled beam shall have an inlet duct diameter of 125 mm.
- The frame, the front, and the side panels are of galvanised steel plates.
- All visible parts shall be white and painted to RAL 9003 (20% gloss).
- All pipes are made of copper and connection pipes with a wall thickness of 0.9-1.0 mm.
- The fins are made of aluminium.
- Two 12/15-mm pipes connected in series shall incorporate cooling within the heat exchanger. Optionally, heating shall also be incorporated within the heat exchanger.
- The pipework's maximum operation pressure is 1.0 MPa.

Packaging and transport

- A removable plastic coating shall protect active chilled beams and individually wrapped in plastic.
- The duct connection and pipe ends shall remain sealed during transport.
- Labels attached to both the active chilled beam and the plastic packaging shall identify the beams.

2.8 Order code

RE6-S-L-C-E; SP-TC-CR-AQ-EX-CO-ZT

Main options	
S = Nozzle type	
A	Extra small
B	Small
C	Medium
D	Large
E	Extra large
L = Beam length [mm]	1200,+100,..,3600 (and 1720)
C = Effective/coil length [mm]	900,+100,..,3400 (See the table in "Features and options" section for effective length of coil with different accessories and product options)
E = Duct connection [mm]	
R2	Right (Ø125)
L2	Left (Ø125)
S2	Straight (Ø125)

Other options and accessories	
SP = System package	

Other options and accessories	
N	No
Y	Yes
TC = Cooling/Heating functions (coil type)	
C	Cooling
H	Cooling and heating
CR = Coil water pressure drop	
N	Normal pressure
L	Low pressure
AQ = Air quality control (HAQ)	
MA	Manual (CAV)
MO	Motorised (VAV)
RE	Retrofit possibility
NA	Not assigned
EX = Exhaust	
N	No
A	Integrated exhaust valve (URH)
CO = Colour	
SW	Signal white (RAL 9003)
X	Special colour (RAL xxxx)
ZT = Tailored product	
N	No
Y	Yes (ETO)

Sub-products	
System package	Halton Workplace WRA
Room exhaust VAV damper	Halton Max MOC
Room exhaust VAV damper	Halton Max MUC

Order code example
RE6-A-3000-2700-R2, SP=N, TC=C, CR=N, AQ=NA, EX=N, CO=SW, ZT=N

3 Design information

3.1 Installation

The Halton Rex RE6 adaptable chilled beam is suitable for suspended ceiling mounting. When selecting of the chilled beam orientation, the location of the supply air and water circuit connections are taken into account.

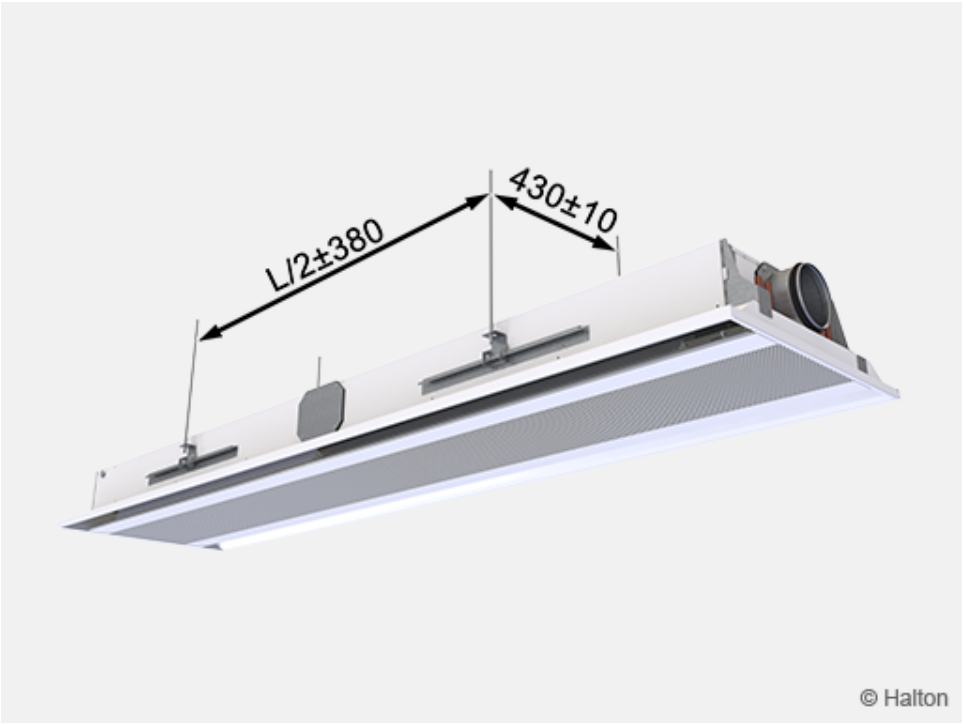


Fig. 19. Halton Rex RE6 installation dimensions

The chilled beam can be attached directly to the ceiling surface (H1 = 195 mm) or suspended using threaded drop rods (8 mm). Each beam is equipped with movable brackets fixed to both sides of the beam. It is recommended that the brackets be positioned one quarter of the unit length (L/4) away from the end of the beam.

Install the main pipelines of the cooling and heating water circuits above the level of the chilled beam in order to enable venting of the pipework.

The duct connection is at the same end of the chilled beam as the pipe connections. Relocation of the duct connection to either side of the chilled beam can be done easily on-site by using a screw driver.

Duct installation of the exhaust valve

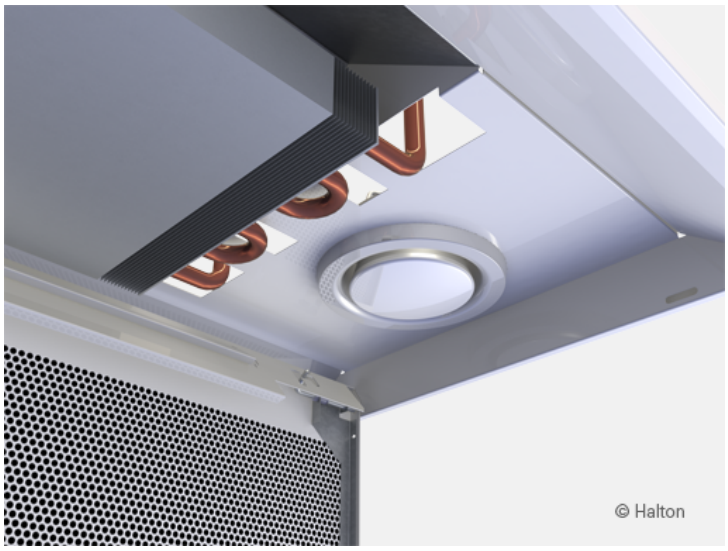


Fig. 20. Halton Rex RE6 with exhaust valve, bottom view

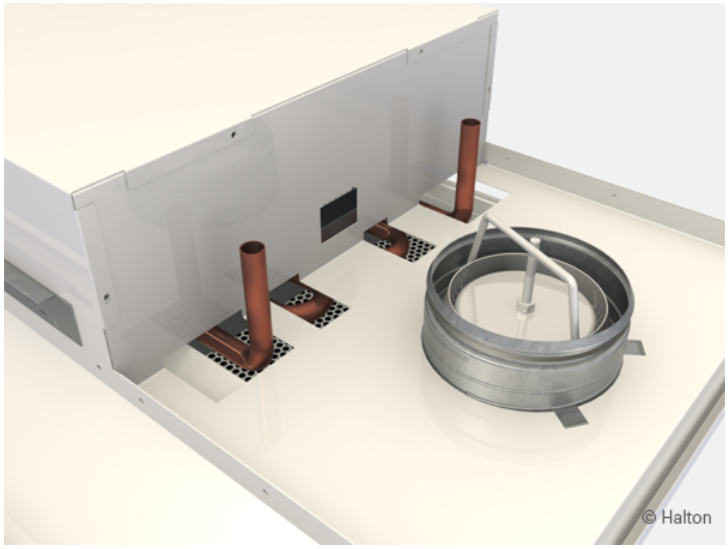


Fig. 21. Halton Rex RE6 with exhaust valve, top view

Replacing manual HAQ with motorised HAQ

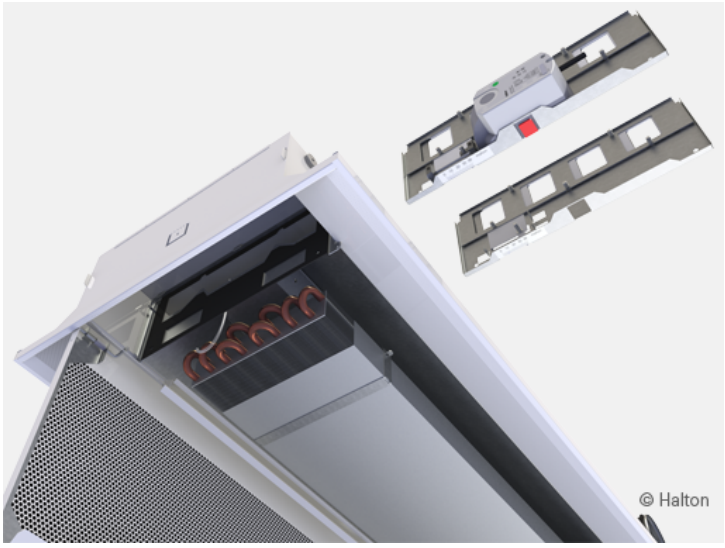


Fig. 22. Halton Rex RE6, HAQ replacement

Power supply: 24 VAC. Control signal: 0 ... 10 VDC

3.2 Commissioning

Cooling

The recommended cooling water mass flow rate is 0.02 – 0.10 kg/s, resulting in a temperature rise of 1 – 4 °C in the heat exchanger. To avoid condensation, the recommended inlet water temperature of the heat exchanger is 14 – 16 °C.

Heating

The recommended heating water mass flow rate is 0.01 – 0.04 kg/s, resulting in a temperature drop of 5 – 15 °C in the heat exchanger. The maximum temperature of the inlet water for the heat exchanger is 35 °C.

Balancing and control of water flow rates

Balance the water flow rates of the chilled beam with adjustment valves installed on the outlet side of the cooling and heating water loops. The cooling capacity and heating capacity of the chilled beam are controlled by regulating the water mass flow rate. The water mass flow rate can be controlled by using an ON/OFF valve or a two- or three-way proportional valve.

Adjustment of supply airflow rate

Connect a manometer in the measurement tap and measure the static pressure in the chilled beam. The airflow rate is calculated according to the formula below.

Total airflow rate (q_v)

$$q_v = q_{v1} + q_{v2}$$

q_v	Total airflow rate, l/s or m^3/h
q_{v1}	Nozzle jet airflow rate, l/s or m^3/h
q_{v2}	Air quality control diffuser airflow rate, l/s or m^3/h

Nozzle jet airflow rate (q_{v1})

$$q_{v1} = k * l_{eff} * \sqrt{\Delta p_m}$$

l_{eff}	Length of the coil [m]
Δp_m	Measured static chamber pressure [Pa]

Nozzle	k [l/s]	k [m^3/h]
A	0.71	2,56
B	0.99	3,56
C	1.36	4,90
D	2.09	7,52
E	3,33	11,99

Air quality control diffuser airflow rate (q_{v2})

$$q_{v2} = a * k * \sqrt{\Delta p_m}$$

a	HAQ position
$\sqrt{\Delta p_m}$	Measured static chamber pressure [Pa]

k [l/s]	k [m^3/h]
0,17	0,61

3.2.1 Adjustment of the airflow in constant airflow applications

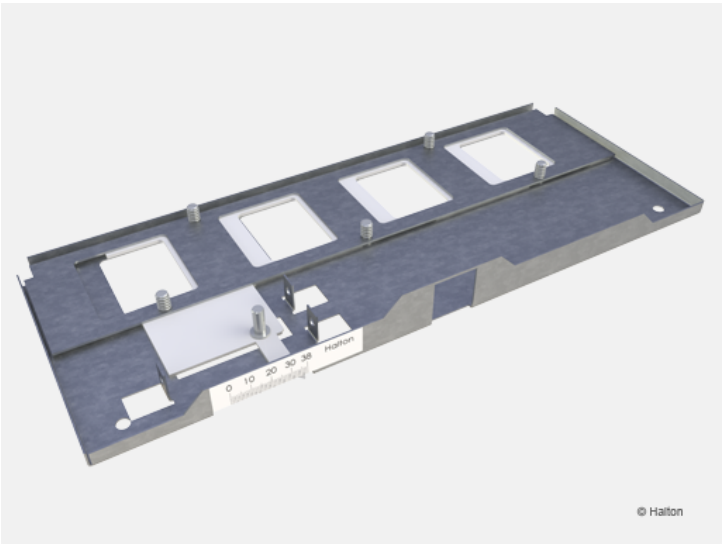


Fig. 23. Manual Halton Air Quality (HAQ)

Define the position of HAQ in millimetres that correspond to airflow rate at the actual chamber pressure level.

Adjustment of HAQ is done manually with the help of position scale by adjusting the opening of the unit. It is possible to verify the opening in millimetres on the position scale.

In order to ensure accurate adjustment it is recommended to adjust HAQ-position and in the same time read the targeted chamber pressure using a manometer.

It is also possible to remove the HAQ-unit from the frame by opening two knurled-head screws (4) for the adjustment.

3.2.2 Adjustment of the airflow range in variable airflow applications

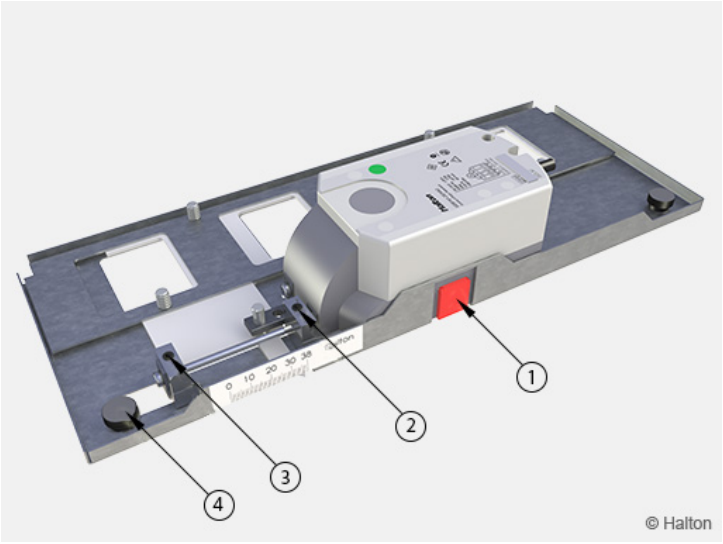


Fig. 24. Motorised Halton Air Quality (HAQ)

Key:

No.	Parts
1	Release of the actuator
2	Restriction of the max. opening
3	Restriction of the min. opening
4	Knurled head screw (2 pcs)

Switch-off the power supply of the actuator.

Disengage the actuator gear into manual override position by releasing the knob.

Define the maximum and minimum positions, in millimetres that correspond to maximum and minimum airflow rates at the actual chamber pressure level.The maximum and minimum positions are adjusted with two hexagonal socket set screws (see image above, points 2 and 3). It is possible to verify the opening in millimetres on the position scale.

Switch on the power supply (24 V_{AC}) of the actuator. The actuator calibrates the min. and max. positions automatically according to the set limits.

The actuator can be controlled from this point on by using a 0...10V_{DC} control signal. (0 V_{DC} = min. position, 10 V_{DC} = max. position).

It is also possible to remove the HAQ-unit from the frame by opening two knurled-head screws (4) for the adjustment.

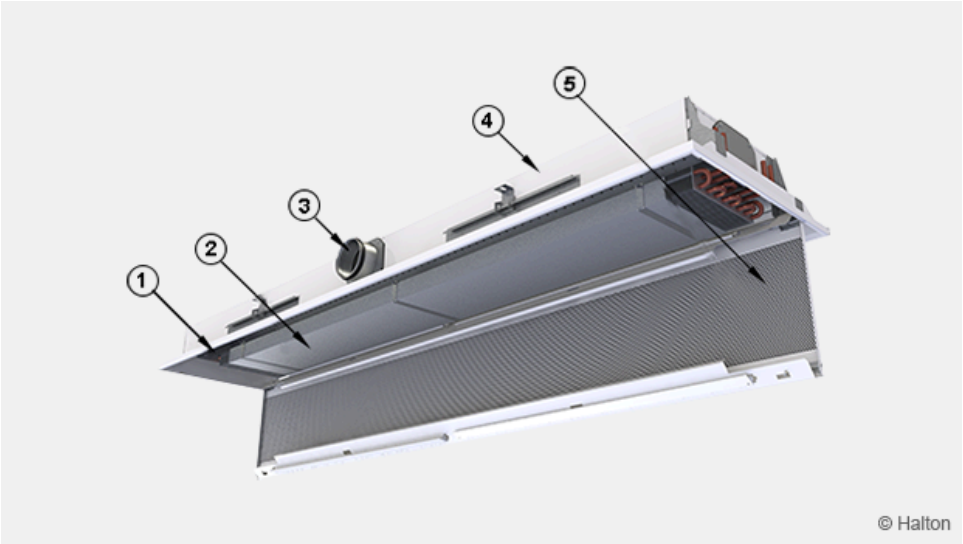
3.2.3 Adjustment of exhaust airflow rate

The valve is adjusted by rotating the central cone. Measure (A) the opening position (in mm) of the central cone. There is a special tool available from Halton for accurate opening position measurement. Set a pressure probe inside the valve, and measure the differential pressure with a manometer. The airflow rate is calculated using the formula below, using k factors presented in the table. After the adjustment, lock the central cone with the locking nut.

$$q_v = k * \sqrt{\Delta p_m}$$

URH 125	
A	B
-15	0,65
-12	0,92
-9	1,22
-6	1,53
-3	1,84
0	2,17
3	2,52
6	2,83
9	3,14
12	3,46
15	3,77

3.3 Maintenance



No.	Parts
1	Halton Air Quality control (HAQ)
2	Heat exchanger
3	Supply air connection
4	Side plate
5	Front panel

Open the front panel of the supply air plenum, the ductwork, and the heat exchanger. In beams longer than 2400 mm, the front panel can be opened in two sections.

Clean the supply air plenum and finned coils of the heat exchanger with a vacuum cleaner, taking care not to damage the finned coils.

Clean the front panel and, if required, the side plates, using a damp cloth.

The Halton Air Quality control unit (HAQ) is removable for chamber cleaning. Unscrew the screws for removing the HAQ.