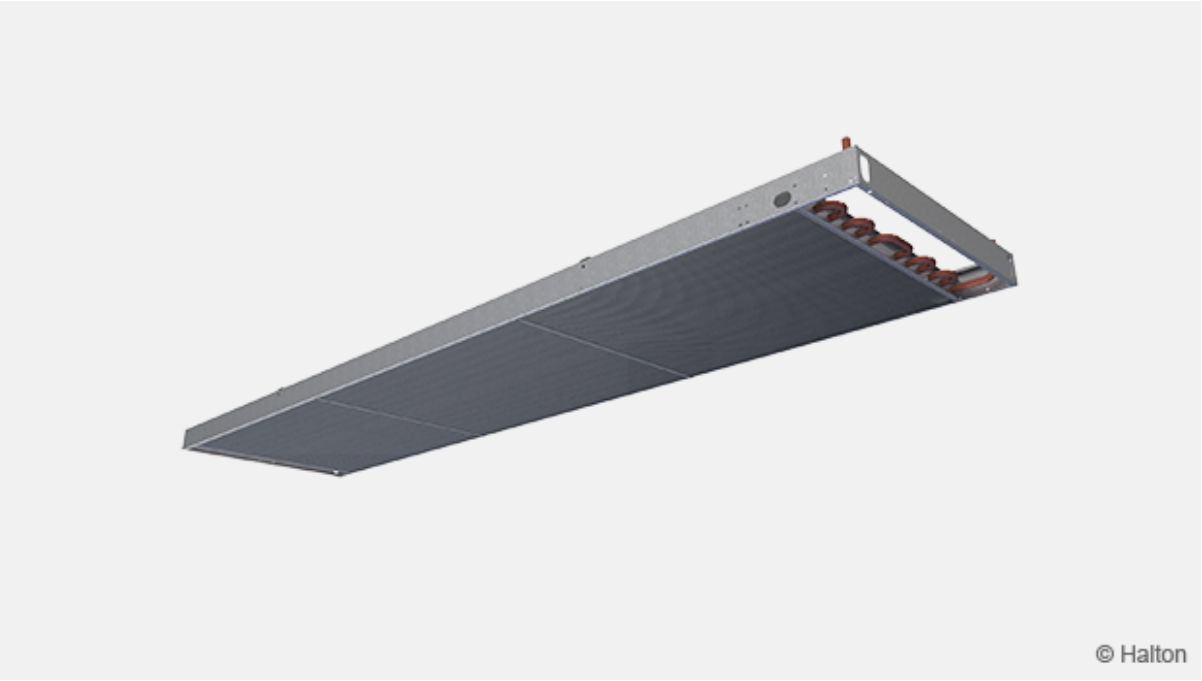
Halton CPT – Passive chilled beam

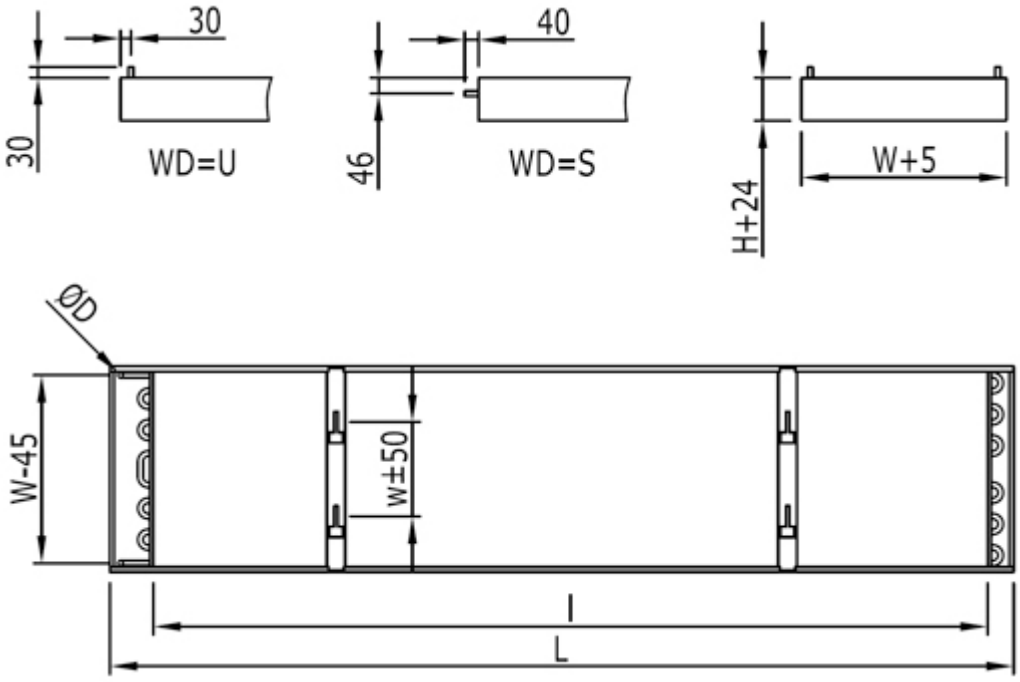


Overview

- Ceiling-mounted passive chilled beam
- Installation above an open grid or perforated ceiling
- Quiet operation
- No moving parts
- Well suited for spaces with high cooling loads, low humidity load and low ventilation requirements
- Ideal for a wide range of buildings where high quality environmental conditions and individual room control are required
- Typical applications: offices, conference rooms and retail facilities
- three different heights of the units to meet cooling capacity requirements

Halton is specialised for customized products to meet special demands in projects. Possibilities for special sizes and different kind of integrations.

Dimensions and weight



WD = Location of pipe connections
U Front end
S On top

W	H	w	L	l (without valves)	l (with valves)
315	100	136	1200-5000	L-200	L-300
450	100	204	1200-5000	L-200	L-300
585	100	271	1200-5000	L-200	L-300
315	200	136	1200-5000	L-200	L-300
450	200	204	1200-5000	L-200	L-300
585	200	271	1200-5000	L-200	L-300
315	300	136	1200-5000	L-200	L-300
450	300	204	1200-5000	L-200	L-300
585	300	271	1200-5000	L-200	L-300

A coil with 1 loop has a connection pipe ØD 15 mm and 2 loops has a connection pipe ØD 22 mm.

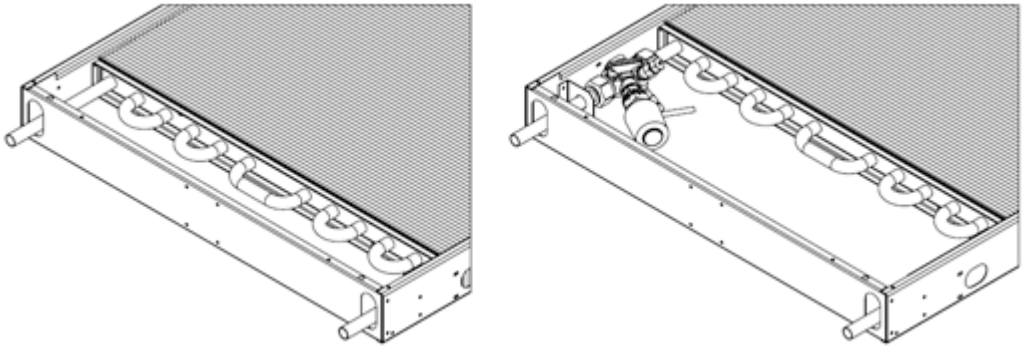


Fig.1. Optionality factory-fitted valve

Weights kg/m (including water)

Width (mm)	Heigth (100-300)
315	8,3 (8,5)
450	10.8 (11.9)
585	12.7 (14.1)

Due to fabric skirts the weight difference between different heights is not remarcable.

Material

Part	Material	Note
Side panels	Sheet metal	Unpainted
Cooling pipes	Copper	Diameter 15 mm
Cooling fins	Aluminium	
Skirt textile	Fireproof polyester	Fulfils PES FR

Accessories

Accessory	Code	Note
Pipe connection, straight in the end	WD=S	
Pipe connection, at the top	WD=U	
Factory-fitted control valve	CV =	See Product Code page

Other options by requesting Halton customer service.

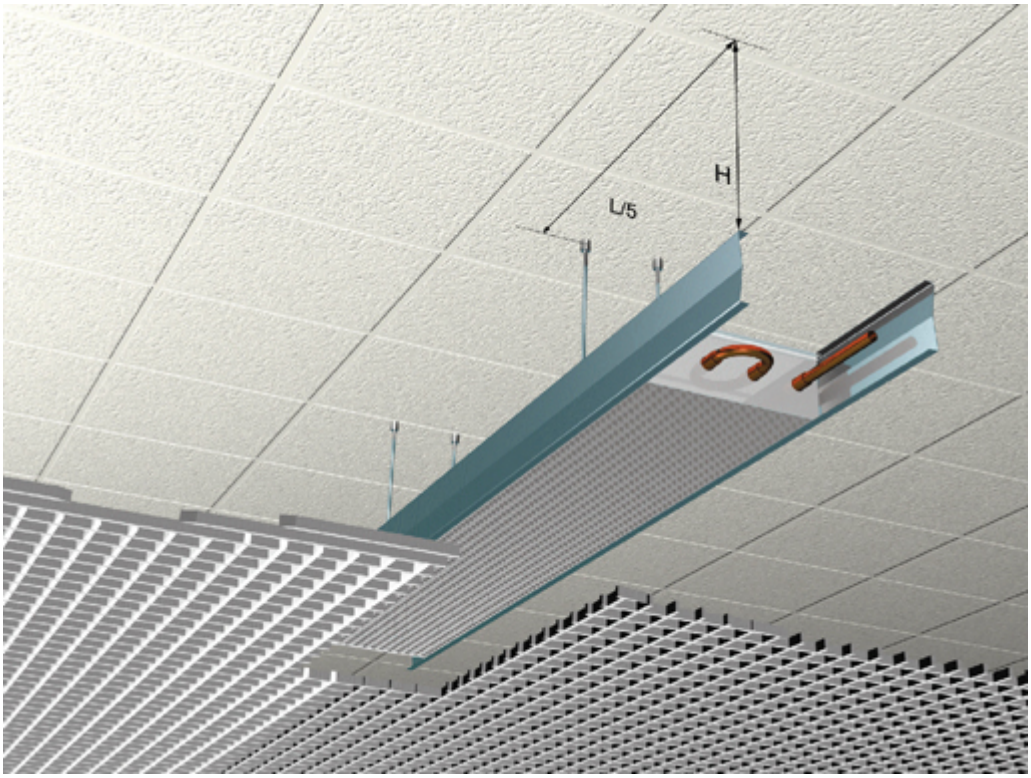
Function

The beam operates by natural convection, removing the heat load from the room and replacing it with a cooling airflow. The convective airflow (output) increases or decreases in proportion with the heat load within the occupied zone, securing an optimal thermal comfort.

Varying sensible cooling output requirements are met by regulating the flow of chilled water through the beam heat exchanger. This is controlled by a combination of room thermostat and water valve. Operating at elevated chilled water temperatures (to avoid latent cooling), the opportunities for free-cooling are significant.

Halton CPT can be supplied with skirts where are 3 different heights to meet cooling capacity requirements.

Installation



The chilled beam Halton CPT is installed above an open grid or perforated ceiling.
In order to ensure effective convection, the beam should be mounted at a minimum distance from the ceiling equal to 0.25 x the width of the beam, when installed away from wall surfaces, or 0.5 x beam width when installed close to partition walls.

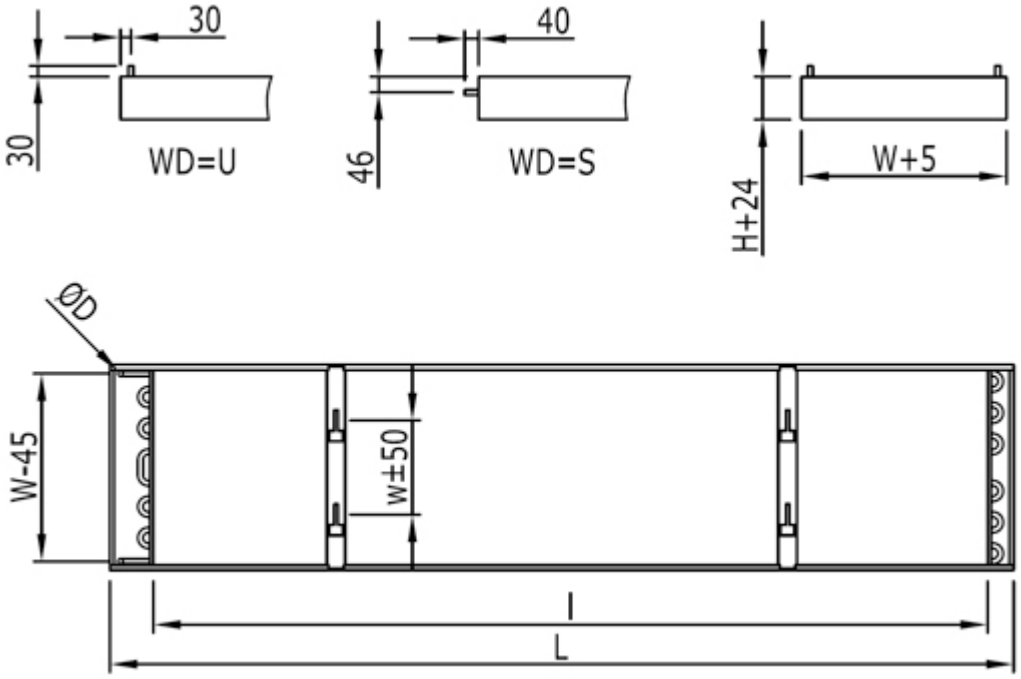
Each chilled beam is fixed to the ceiling with expansion anchors and threaded drop rods (not included in the delivery). Four assembly brackets are fixed one fifth of the unit length (L/5) away from the end of the beam. There will be six assembly brackets with beam length ³ 3500.

The exact positions of the brackets are adjusted according to the rod position.
The chilled beam position can be easily adjusted both horizontally and vertically. Assembly

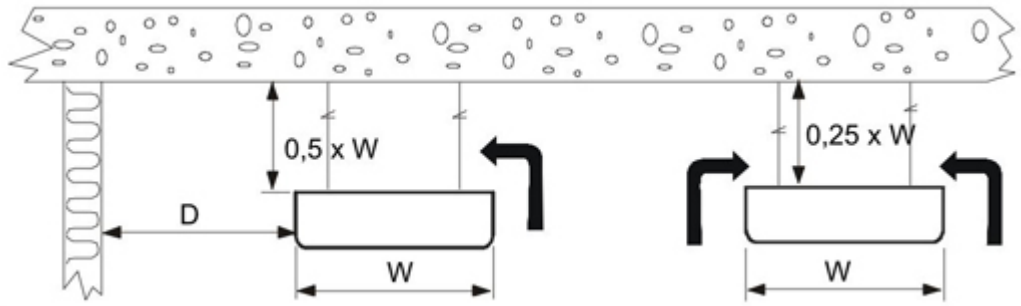
brackets are supplied as standard in the package.

The contractor shall supply threaded rods and expansion anchors.

Distance between suspension rods



Distance from the ceiling



D = distance wall; up to 1 x W

Adjustment

Commissioning of the chilled beam system is carried out following standard practice:

- Fill up and flush the main pipelines
- Fill up and vent the beam circuits
- Adjust the flow water temperature set point
- Adjust the water flow rates with the balancing valves for all main pipelines

- Adjust the water flow rates in all chilled beams to correct values.

Servicing

The Halton CPT chilled beam requires little maintenance.

It may be necessary to clean the cooling coils in every three to five years, depending on room conditions and air quality. The cooling coils can normally be cleaned using a vacuum cleaner.

Specification

Output/capacity	90 – 550 W/m
Length	1000, +100, .., 5000 mm
Width	315, 450 and 585 mm

The heat exchanger is constructed from aluminium fins and copper pipes with a nominal outside diameter of 15 mm.

The maximum chilled water pipe work operating pressure is 1.0 MPa. All joints are fully soldered and factory pressure tested.

Order Code

CPT-L-W-NW-H;CO-WD-CV-ZT

L = Length (mm)
1200,+100,..., 5000

W = Width (mm)
315, 450, 585

NW = Number of water loops
1, 2

H = Height
100, 200, 300

Other options and accessories

CO = Colour

N	No painting
B	Black (RAL 9005, 20%)

WD = Location of pipe connection
S Front end
U On top

CV = Control valve
N No
A1 Adjust. kv value, factory mounted, no actuator
A3 Adjust. kv value, factory mounted, 24-V actuator
A5 Adjust. kv value, factory mounted, 230-V actuator
A7 Constant-flow-mounted, no actuator
A9 Constant-flow-mounted, 24-V actuator
A11 Constant-flow-mounted, 230-V actuator

ZT = Tailored product
N No
Y Yes (ETO)

Code example

CPT-2200-585-1-100, CO=N, WD=S, CV=N, ZT=N