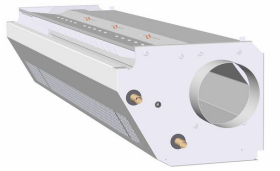
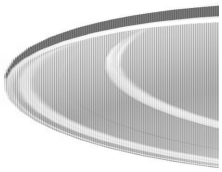
TROX® TECHNIK
Auranor




SVALBARD-H

CHILLED BEAM FOR CORNER INSTALLATION BETWEEN WALL AND CEILING

- Available in 1200mm to 3000mm lengths
- Adjustable pressure/air flow rate
- Adjustable flow pattern
- Dimensioning and simulation in AURASIM.

APPLICATION

Svalbard-H is a hydronic cooling, heating and ventilation system for use in offices, shops, schools etc. The system is designed to provide excellent cooling effect, and a high induction level ensures a draft-free environment

in the occupied zone. Svalbard-H is made for corner installation, i.e. between wall and ceiling.

DESIGN

- • Nozzle configuration for the chilled beam, i.e. desired air supply and pressure, is specified at time of order.
  - • Svalbard-H comes with integrated air flow rate measuring point.
  - • The front panel can be folded down for inspection and cleaning.
  - • Svalbard-H is available in installation lengths of 1200, 1800, 2400 and 3000 mm.
  - • Coil types: SKB = standard cooling coil or VKB heating and cooling coil.

- Dispersion type: unidirectional
- Connection to air: Ø125 mm (spigot dimension).
- Connection to air and water on same side
- Connection to water, cooling and heating: Cu Ø15x1.0 mm
- Changeable flowpattern via Jet Split lamellaes in the beams outlet.
- Blind cover can be provided for adaptation to the wall. See Figure 9.

DESCRIPTION

MATERIAL AND SURFACE COATING
Frame and casing in galvanised steel. Delivered in a powdered painted finish (white RAL 9003 - gloss 30) as standard. Copper tube coils with aluminium lamellae. Adjustable lamellae are in a plastic design.

INSTALLATION

SVALBARD-H

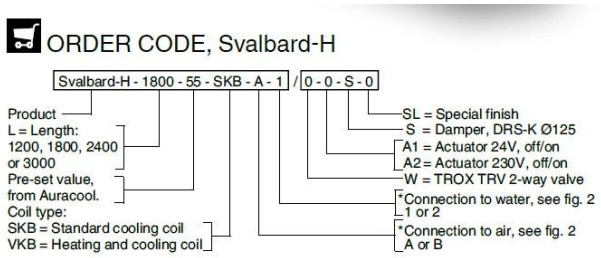
Svalbard-H is supplied with a mounting bar for attachment to wall, and to which the chilled beam is then attached.

Detailed installation instructions is to be found on our website: www.trox.no

WATER VALVE

The water valve is to be installed on the return (chilled water out), and with the water-valve arrow pointing away from the cooling coil(the various connection options are shown in fig. 8).

TECHNICAL INFORMATION



Example:
Svalbard-H-1800-55-SKB-A-1/0-0-S-0
Explanation:
Svalbard-H, corner beam, length 1800 w/ pre-set value 55 and standard cooling coil
Connection to air A and water 1.
Commissioning damper DRS-K Ø125 supplied separately.
Connection to air and water on same side as standard, A-1or B-2.

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QUICK SELECTION, Svalbard-H

The tables state the cooling effect from the chilled beam's water circuit and the emitted sound power level from the beam.
In order to calculate total cooling effect, the cooling effect of the supply air must be added as shown in the example below.

Example			
Product:	Svalbard-H1800		
Battery type:	Standard	Water-side cooling effect at 40 Pa as per table 3 =	310 W
Air flow rate:	80 m³/h	Supply-air cooling effect: $q/3600 \times 1{,}2 \times c_p \times \Delta t_{room-supply\ air}$ =	
$\Delta t_{room-water}$:	10°C	80/3600 x 1,2 x 1010 x 6 =	160 W
$\Delta t_{room-supply\ air}$:	6°C	Total cooling effect =	470 W

Svabard-H-1200 mm

Δt_k [°C]		6		8		10		L_{wa} dB(A)	
Total pressure in duct [Pa]		40	80	40	80	40	80	40Pa	80 Pa
Air flow rate [m³/h]	40	110	130	150	170	180	210	23	32
	50	120	140	160	190	200	230	27	33
	60	120	150	170	200	210	240	30	35
	70	130	150	180	200	220	250	32	36
	80	140	160	190	210	230	260	34	38

Table 2: Cooling effects at 0.06 litres of water per sec

Svabard-H-1800 mm

Δt_k [°C]		6		8		10		L_{wa} dB(A)	
Total pressure in duct [Pa]		40	80	40	80	40	80	40Pa	80 Pa
Air flow rate [m³/h]	40	150	160	200	220	240	270	21	29
	60	170	190	220	250	270	310	26	32
	80	180	210	250	290	310	360	29	34
	100	200	230	270	310	330	380	32	37
	120	210	240	280	320	350	400	34	40

Table 3: Cooling effects at 0.06 litres of water per sec

Svabard-H-2400 mm

Δt_k [°C]		6		8		10		L_{wa} dB(A)	
Total pressure in duct [Pa]		40	80	40	80	40	80	40Pa	80 Pa
Air flow rate [m³/h]	60	200	230	270	300	340	370	22	29
	80	220	250	295	330	370	410	26	32
	100	240	270	320	360	400	450	29	35
	120	250	290	335	385	420	480	31	37
	140	260	300	350	400	440	500	33	39

Table 4: Cooling effects at 0.06 litres of water per sec

Svabard-H-3000 mm

Δt_k [°C]		6		8		10		L_{wa} dB(A)	
Total pressure in duct [Pa]		40	80	40	80	40	80	40Pa	80 Pa
Air flow rate [m³/h]	60	230	240	310	330	390	420	21	29
	80	250	270	340	380	430	480	23	31
	100	270	310	370	420	480	520	26	34
	130	300	340	400	450	500	560	30	37
	160	320	360	430	480	530	600	33	39

Table 5: Cooling effects at 0.06 litres of water per sec

The supply air is supplied via nozzles that draw room air through the battery. Effective mixing of room air and supply air, i.e. induction, reduces the risk of draughts in the occupied zone. When Svalbard-I is to heat a room, the same technique is used to supply heat along the ceiling. The secondary air is sucked into the perforation on the underside of the baffle with the result that soiling of the roof is avoided.