

Lindab **Professor XP**

Active chilled beam

Installation instructions



Installation instruction

Professor XP

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1.2 Symbols



Hot water



Heavy Load - 2 man job -
It is recommended to use
a "lift" for mounting.



Cold water



Hand-pull

2. Control of delivery

2.1 Before starting

Read through the entire installation instruction before commencing installation in order to determine which parts that needs to be performed and in what order to be done.

Lindab is a supplier of complete water products, but we offer also a wide range of accessories which suit perfectly to our water products simplifying your installation work, e.g. different type of hangers, push fittings, closing valves, thermostatic valves and actuators, flexible hoses, customized regulation components, customized cabling and more. See also the separate document "[Accessories](#)."

Lindab will also provide you with a full ventilation system, with a wide range of Lindab Safe components. See also "Air Duct Systems."

2.2 Safe operation

Beware of sharp edges, especially of the coils. Always wear thin gloves and protective clothing.

All existing safety regulations must be observed when working with Lindab water products. Check the weights of the beams or the panels with the installation instruction before carrying.

2.3 Receipt of goods

Start by checking that the delivery is complete according to the order and that everything listed on the consignment note has been delivered. Then carry out a review of the products and make sure that nothing was damaged during transportation. If you discover damage that has occurred during delivery, it must be notified immediately.

Lindab is not responsible for costs associated with the replacement of products, that have been installed in any way other than shown in these installation instructions.

2.4 Unloading of goods

The beams and panels are normally delivered packed on wooden pallets. Lift the pallets carefully with a fork lift and place them on a dry and plain surface/ground. If the beams are delivered in single boxes, wooden blocks should be placed on the ground at one-metre intervals (or a pallet), before the boxes are been placed to store. Lindabs water products must be stored on a plane surface in a dry and well ventilated place, preferably indoors. If they have to be stored outdoors, protect them with a waterproof cover and store them protected from rain beneath a roof or other until they are fitted.

2.5 Handling / Carrying

The beam or panel must be handled with care, ensuring that it will not be scratched or bended during transportation, preparation and installation.

Always carry the beams or panels piecewise into the building. Keep the product in the package as long as you can.

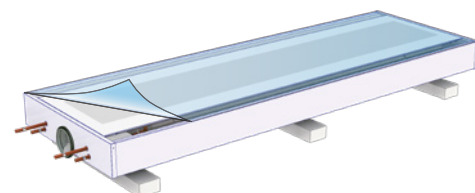
Never use piping connections or edges to lift them, neither when you unpack them nor when you carry them towards the construction site.



Do not place the product directly on the floor. Use the protective corners from package or other clean means from package to place the product before installation.

Be careful if you must carry a long panel horizontally; if the panels are bended lengthwise, the profiles may be deformed and the piping could loosen from the panel. When opening the box with a knife, be careful not to damage the product.

Each beam is equipped with protective film to avoid any damage during transportation and handling on building site. The film needs to be removed before commissioning the products.



Installation instruction

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2.6 Tools

To install the beam, panel or facade unit, the following tools are required.



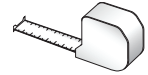
Knife



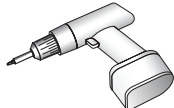
Gloves



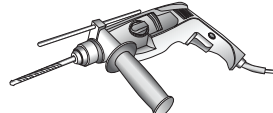
Shoes with soft soles



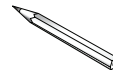
Tape measure



Drill machine



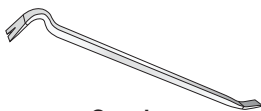
Percussion drill



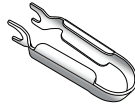
Pencil



Spanner



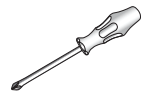
Crowbar



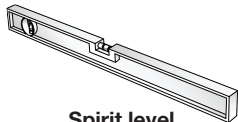
Tectite tool 12mm
(Order no: 884087)



Tectite tool small 12mm
(Order no: 646881)



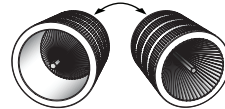
Screwdriver



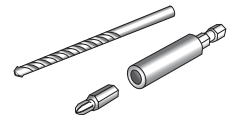
Spirit level



Lindab PC410
(Order no: 103344)



Deburring tool



Bits and drills



Vacuum cleaner



Dust-cleaner

2.7 Installation

It is important to use the correct hangers and the recommended amount for all installation principles. Different possible installation principles are shown in the installation instruction and hangers from Lindab should be used to ensure, that they are intended for the purpose and are safe to use.

Lindab's water products can be ordered, to be adapted to a wide range of different ceiling systems, please check installation instruction to ensure best adaptation.

The Lindab water products should always be installed separately hanged up from the recessed ceiling. The weight of the product should not be covered by the ceiling system.

Use plastic folio or other to protect the product during on site construction continually to keep the products in best condition and avoid any scratches.

2.8 Where to find additional instructions or technical documentation

In the following chapters we will refer to additional technical documents or/and instructions by a certain keyword written as a link.

You can also find relevant related documents with our Lindab Quick selection tool:

1. Visit www.lindQST.com
2. Select "documentation"
3. Select product
4. Find relevant documents under "Related documents"

2.9 Cleaning after assembly / before commissioning

Please remember to remove plastic folio and other protection material before commissioning and clean the product before hand over.

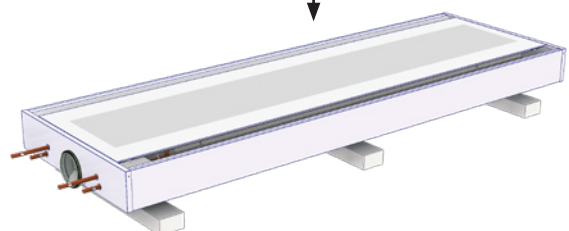
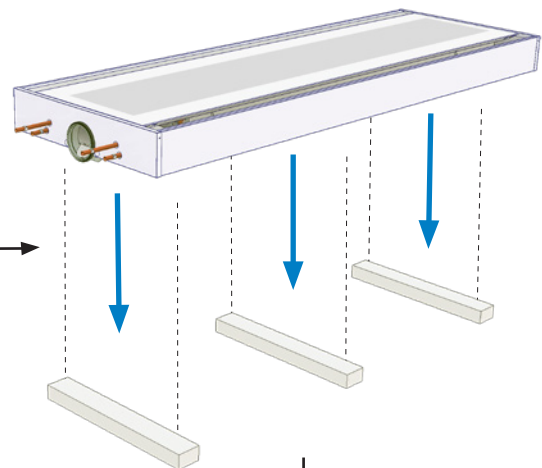
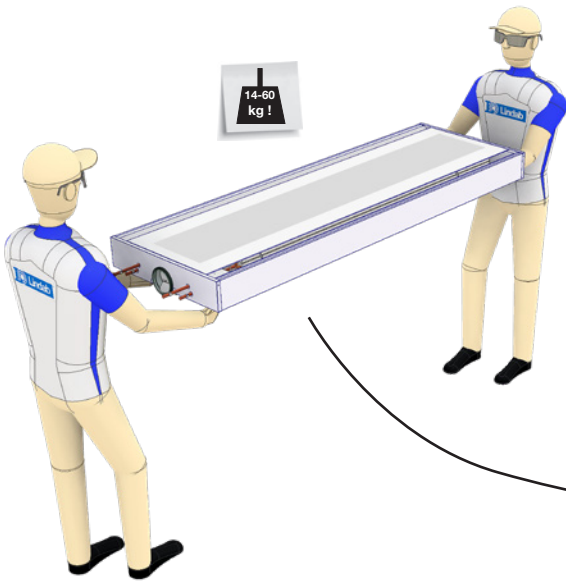
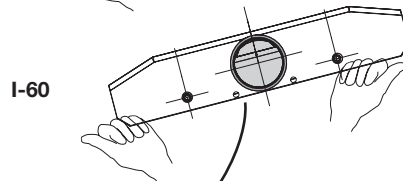
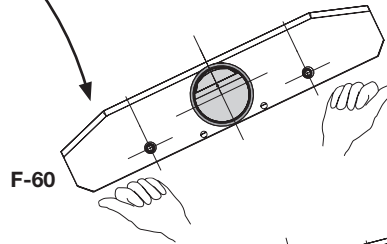
Installation instruction

Professor XP

2.10 Packing, unpacking guideline



! Never use water pipe connections for lifting



Installation instruction

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2.11 Product labelling

Order : xx-xxxxx

Pos : xx

PRO X-XX-12-xX100-xx-xxxx-x.x-xx-xx x.X m

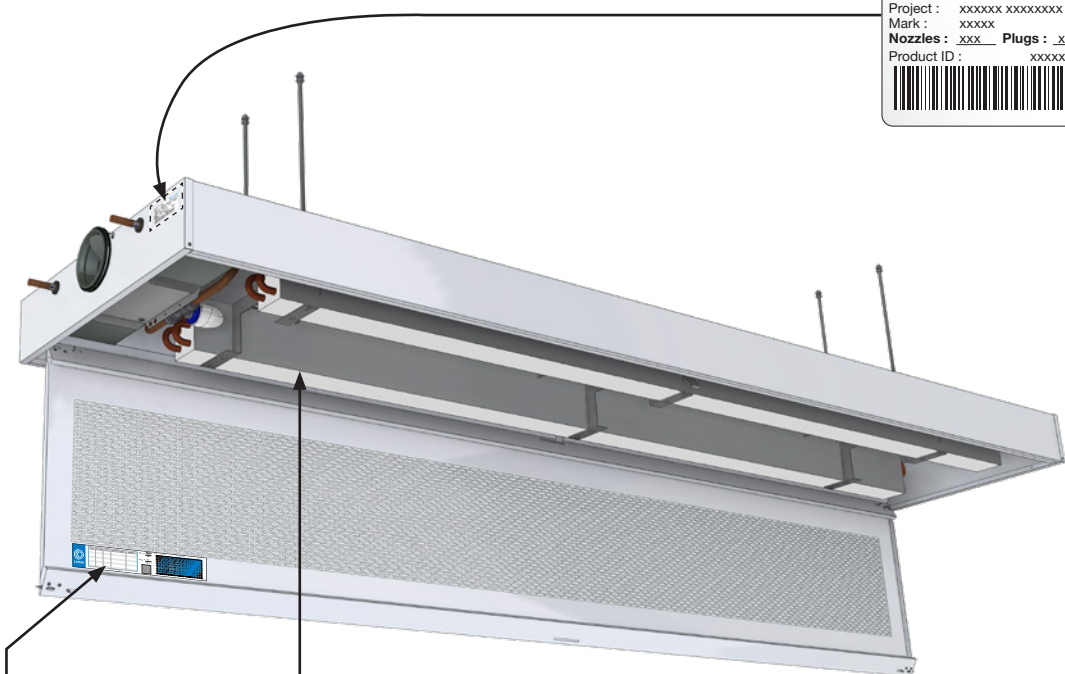
Pressure: AA Pa Flow: BB l/s

Project : xxxxxx xxxxxxxx

Mark : xxxxx

Nozzles : xxx Plugs : xx Sign. : _____

Product ID : xxxxxxxx



Order : xx-xxxxx

Pos : xx

PRO X-XX-12-xX100-xx-xxxx-x.x-xx-xx x.X m

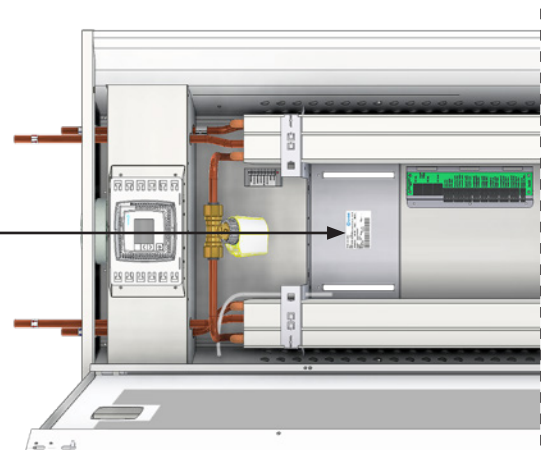
Pressure: AA Pa Flow: BB l/s

Project : xxxxxx xxxxxxxx

Mark : xxxxx

Nozzles : xxx Plugs : xx Sign. : _____

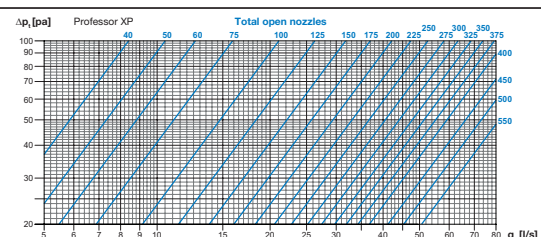
Product ID : xxxxxxxx



Date	ΔP_{stat} [Pa]	q_a [l/s]	Total open nozzles	Signature

$$q_{a/n} = \frac{\sqrt{\Delta p_{stat}}}{48}$$

$$n_{open} = \frac{q_a}{q_{a/n}}$$

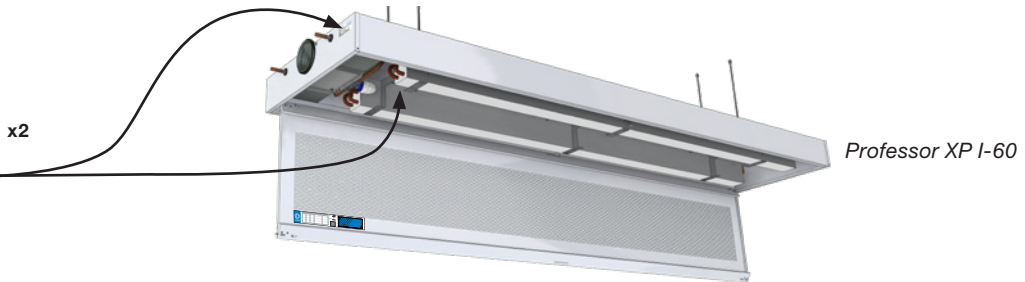
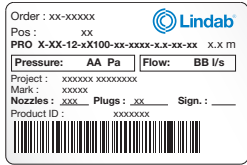


The product is factory pre-set with the customer-demanded primary air flow rate and static pressure loss settings. The label both records and guarantees the settings with personal signature of the responsible Lindab employee.

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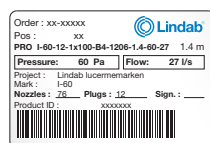
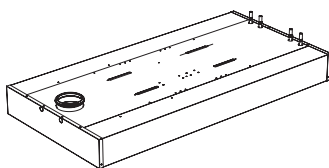
2.12 Order code



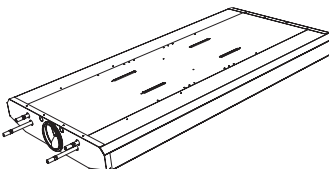
PRO	X-XX	12	Xx100	XX	XXXX	X.X	XX	XX
	I-45* I-60* F-45* F-60*	Ø12	1x100 2x100	A1 A2 A3 A4 B1 B2 B3 B4	0400 0600 0800 1200 0402 0602 0606 0802 0806 1202 1206	Nominal product length [m] 1.2 m - 3.6 m in steps of 0.1 m	Static nozzle pressure [Pa] 30-120 Pa	Primary air flow rate [l/s] 5-80 l/s

* As a plus feature the Professor XP I-62, J-60, K-60, L-60, X-60, Y-60 and Z-60 models can be ordered as well. See 3.2 for more details.

2.13 Order code examples



→ PRO - I-60 - 12 - 1x100 - B4 - 1206 - 1.4 - 60 - 27

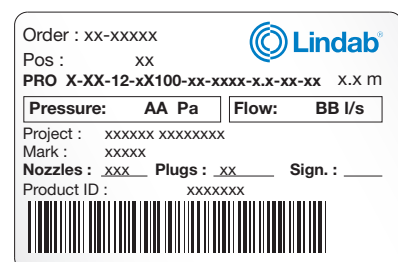


→ PRO - F-60 - 12 - 1x100 - A1 - 0602 - 1.2 - 40 - 18

2.14 Label

On the label you'll find:

- Order: Order identification number
- Pos.: Order position
- Product: Product configuration and product length
- Data: Preset static nozzle pressure [Pa] and primary airflow rate [l/s]
- Project: Project name
- Mark: Marking noted on order
- Product ID: Product number
- Sign: To be signed when checked and commissioned on site



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2.15 Contents of order

Standard package/order contains:

- Beam
- Plus features (pre-installed in factory)
- 4 pc/beam of copper insets (separate in smaller box)
- Accessories (separate in smaller box)

2.16 Plus features

The plus features offer a wide range of combination with pre-installed accessories integrated into the product on production site. This reduces the installation time on site.

2.16.1 Inlet faceplates

Not relevant for Professor XP

2.16.2 Outlet front grilles

Not relevant for Professor XP

2.16.3 Integrated valves



LinFlow-S, straight valve

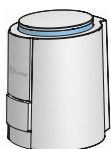


LinFlow-A, angled valve

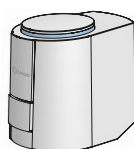
See [LinFlow-A](#) and [LinFlow-S](#) for details.

2.16.4 Thermoelectric actuators

A-40405 Actuator



APR-40405 Actuator



VA 64 Adapter ring



The actuators can be pre-installed on the integrated/enclosed valves and connected to the integrated Regula connect card /Regula Secura (plus feature). Go to [Actuators](#) for details. See also [Adapter ring](#).

2.16.5 Integrated Regula components

Regula Combi



Condensation sensor and Regula Secura



Regula Multi connect card



Go to [Regula](#) for details.

2.16.6 Airguides

Not relevant for Professor XP.

2.16.7 Heating

Available as standard for Professor XP.

2.17 Accessories

Here are some general accessories. For full range and order numbers, see separate [Accessories](#) document. The components under 2.16.3 to 2.16.5 are also available as accessories. Go to "8. Accessories" in this document to find accessories order numbers.

2.17.1 Threaded rod kit (Hangers)



M8 x4 per beam when $L_{nom} \leq 2700$ mm
M8 x6 per beam when $L_{nom} > 2700$ mm

Go to 5.4 "Preparation for installation on the product" for more details. Order no: See [Accessories](#)

2.17.2 Flexible hoses



Order no: See [Accessories](#)

2.17.3 Transformer



Order no: See [Transformers](#)

2.17.4 Tectite fittings



Order no: 647690, 884050 and 642623 (12 mm).

see [Accessories](#)

2.17.5 Connection covers for Professor XP-F models

Two types of connection covers are available for Professor XP F-45 and XP F-60.

For details and ordering, go to 5.5.1 in this document.



Installation instruction

Professor XP

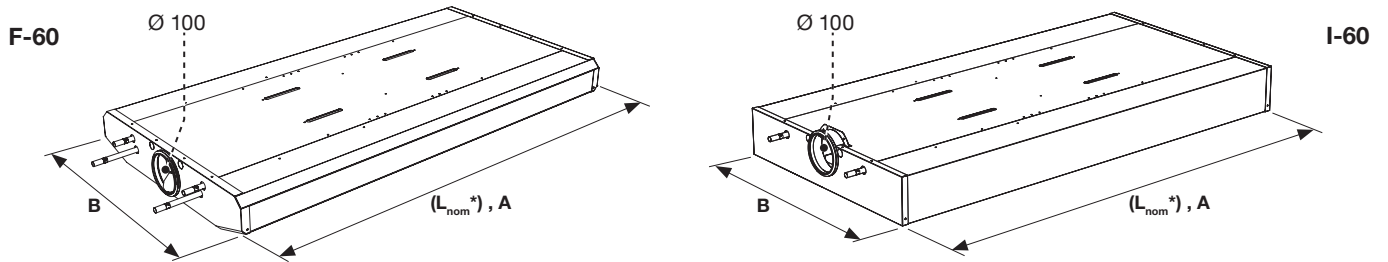
3. Product specification

3.1 Product description

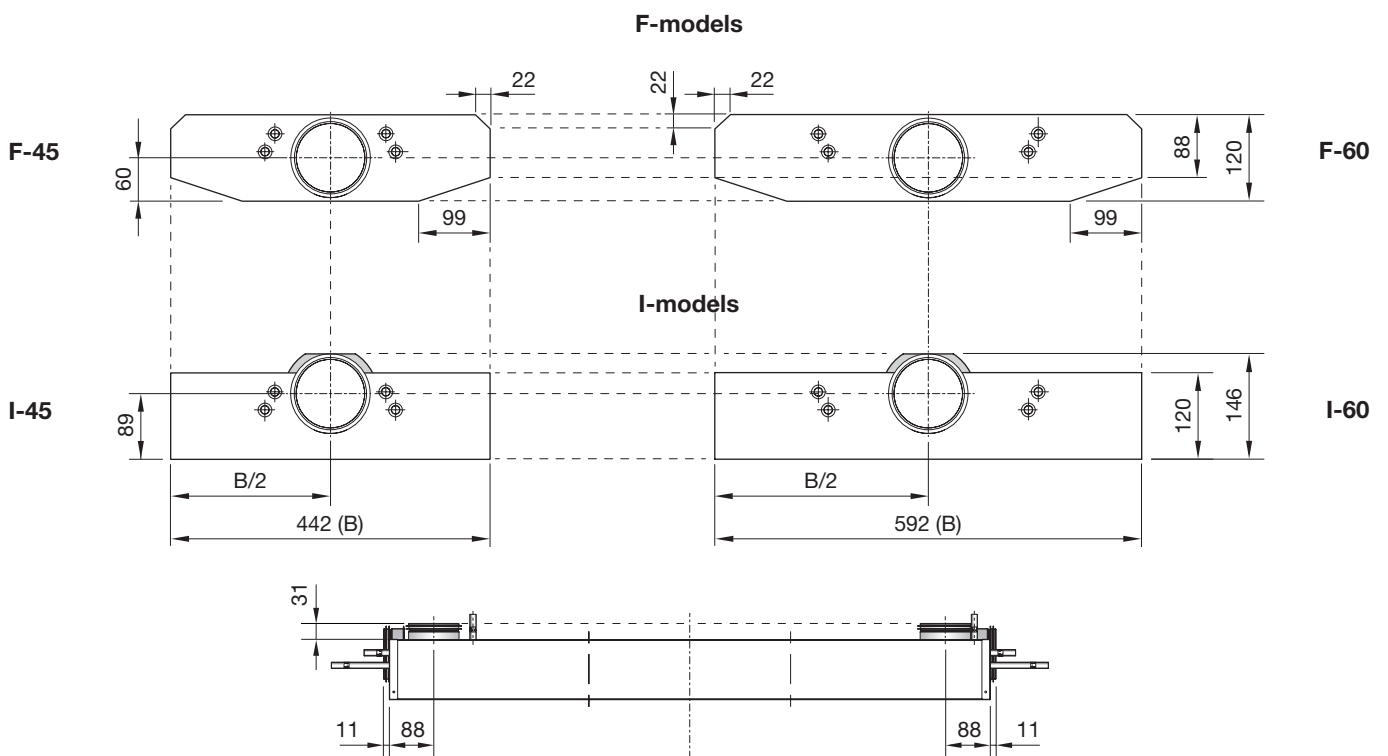
The Professor XP is a 2-way active chilled beam and can be standardly prepared for ventilation and cooling (2-pipe connection) or cooling and heating (4-pipe connection). It is both available in an integrable I-45/I-60 and an exposed version F-45/F-60.

As a plus feature also intergratable I-62, J-60, K-60, L-60, X-60, X-60, Y-60 and Z-60 models are available. See next page.

3.2 Dimensions



All water-pipes $\varnothing = 12$ mm, go to 4.1.6 and 4.1.7



Professor XP	L_{nom}^* [mm]	A [mm]	B [mm]	[kg / m]	Ceiling type**
F-45	1200, 1300 3500, 3600 In steps of 0.1 m	1192, 1292, 3492, 3592	442	Go to 3.4 Material data, see tables.	Exposed
I-45					1
F-60			592		Exposed
I-60					1

* L_{nom} = Nominal length (Order length).

Ceiling type** = Go to 5.2 Ceiling systems.

Table 1. Professor XP general dimensions.

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Plus feature models I-62, J-60, K60, L-60, X-60, Y-60, Z-60

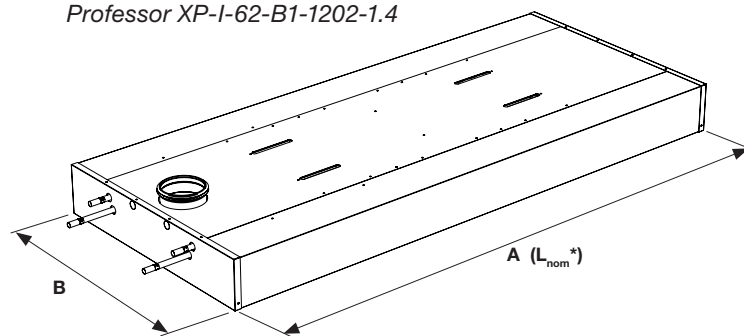
The plus feature models are integratable to different ceiling systems. The models can be with or without flanges depending on which ceiling they are suitable for.

See 5.2 "Adaption to ceiling systems" for details and dimensions of all plus feature models.

I-62, Y-60, Z-60 without flanges

Example:

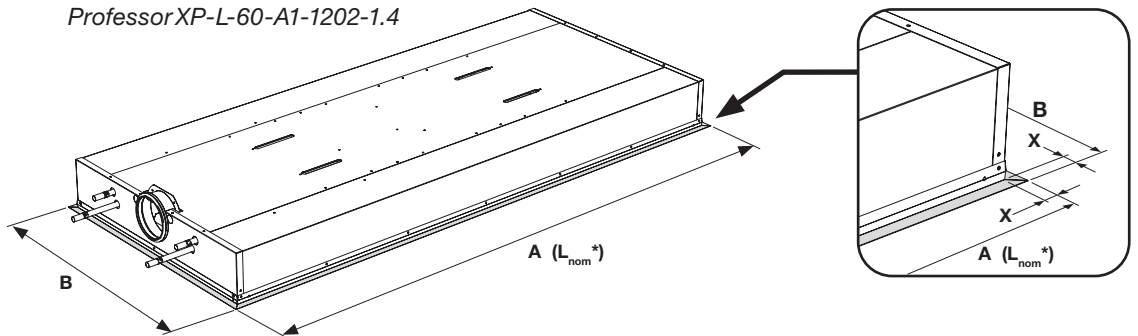
Professor XP-I-62-B1-1202-1.4



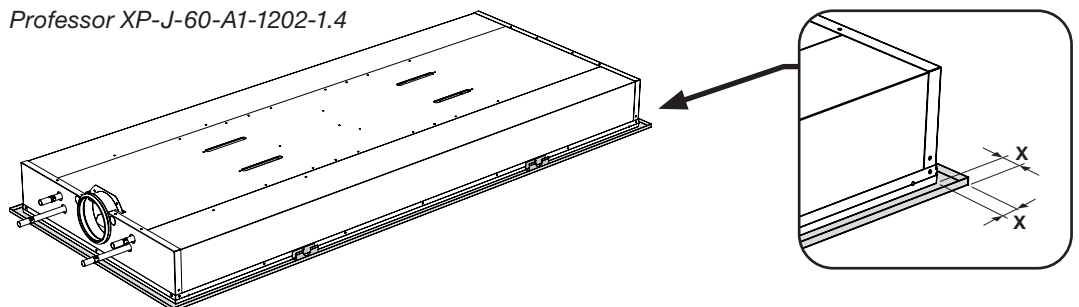
J-60, K-60, L-60, X-60 with flanges

Examples:

Professor XP-L-60-A1-1202-1.4



Professor XP-J-60-A1-1202-1.4

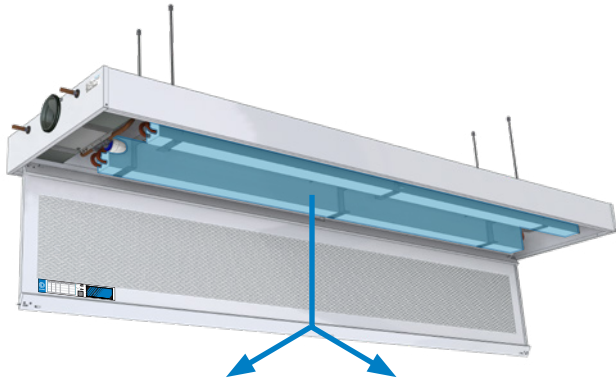


* L_{nom} = Nominal length (Order length).

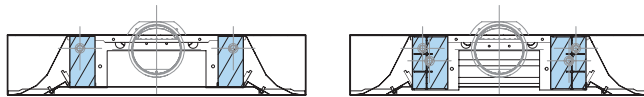
Installation instruction

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3.3 General structure



examples of I-60 battery configurations.



I-60, batteritype 0400, 2-rør

I-60, batteritype 1202, 4-rør

3.4 Materiale data

Type	Professor XP
Copper pipes, quality	EN-12735-2 CU-DHP
Pressure class	PN10

Table 2. Material data.

3.5 Environmental Declarations

Please follow the links below:

- [Building product declaration](#)
- [Declaration of conformity](#)
- [Eurovent certificate](#)

3.6 Pressure Class

The waterborne products in Lindab, active chilled beams (battery products), passive chilled beams (battery and strips products), facade units (battery) and radiant panels (strips and panels) are produced according to pressure class PN 10 according to EN 1333: 2006.

This means the maximal working pressure for the products at a water temperature of 20°C must not exceed 10 bar.

Specific measures for the water circuit

Performance value	Function	Batery type CC HH	Dry weight [kg/m]	Water content cooling [l/m]	Water content heating [l/m]	Water content total [l/m]
Maximal cooling and maximal heating	4-pipe	12 06	14.2	1.1	0.6	1.7
Maximal cooling and minimal heating	4-pipe	12 02	13.7	1.1	0.3	1.4
Maximal cooling or maximal heating	2-pipe	12 00	13.5	1.1		1.1
High cooling and maximal heating	4-pipe	08 06	13.7	0.8	0.6	1.4
High cooling and minimal heating	4-pipe	08 02	13.2	0.8	0.3	1.1
High cooling or high heating	2-pipe	08 00	13.0	0.8		0.8
Medium cooling and maximal heating	4-pipe	06 06	12.4	0.6	0.6	1.2
Medium cooling and minimal heating	4-pipe	06 02	11.9	0.6	0.3	0.9
Medium cooling or medium heating	2-pipe	06 00	11.6	0.6		0.6
Minimal cooling and minimal heating	4-pipe	04 02	11.8	0.4	0.3	0.7
Minimal cooling or minimal heating	2-pipe	04 00	11.5	0.4		0.4

Table 3. Professor XP, weight and water volume for I60 / F60 with different battery types.

Possible battery configurations for Professor XP models

Professor XP F-60 and I-60:

All battery types possible.

Professor XP F-45 and I-45:

Possible battery types : 4-pipe: 0606, 0602, 0402
2-pipe: 0600, 0400

Models for ceiling adaption :

Professor XP I-62, J-60, K-60, L-60, X-60, Y-60 and Z-60:

All battery types possible.

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3.7 Water quality

Lindab recommend water treatment and quality to be according to VDI 2035-2.

- The water preparation and maintenance for the chilled beam water circuit must be handled by a specialist.
- To prevent corrosion, the water circuit must be airtight.
- The water system must also be equipped with aerators to remove any build-up air in the system.
- The water must be oxygen free, to prevent corrosion.
- The water system must be filled with potable water that complies with the "EC directive 98/83/EC."
- The pH value of water must be between approximately 6-9 pH.
- The water velocities should not exceed 1 m/s, and should be kept as close to the nominal flow as possible to minimize noise and optimise the energy yield.
- Use in-line strainers to remove dirt particles from the water.
- If the water contains any additive inhibitor, then it must be appropriate to use with copper and solder.

3.8 Air quality

Primary supply air have to be clean, dry and filtered before reaching the beam.

3.9 Capacity test

Lindabs active chilled beams are Eurovent-certified and tested according to EN-15116.

Please visit Professor XP on www.lindQST.com and see Eurovent for more details.



Installation instruction

Professor XP

4. Connections

4.1. Water connections

Flow indication arrows are shown on the inlet and return pipes in order to assist the installer.

If the control valves have been ordered separately, a special direction of the flow must be upheld to ensure correct flow through the control valve. Please note the flow direction indicator on the valve to insure correct installation in relation to the desired flow.

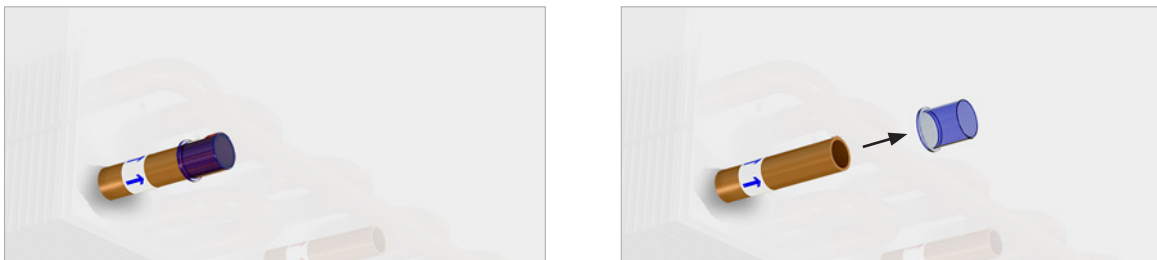
When connecting a panel or a beam with the piping system either a push-on fitting or a compression coupling should be used. Lindab have tested and recommends John Guest push on fittings as well as push-on fittings from Tectite (available as accessory. See [Accessories](#)).

To avoid sound being transported over the beam, we recommend to use our flexible hoses between the piping and the beam connections. See [Accessories](#).

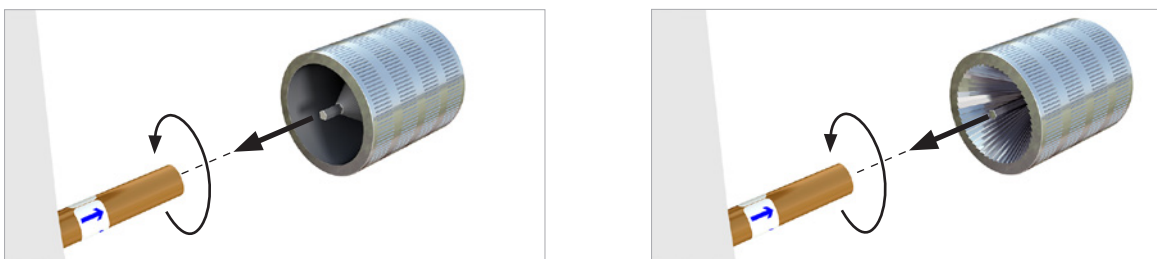
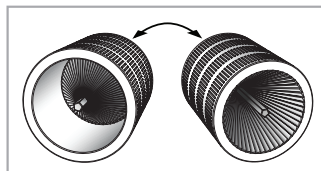
NB! Every control valve can create sound when it is installed directly connected to the water in- or outlet (or into the piping in close distance to the in- or outlet of the water product). To avoid unwanted sound generation we recommend to always use a Lindab control valve [LinFlow-A](#) (angled) or [LinFlow-S](#) (straight) and calculate the beam with the valve in [LindQST waterborne calculator](#).

4.1.1 Before installation

- Notice! The connection pipes are internally soft-welded, therefore it is not allowed to solder the beam to the pipes. For other than Lindab fittings and valves, please consult the installation guide for the specific fitting for further details on proper installation.
- Both inlet- and return pipes are covered by a plastic or rubber protection cover, which must be removed before installation.



- After removing the protection cover, make sure that the pipe is intact and undamaged, especially at the pipe end, as even small dents and scratches potentially pose a risk of leakage in the system.
- Eventually deburr the pipe ends on the inside and the outside, using a deburring tool before installation.



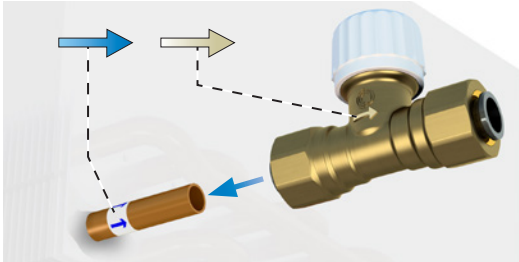
- Always remember to do a pressure test after assembly of the pipe work.

Installation instruction

Professor XP

4.1.2 Push-on valve

- Mount a push-on valve to the pipe. Make sure the valve has the correct flow direction (see indication arrow on the valve) and that you have the correct valve, when integrated valve has been chosen (see indication on valve or follow cabelling to Regula Connect card). Cooper inserts aren't required!
- Please refer to the suppliers manual.

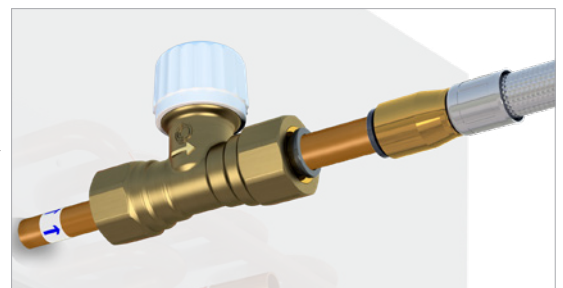
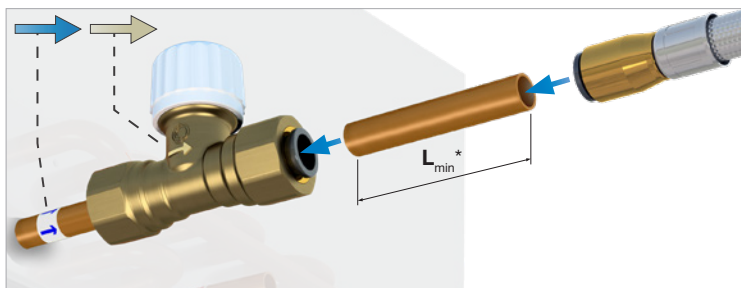
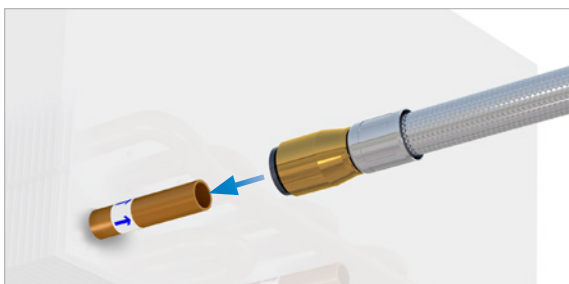


4.1.3 Compression fitting

- While mounting a compression fitting, the pipe will be exposed to a big amount of force, creating a risk of crushing the pipe. To ensure that the pipe won't be crushed when mounting the compression fitting, a copper insert must be inserted into the pipe (always part of the delivery).
- The copper insert should be placed inside the pipe on the beam. Always support the copper pipe coil when inserting the copper insert into position.
- Mount a compression coupling and/or a valve to the pipe. Don't stress the nut too much, since this may crush the pipe.
- Please refer to the suppliers manual.

4.1.4 Flexible hoses

- Our flexible hoses with straight ends can be used with both push-on and compression fitting.
- We recommend to use our flexible hoses with push-on fittings, for easier and faster mounting.
- For the connection to an enclosed valve with integrated push on coupling a flexible hose with straight end (male) or with push on (female) and a short copper pipe can be used.
- Please refer to the suppliers manual.



* $L_{min} = 70 \text{ mm}$ (to ensure you can open the couplings again).

Lindab flexible hoses are available with straight end (male) for direct connection to Lindab valves also.

Installation instruction

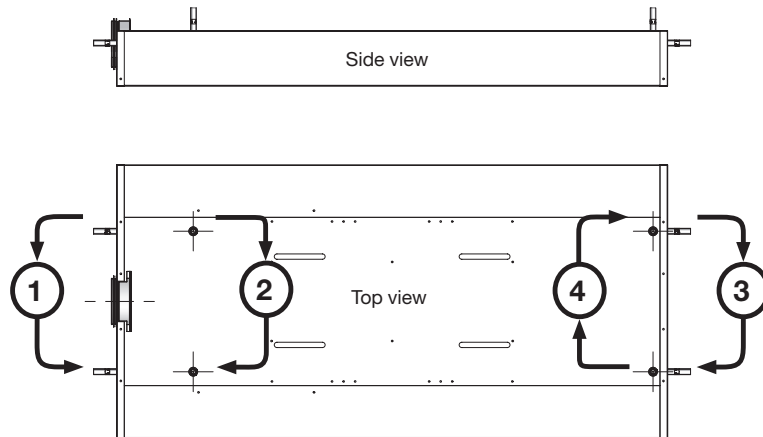
Professor XP

4.1.5 Possible connections water cooling or heating (2-pipe, standard)

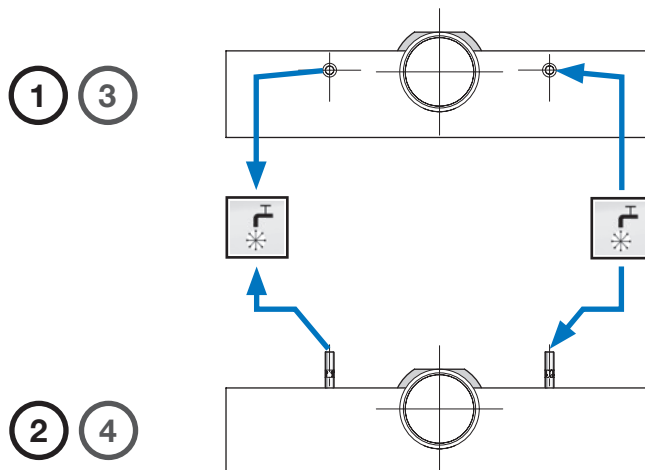
All the Professor XP active chilled beams can have either a "2-pipe water connection" or a "4-pipe water connection" as standard (see 4.1.6). The 2-pipe water connection beam contains one water circuit only (cooling or heating).

All water pipe connections are $\varnothing = 12$ mm.

**Professor XP: F-45, F-60, I-45 and I-60 cooling or heating (standard),
I-62, J-60, K-60, L-60, X-60, Y-60 and Z-60 (ceiling adapted models).**



F-45, F-60, I-45, I-60 and all ceiling adapted models



Installation instruction

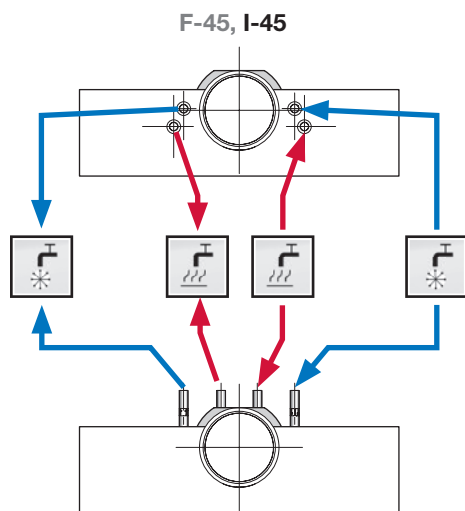
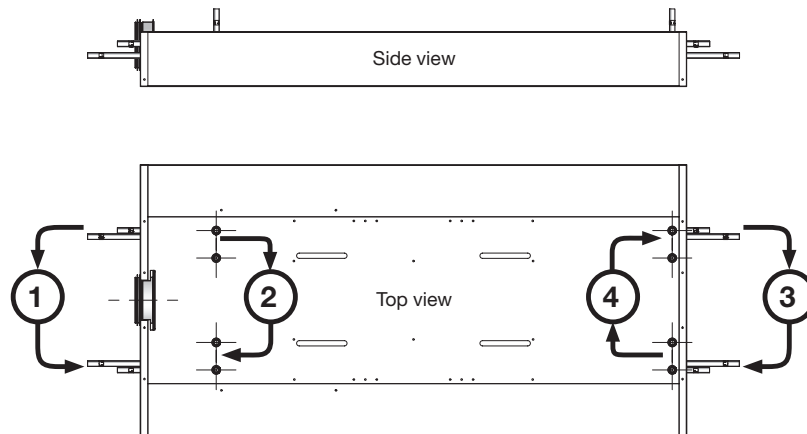
Professor XP

4.1.6 Possible connections water cooling and heating (4-pipe, standard)

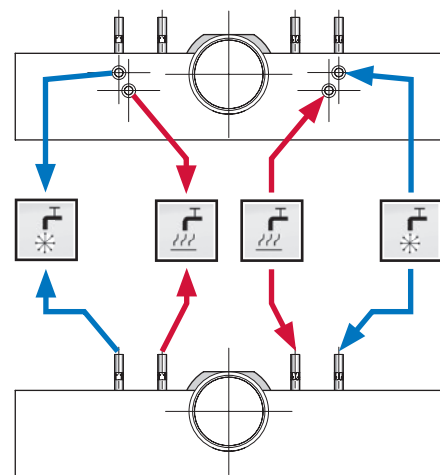
The 4-pipe water connection beam contains two water circuits. One for heating and one for cooling.

The dimension for all water pipe connections are $\varnothing = 12$ mm.

**Professor XP: F-45, F-60, I-45 and I-60 cooling or heating (standard),
I-62, J-60, K-60, L-60, X-60, Y-60 and Z-60 (ceiling adapted models).**



F-60, I-60 and all ceiling adapted models

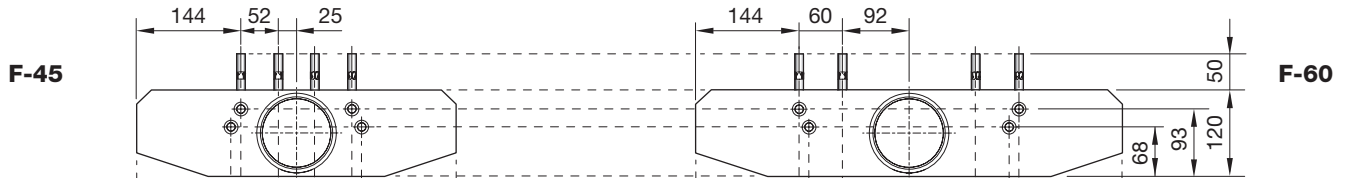


Installation instruction

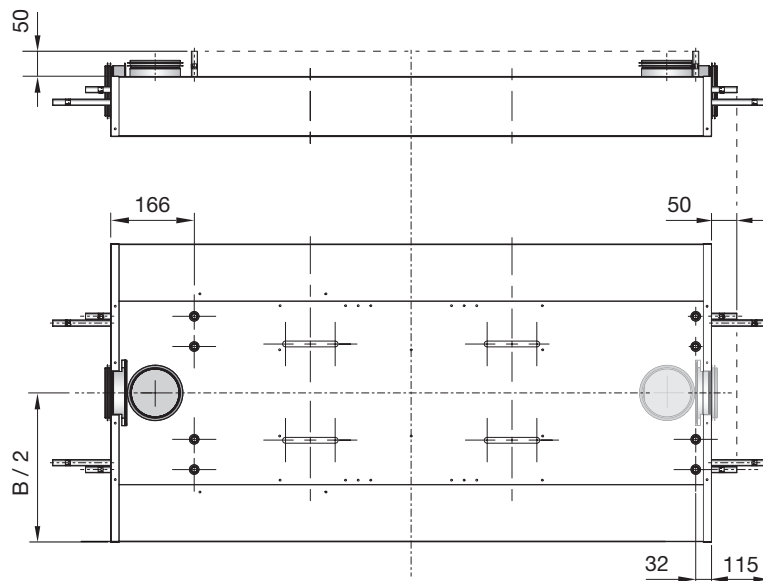
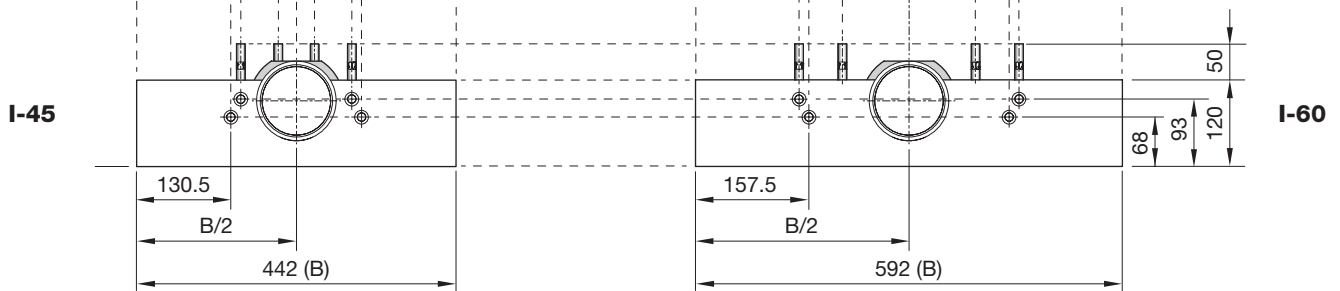
Professor XP

4.1.7 Water pipe dimensions and placement.

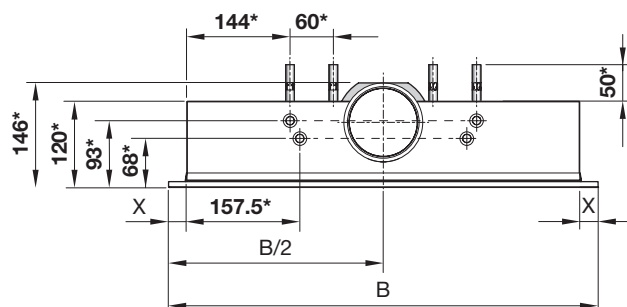
F models



I models



Ceiling adapted models



Example:
Front view of XP-X model.

*** NB!**
All dimensions marked (*) are valid
and the same for all ceiling adapted
models.
Go to 5.2.2 to see dimensions for all
ceiling adapted models.

X-60

Installation instruction

Professor XP

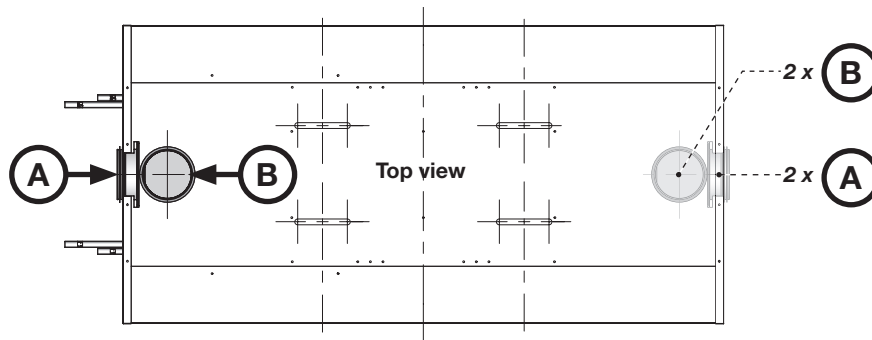
4.2 Air connections

4.2.1 Air connection installation

The primary air supply must be connected with instructions from a ventilation specialist. Lindab's chilled beams can beneficially be used together with Lindab's Safe® duct systems.

We recommend a flexible duct connection, like Lindab DRATMFU-100, to balance out different installation heights or directions between connection and duct and avoid sound will be diverted from piping system to the ceiling.

All supply air connections = Ø100 mm



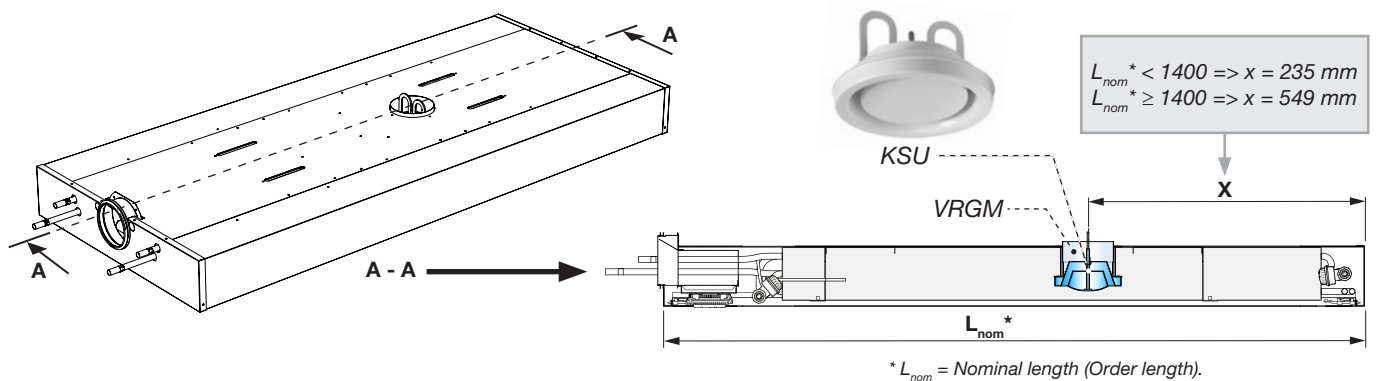
4.2.2 Possible connections supply air

Both the horizontal (A) and the vertical (B) supply air connections are equipped with Lindab SafeClick® as a standard.

4.2.3 Possible connections extract air (plus feature, XP-60 models only)

Extract air connection includes a KSU valve and a VRGM as standard (Ø100 or Ø125).

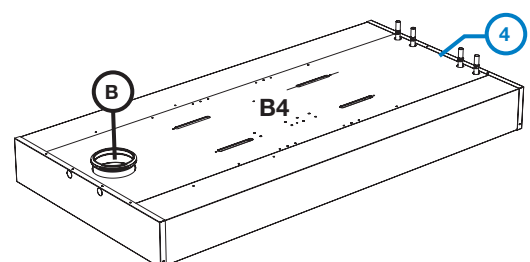
If you got 2 air connections 2 x 100, L_{nom} of the Professor XP must be longer than 1.4 m to include the extract air plus feature.



4.3 Possible combinations of connections (standard)

Possible Professor XP connections,
Supply air (A, B) and water (1, 2, 3, 4).

- A: 1, 2, 3, 4
- B: 1, 2, 3, 4



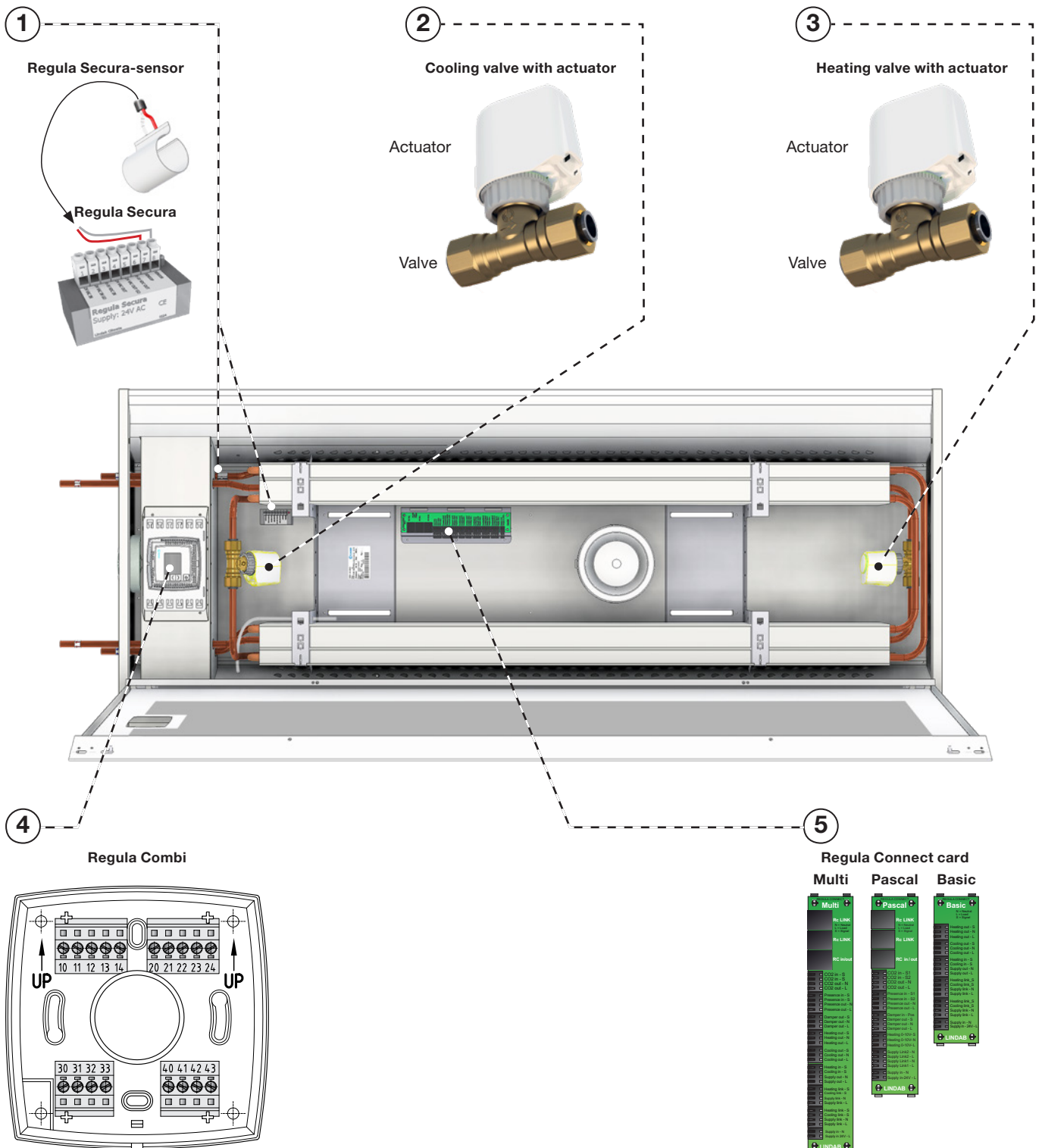
Installation instruction

Professor XP

4.4 Electrical connections (Plus features)

Electrical connections on the beam are only necessary, when plus features are chosen and thanks to the pre-fabrication it is as easy as “plug and play”. The components are always installed near the water-connection at the end of the beam. For further information, see [Regula](#).

4.4.1 Regula components on the beam



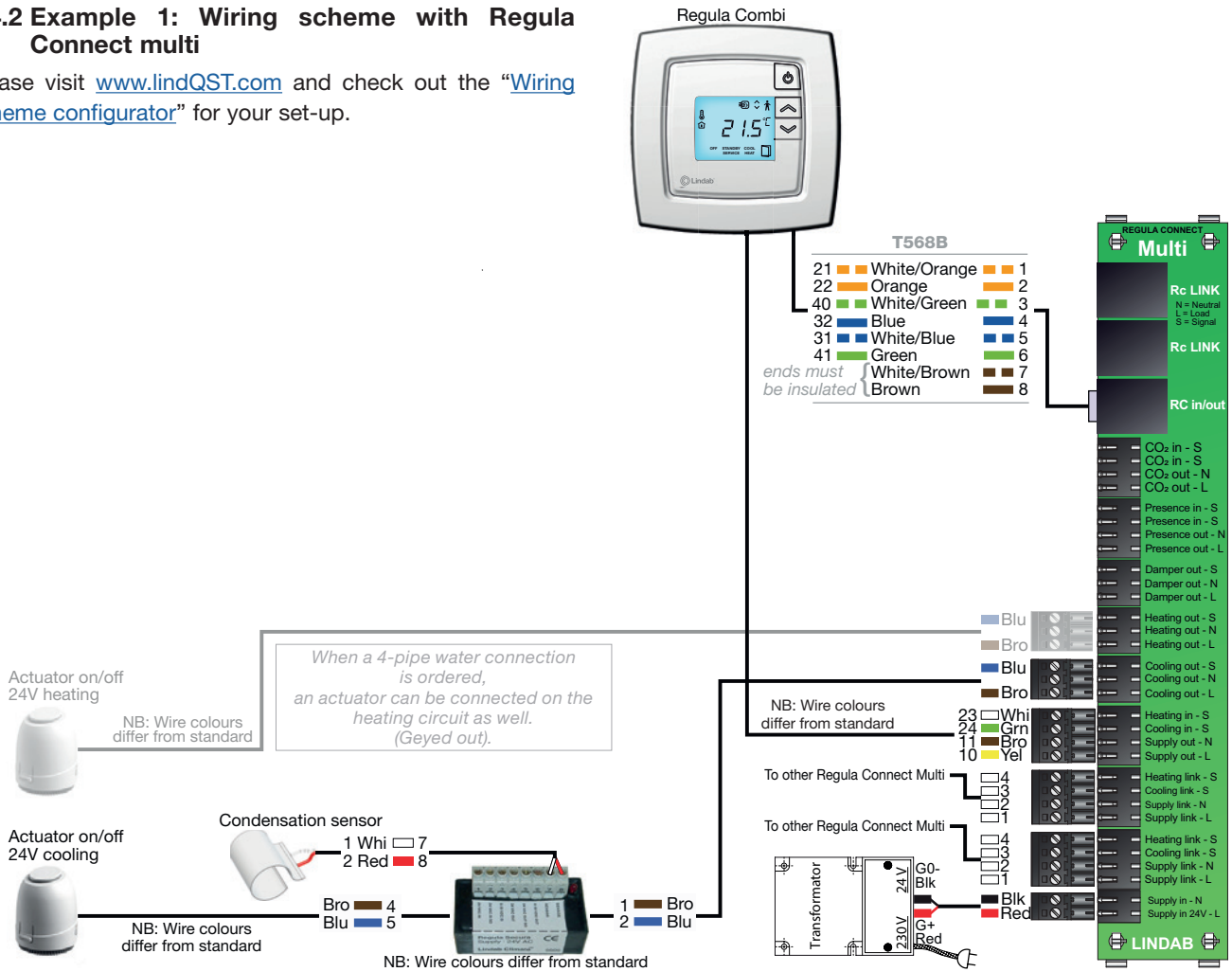
(with protection covers, optional).

Installation instruction

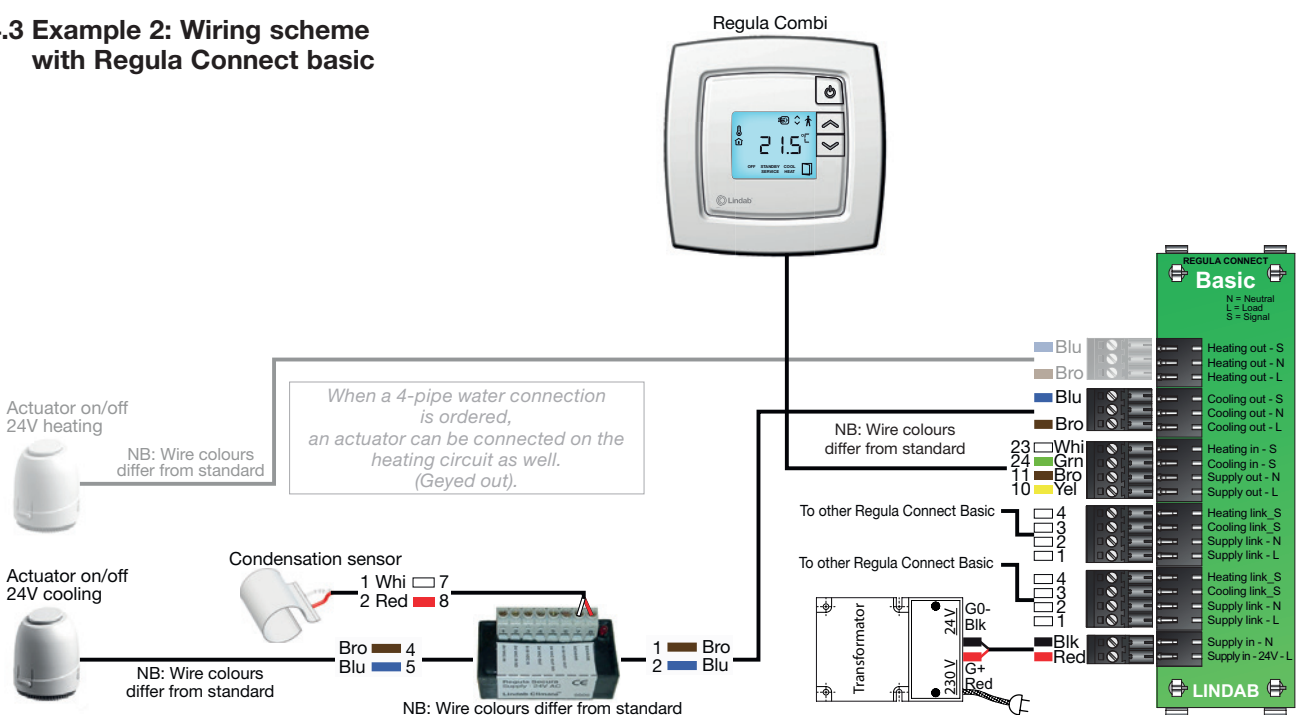
Professor XP

4.4.2 Example 1: Wiring scheme with Regula Connect multi

Please visit www.lindQST.com and check out the “Wiring scheme configurator” for your set-up.



4.4.3 Example 2: Wiring scheme with Regula Connect basic



Installation instruction

Professor XP

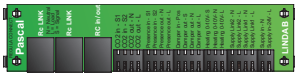
4.4.4 Regula Connect on the beam

Connect cards are pre-installed when the beam is ordered with plus features. See [Regula Connect](#) for more details.

Regula Connect Basic



Regula Connect Pascal



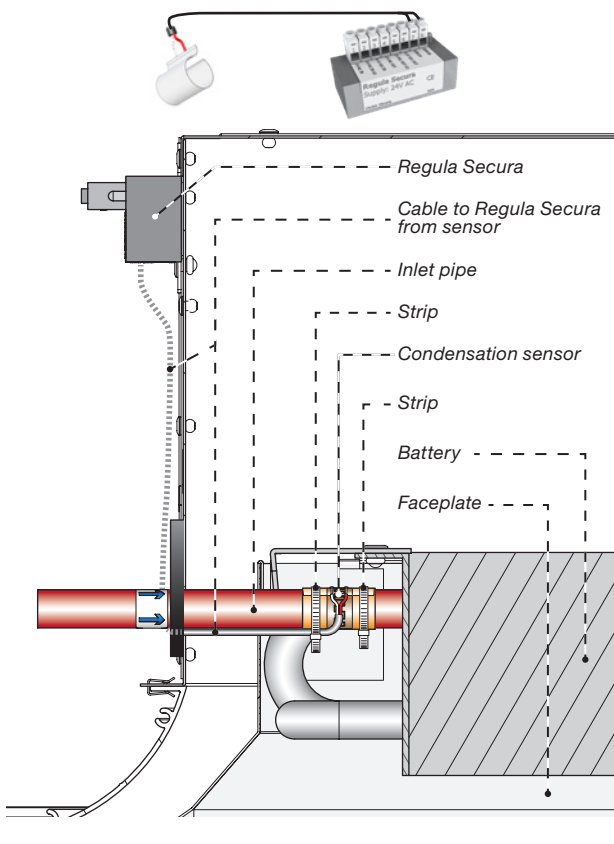
Regula Connect Multi



4.4.5 Regula Secura on the beam

Regula Secura is pre-installed when the beam is ordered with plus features. See [Regula Secura](#) for more details.

Condensation sensor and Regula Secura



4.4.6 Valves and Actuators on the beam

Description, see 2.16 .

4.4.7 Regula Combi on/with the beam

The Regula Combi can be controlled and programmed locally in the display, or at a remote location by a EXOLINE or MODBUS communication system. Handles both 24 V and 0-10 V devices.



See the [Regula Combi](#) documentation.

4.4.8 Actuators

Description, see 2.16.

Installation instruction

Professor XP

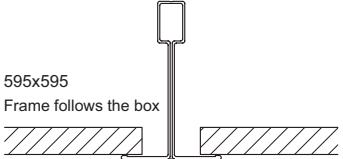
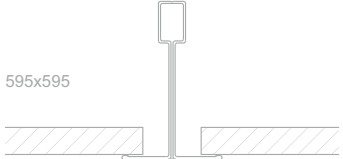

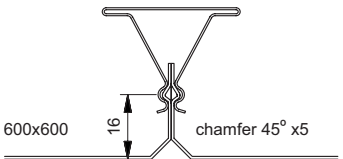
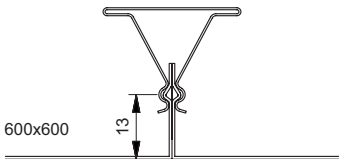
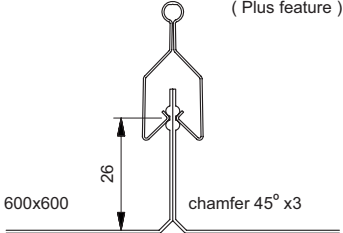
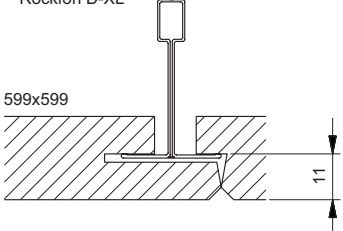
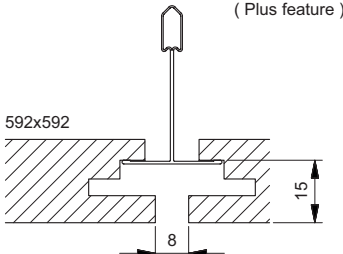
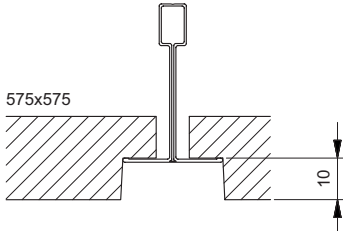
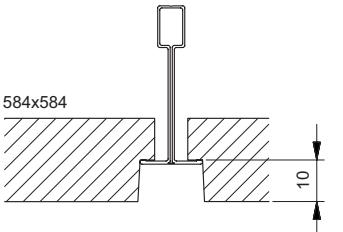
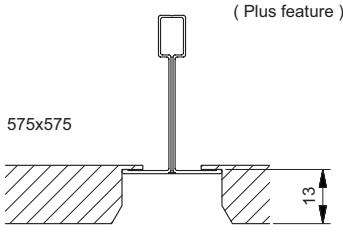
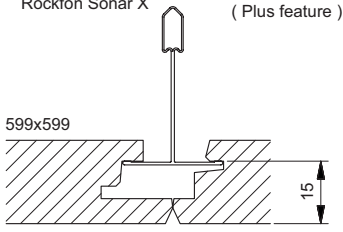
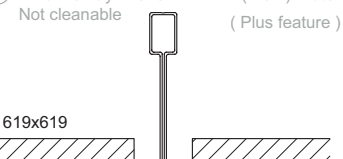
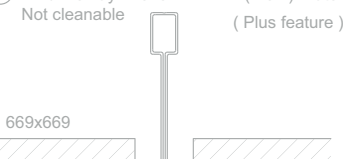
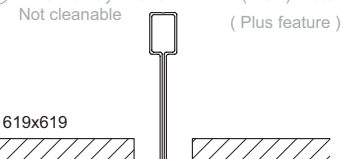
5. Installation of product

5.1 Handling of product

For the handling of the product please refer to 2.5.

5.2 Adaption to ceiling systems

5.2.1 Ceiling systems

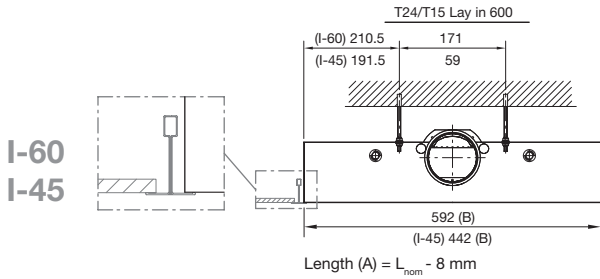
<p>① T24/T15 lay-in 600 (I-60) Water Danotile T24/T25 Ecophon T24 Rockfon A24</p> <p>595x595 Frame follows the box</p> 	<p>② T24/T15 lay-in 600 (I-60) Water Not cleanable</p> <p>595x595</p> 	<p>③ Permanent ceiling (L-60) Water (Plus feature)</p> 
<p>④ Dampa Clip-in bevelled edge (X-60) Water (Plus feature)</p> <p>600x600 16 chamfer 45° x5</p> 	<p>⑤ Dampa Clip-in square edge (K-60) Water (Plus feature)</p> <p>600x600 13</p> 	<p>⑥ Luxalon SQ Clip-in (X-60) Water (Plus feature)</p> <p>600x600 26 chamfer 45° x3</p> 
<p>⑦ Danotile Contur Ecophon D Rockfon D-XL (X-60) Water (Plus feature)</p> <p>599x599 11</p> 	<p>⑧ Ecophon Focus DG (J-60) Water (Plus feature)</p> <p>592x592 8 15</p> 	<p>⑨ Rockfon E10 24 Ecophon - E / T24 (Y-60) Water (Plus feature)</p> <p>575x575 10</p> 
<p>⑩ Rockfon E10 15 Ecophon - E / T15 (Z-60) Water (Plus feature)</p> <p>584x584 10</p> 	<p>⑪ Danotile Markant (Y-60) Water (Plus feature)</p> <p>575x575 13</p> 	<p>⑭ Ecophon Focus DS Rockfon Sonar X (X-60) Water (Plus feature)</p> <p>599x599 15</p> 
<p>⑳ T24/T15 Lay-in 625 (I-62) Water (Plus feature)</p> <p>619x619</p> 	<p>㉑ T24/T15 Lay-in 675 (I-67) Water (Plus feature)</p> <p>669x669</p> 	<p>㉒ T24/T15 Lay-in 625 Not cleanable (I-62) Water (Plus feature)</p> <p>619x619</p> 

Installation instruction

Professor XP

5.2.2 Ceiling systems adaption

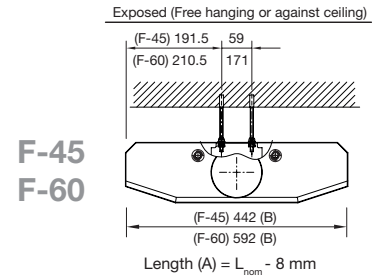
Standard models I-45, I-60, F-45, F-60



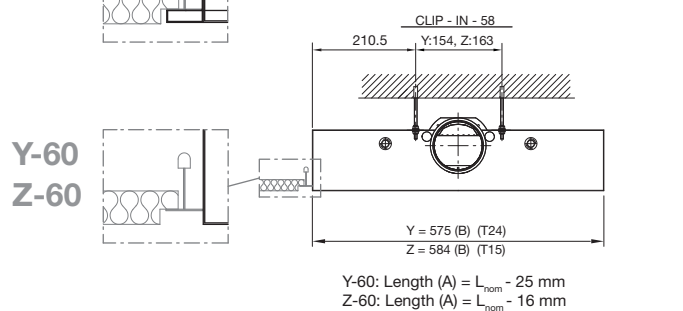
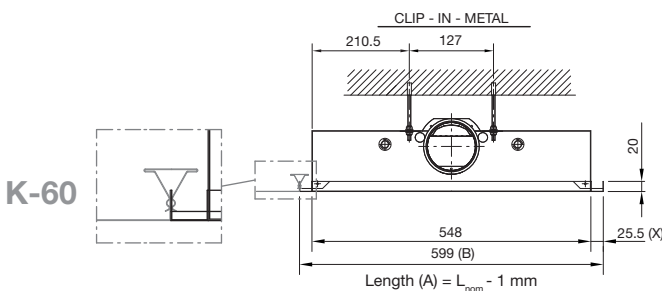
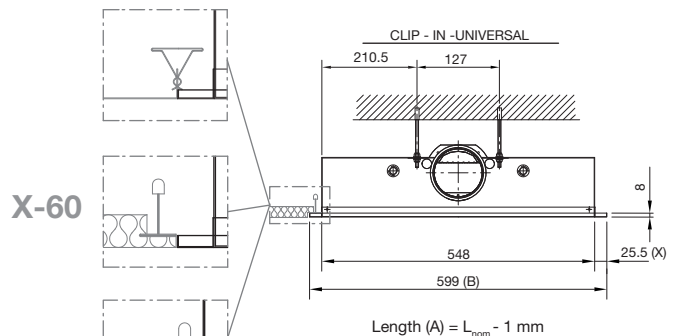
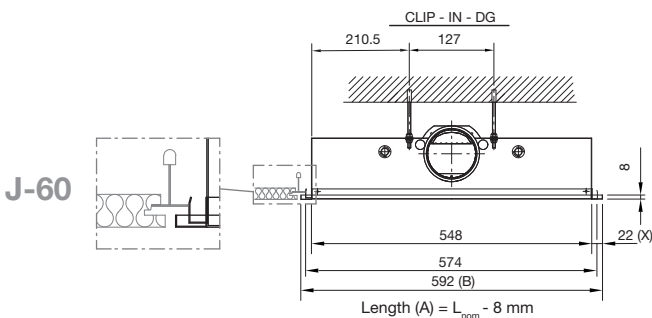
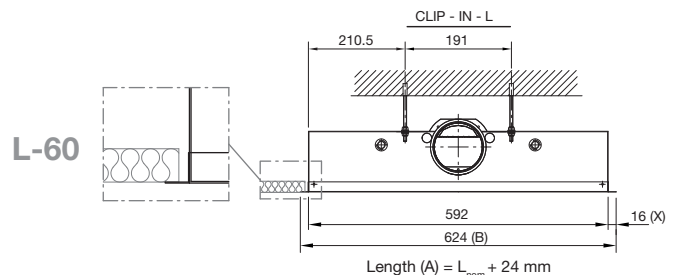
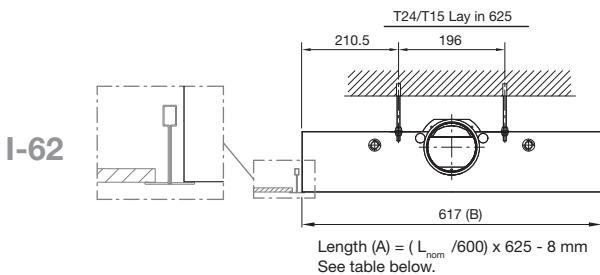
Dimension table for standard models, see 3.2

I-models
Recessed in suspended ceiling type 1.

F-models
Exposed installation to permanent ceilings.



Ceiling adapted models I-62, J-60, K-60, L-60, X-60, Y-60 and Z-60



Professor XP	L _{nom} * [mm]	A [mm]	B [mm]	X ** [mm]	spec. weight [Kg / m]	Ceiling type ***
I-62	1200, 1800, 2400, 3000, 3600	1242, 1867, 2492, 3117, 3742 **	617	-	Go to 3.4 Material data, see tables.	21
J-60		1192, 1792, 2392, 2992, 3592	592	22		8
K-60		1199, 1799, 2399, 2999, 3599	599	25.5		5
L-60		1224, 1824, 2424, 3024, 3624	624	16		3
X-60		1199, 1799, 2399, 2999, 3599	599	25.5		4, 6, 7, 14
Y-60		1175, 1775, 2375, 2975, 3575	575	-		9, 11
Z-60		1184, 1784, 2384, 2984, 3584	584	-		10

* L_{nom} = Nominal length (Order length).

** Flange dimension. - = Model has no flange, see also 5.4

*** : Ceiling systems overview, go to 5.2 ceiling systems. (previous page).

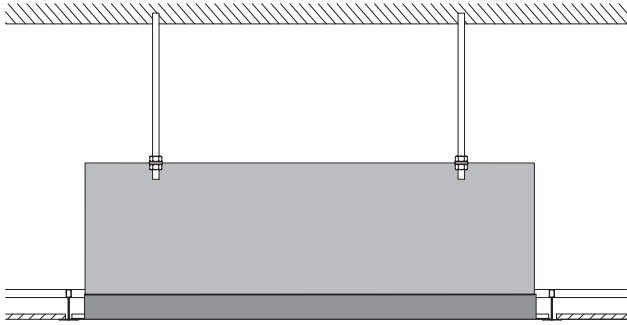
Table 4. Dimensions of Professor XP ceiling adapted models.

Installation instruction

Professor XP

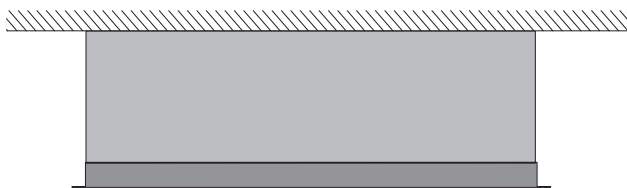
5.3 General installation principles

5.3.1 Recessed in suspended T-bar ceiling



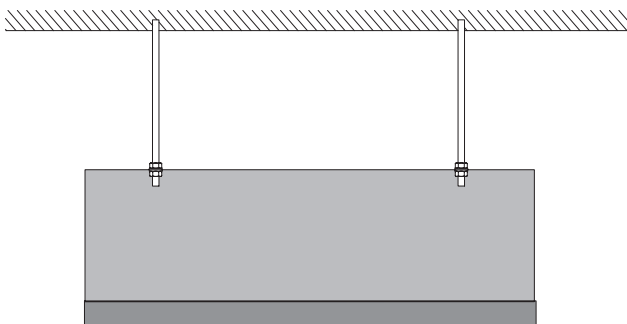
Professor I models
and ceiling adapted models

5.3.2 Exposed, sealed to the ceiling



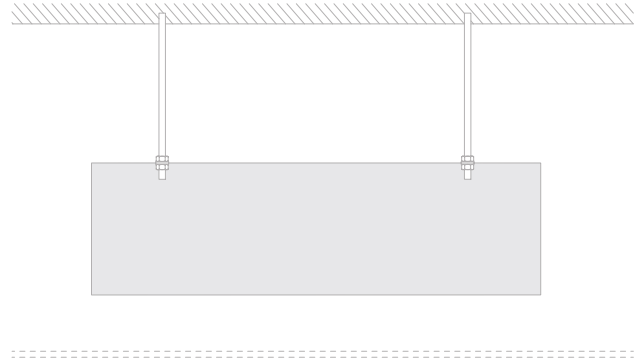
Professor F models

5.3.3 Exposed, free hanging

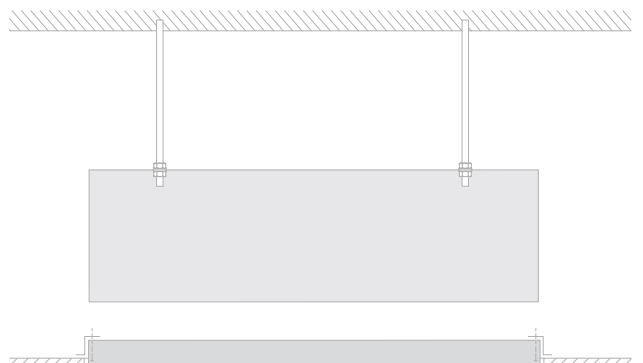


Professor F models

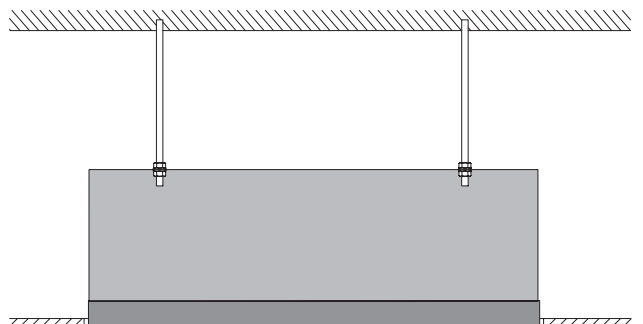
5.3.4 Free hanging above perforated or egg-crate ceiling



5.3.5 Recessed in suspended (permanent) ceiling



5.3.6 Recessed in suspended (permanent) ceiling



Professor I models
and ceiling adapted models

Installation instruction

Professor XP

5.4 Preparation for installation on the product

The beam is prepared for installation by threaded rods M8.

4 x M8 per beam when $L_{nom} \leq 2700$ mm

6 x M8 per beam when $L_{nom} > 2700$ mm

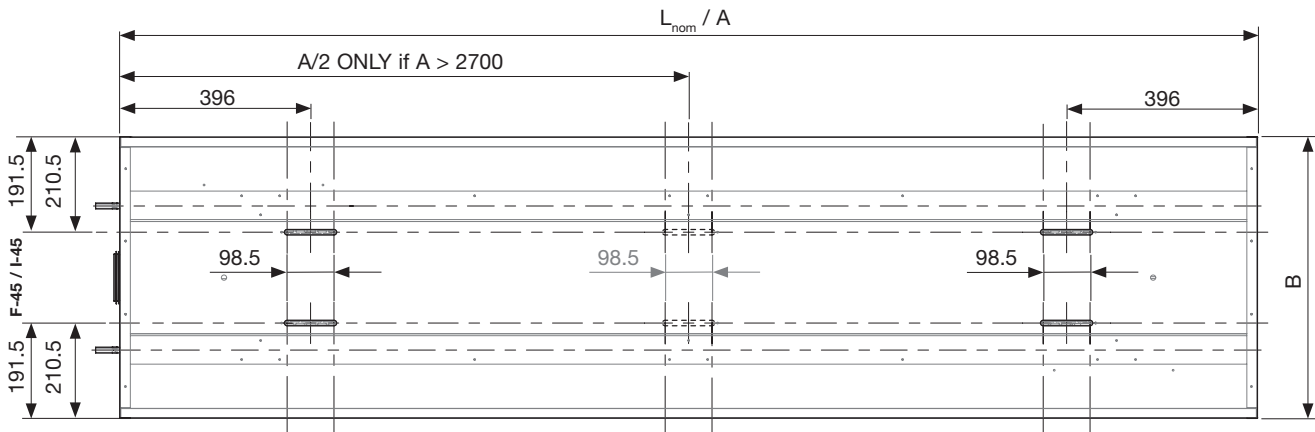
M8



Threaded rod attachment points, non-flange models:

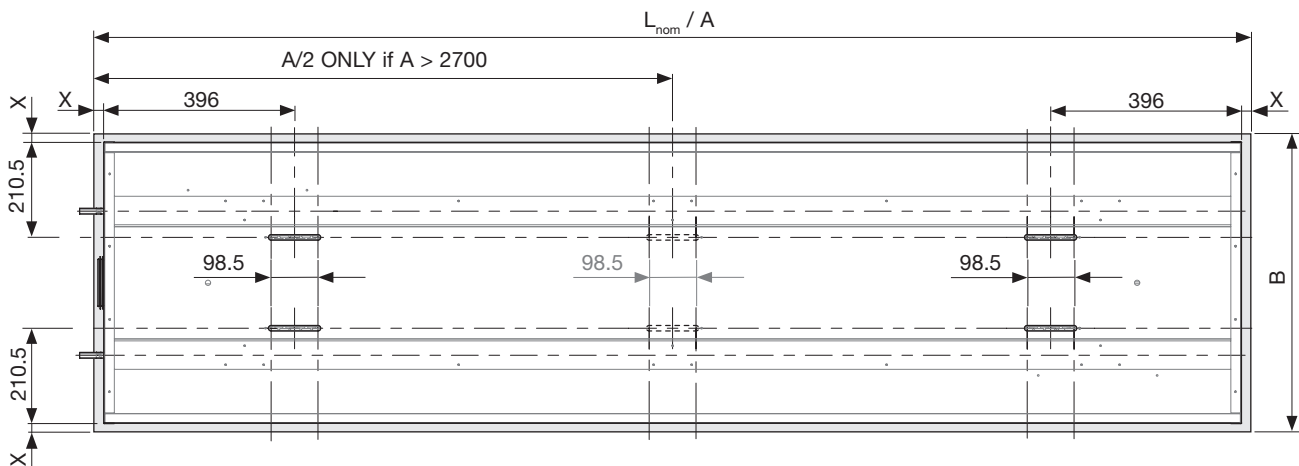
F-45, F-60, I-45, I-60

I-62, Y-60, Z-60 (Ceiling adapted models)



Threaded rod attachment points, flange models:

J-62, K-60, L-60, X-60 (Ceiling adapted models)



Professor XP	L_{nom} * [mm]	A [mm]	B [mm]	X** [mm]	spec. weight [Kg / m]	Ceiling type ***
I-62**	1200, 1800, 2400, 3000, 3600	1242, 1867, 2492, 3117, 3742 **	617	-	Go to 3.4 Material data, see tables.	21
J-60		1192, 1792, 2392, 2992, 3592	592	22		8
K-60		1199, 1799, 2399, 2999, 3599	599	25.5		5
L-60		1224, 1824, 2424, 3024, 3624	624	16		3
X-60		1199, 1799, 2399, 2999, 3599	599	25.5		4, 6, 7, 14
Y-60		1175, 1775, 2375, 2975, 3575	575	-		9, 11
Z-60		1184, 1784, 2384, 2984, 3584	584	-		10

* L_{nom} = Nominal length (Order length).

** : Flange dimension. - = Model has no flange.

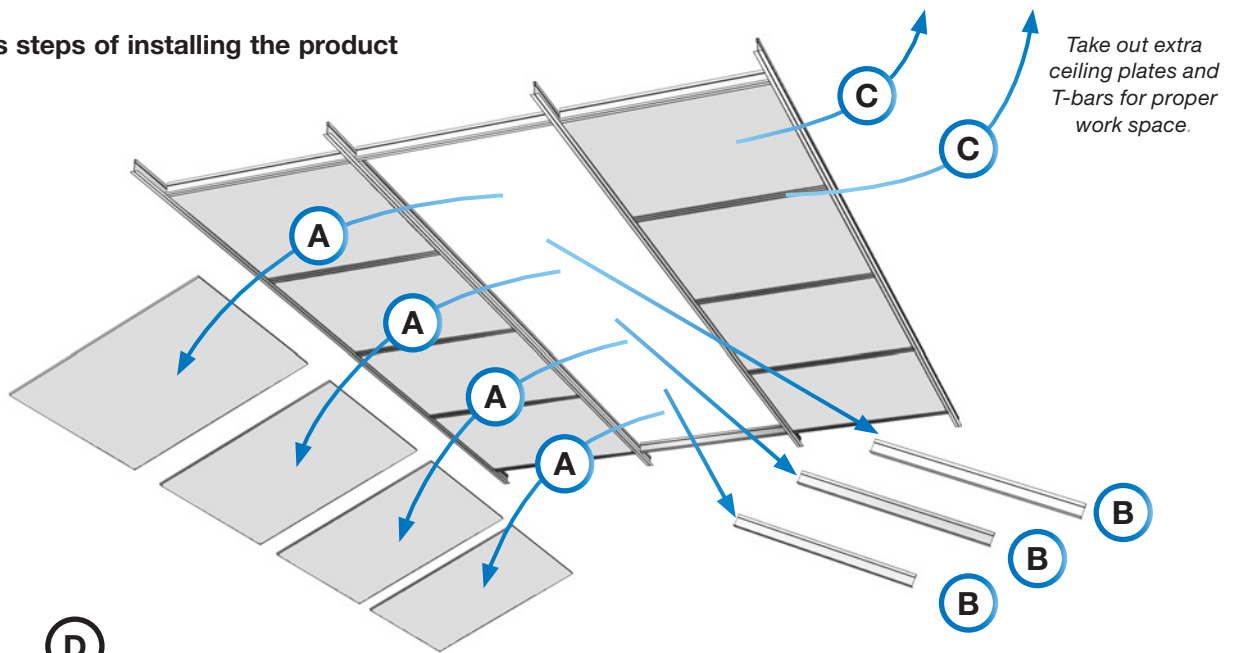
*** : Ceiling systems overview, go to 5.2 ceiling systems.

Table 5. Dimensions of Professor XP plus feature models.

Installation instruction

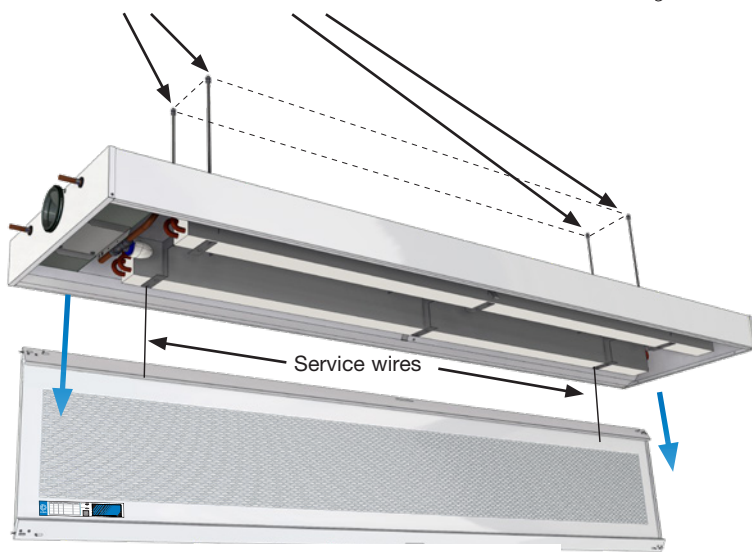
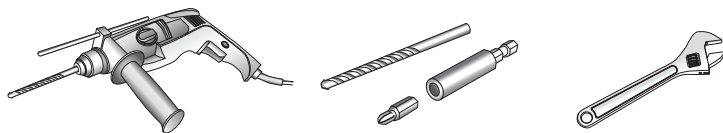
Professor XP

5.5. Basics steps of installing the product

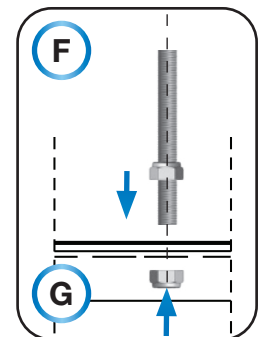
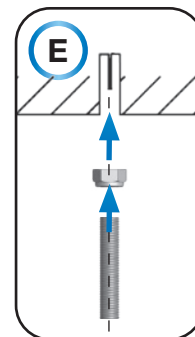


D

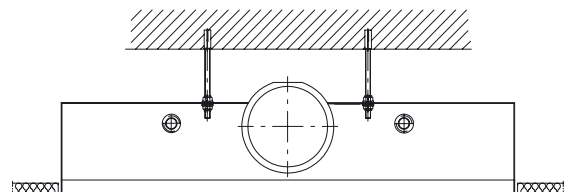
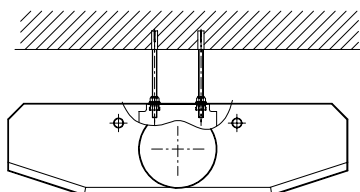
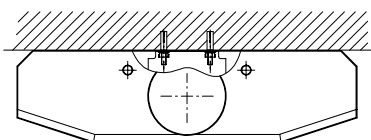
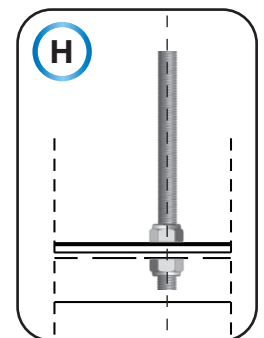
To find correct alignment points for threaded rod hangers, see dimension drawings and table on previous page, covering all Professor XP models.



Lindab recommends removing faceplate completely before installation in ceiling.
Go to part 7. Maintenance, 7.2 Open inlet faceplate.

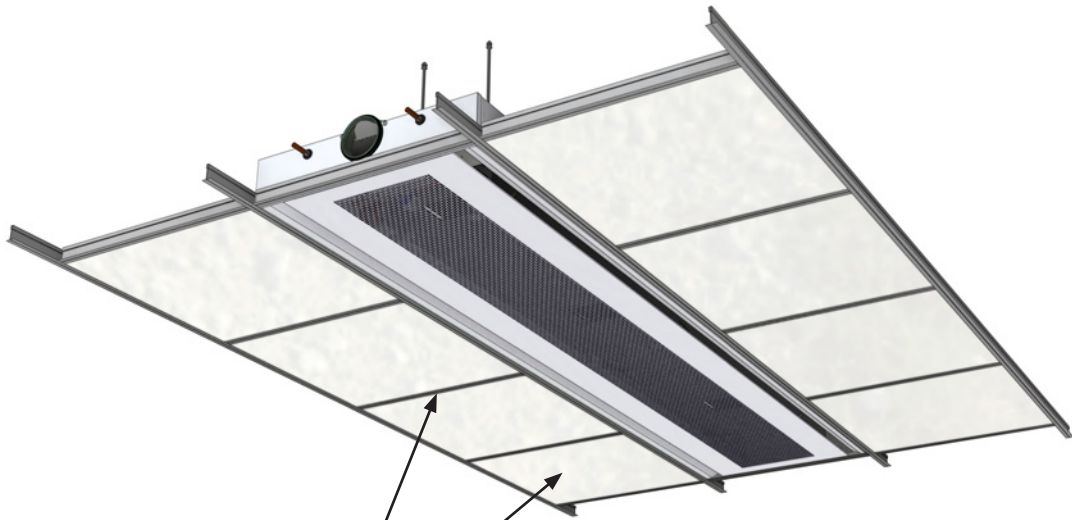


Heavy load !
Longest Professor XP models are 3.6 meters with a weight at aprox. 52 kg.
Use professional lifting equipment.



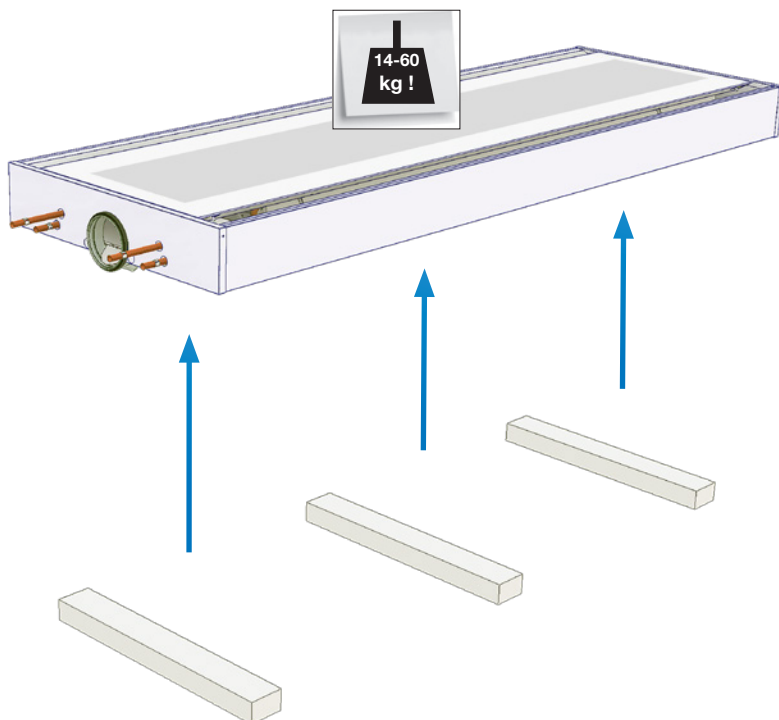
Installation instruction

Professor XP



Re-insert
T-bars and ceiling plates.

Note that this installation procedure shows installation in an existing T-bar ceiling. In a completely new building the beams will often be installed before the ceiling system.



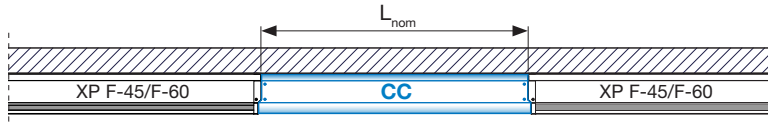
Heavy load !
Longest Professor XP
models are 3.6 meters
with a weight at aprox.
52 kg.
Use professional lifting
equipment.

Installation instruction

Professor XP

5.5.1 Connection covers for Professor XP-F models

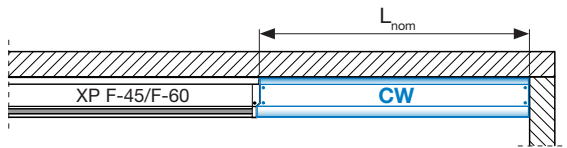
Two different types of connection covers are available for Professor XP F-45 and XP F-60. Type CC for covering between two beams and CW for covering from one beam to wall.



CC cover installed between two beams.

L_{nom} = Exact distance between end-gables (in mm) = order length

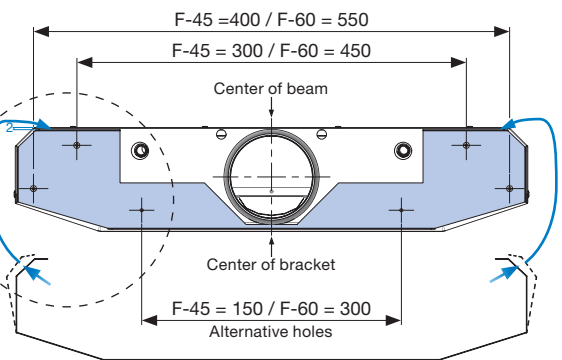
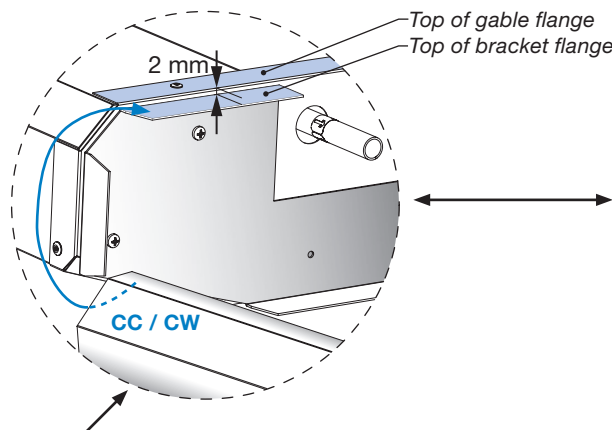
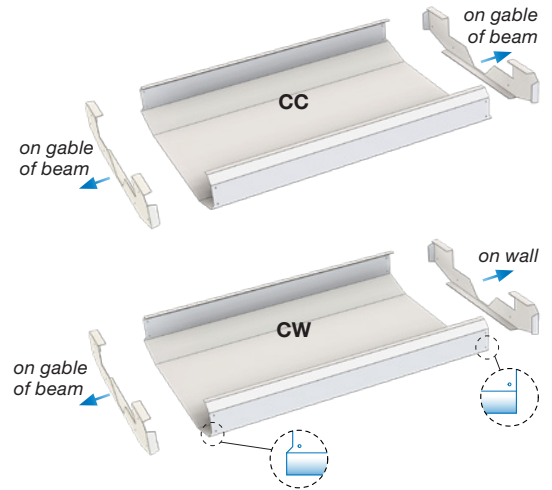
The real produced length will be $A = L_{nom}$.



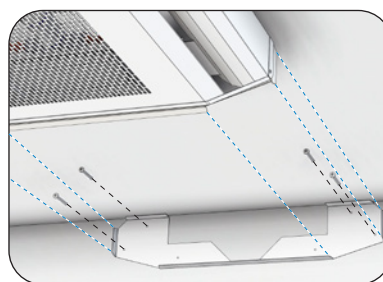
CW cover installed between one beam and wall.

L_{nom} = Exact distance between end-gable and wall (in mm) = order length

The real produced length will be $A = L_{nom} - 5$ mm.



Self drilling screws for bracket on gable of beam. Screws (x4) included.



CW wall bracket on wall must be aligned with bracket on XP-F gable. Screws for wall not included.



CW cover installation, inserting screws. Screws (x8) included.

Order code

PRO	XX	XX	XXXX	NON	XXXX
	CC CW	45 60	(L_{nom}) Nominal cover length [mm] 200 mm - 3600 mm in steps of 1 mm	Cover perforation Type NON	RAL Colour 9003 Other colours



CC cover installed (screws inserted).

When CC, CW nominal cover length (L_{nom}) > 1800, mid support bracket is included.

Installation instruction

Professor XP

6. Adjustment and commissioning

6.1 Airflow and pressure

The product has a factory pre-set of both primary airflow rate and static pressure loss, so normally an on-site adjustment is not necessary. The pre-setting is recorded on the product labels as shown under 2.11.

NB! The static pressure loss must be maintained by the ventilation fan to reach designed capacities. Therefore, measuring the static nozzle pressure (see 6.3.1) should be sufficient to guarantee the correct air flow rate.

6.1.1 Jetcone adjustment pins

Not relevant for Professor XP

6.1.2 Finding values for JetCone pins

Not relevant for Professor XP

6.2 Adjustment of air distribution pattern

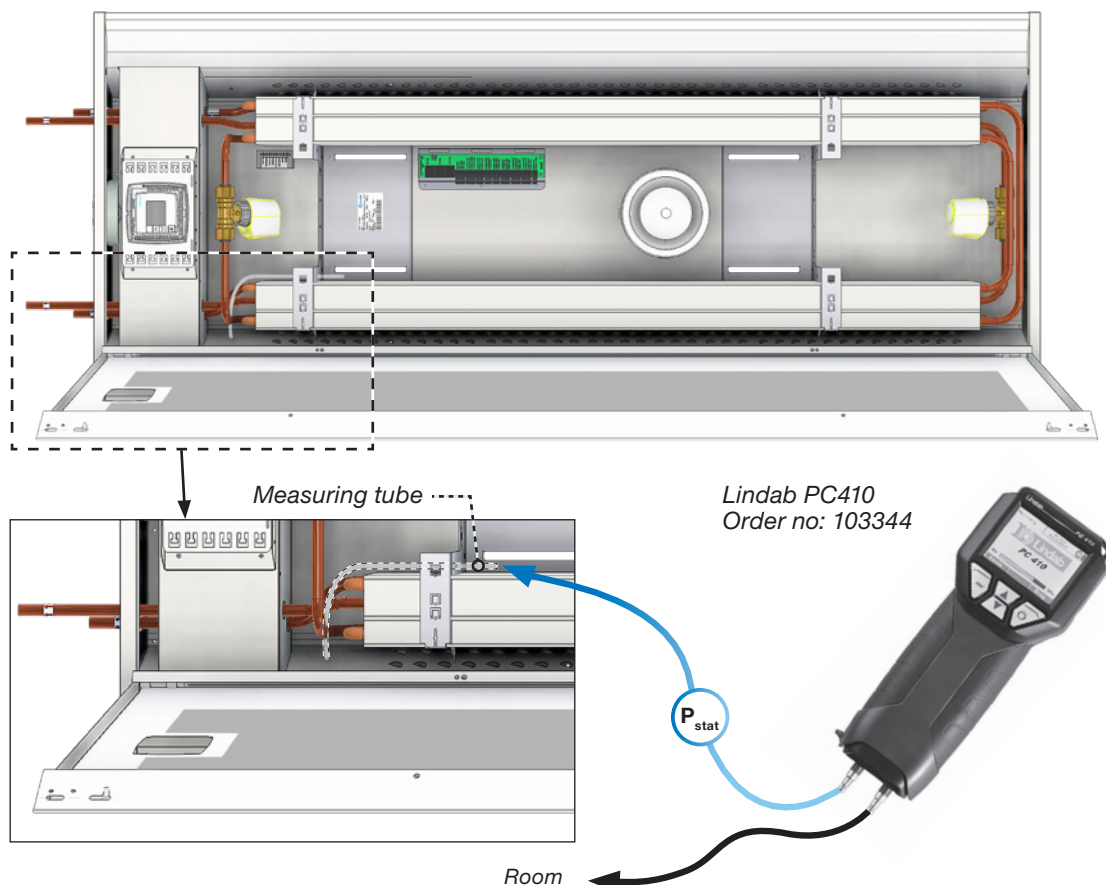
The beam can be ordered with different air distribution patterns to maintain different airtrow lengths, short (30°), medium (16°) or long (0°). The default setting is short (30°).

6.3 Measuring air pressure and calculating the air flow

To double check the primary airflow rate, the static nozzle pressure must first be measured. The static nozzle pressure is the air pressure available at the nozzles.

6.3.1 Measuring static nozzle pressure and air pressure

- To measure the air pressure, a manometer, (analogue or digital) will be needed. Lindab recommends PC410.
- Insert the measuring tube onto the specialized measuring nozzle.
- Read of the static nozzle pressure from the manometer (PC410).



Installation instruction

Professor XP

6.3.2 Calculating the actual air flow

- After measuring the static pressure calculate the specific air flow per nozzle:

$$q_{a/n} = \frac{\sqrt{\Delta p_{stat}}}{48} \quad \text{where: } q_{a/n} = \text{airflow rate per nozzle} \quad \text{and} \quad \Delta p_{stat} = \text{static nozzle pressure loss}$$

- After finding the airflow rate per nozzle, find the number of open nozzles (2.11) to calculate the primary airflow rate:

$$q_a = n_{open} \times q_{a/n} \quad \text{where: } q_a = \text{airflow rate (bearn)} \quad \text{and} \quad n_{open} = \text{total open nozzles}$$

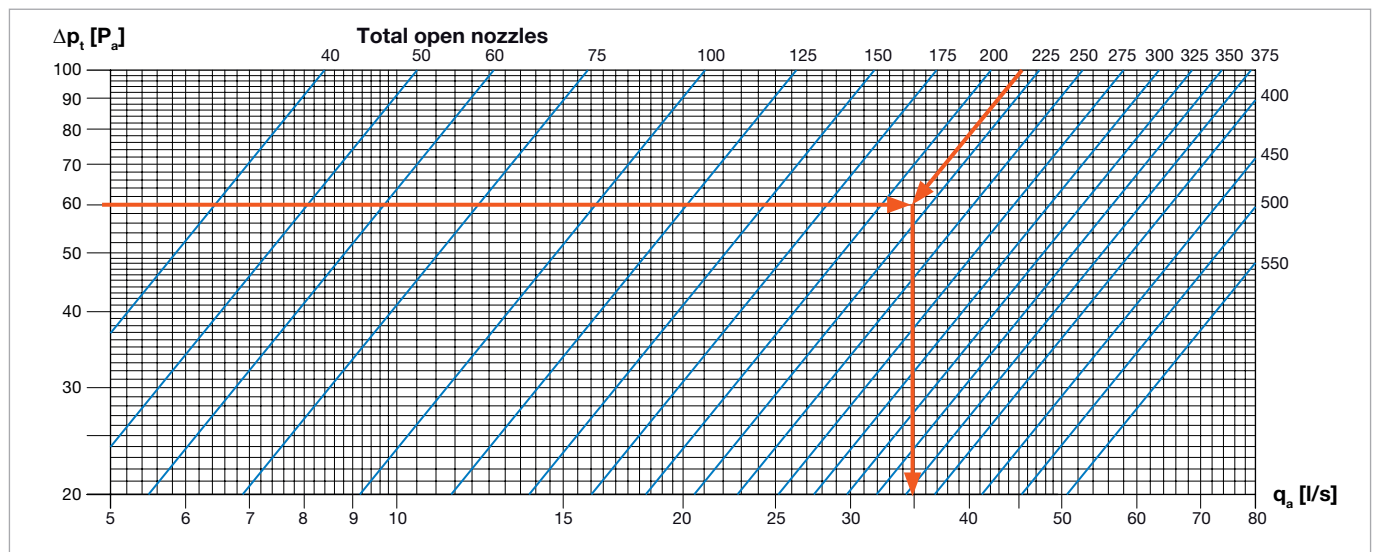
Alternatively, the actual airflow rate can be read off from diagram 1.

- After measuring the static pressure, locate the table and the diagram inside the openable perforated faceplate (or use diagram 1), and use both the measured static nozzle pressure and the total open nozzles (labels see 2.11) to read of the actual primary airflow rate q_a .

Example using diagram 1

Professor XP: PRO-I-60-12-1x100-A1-1200-2.4-60-35

$$\Delta p_{stat} = 60 \text{ Pa (static pressure loss)} \quad n_{open} = 217 \text{ pcs.} \quad \Rightarrow \quad q_a = 35 \text{ l/s primary airflow rate}$$



Example using diagram 1 (see 6.3.5) shows needed number of open nozzles to reach a desired air flow at a given pressure.

Installation instruction

Professor XP

6.3.3 Changing the actual air flow

The changing of the actual air flow rate can only be done by closing (less total open nozzles) and opening nozzles (more total open nozzles) according to the diagram 1 (individual change) or by changing of the actual static pressure over the ventilation fan (whole system changes).

Both nozzle plugs (order no. 642502) and nozzle tool (order no. 642635) are available as accessories.

6.3.4 Changing the air distribution profile

See 6.2.

6.3.5 Professor XP pressure / airflow diagram

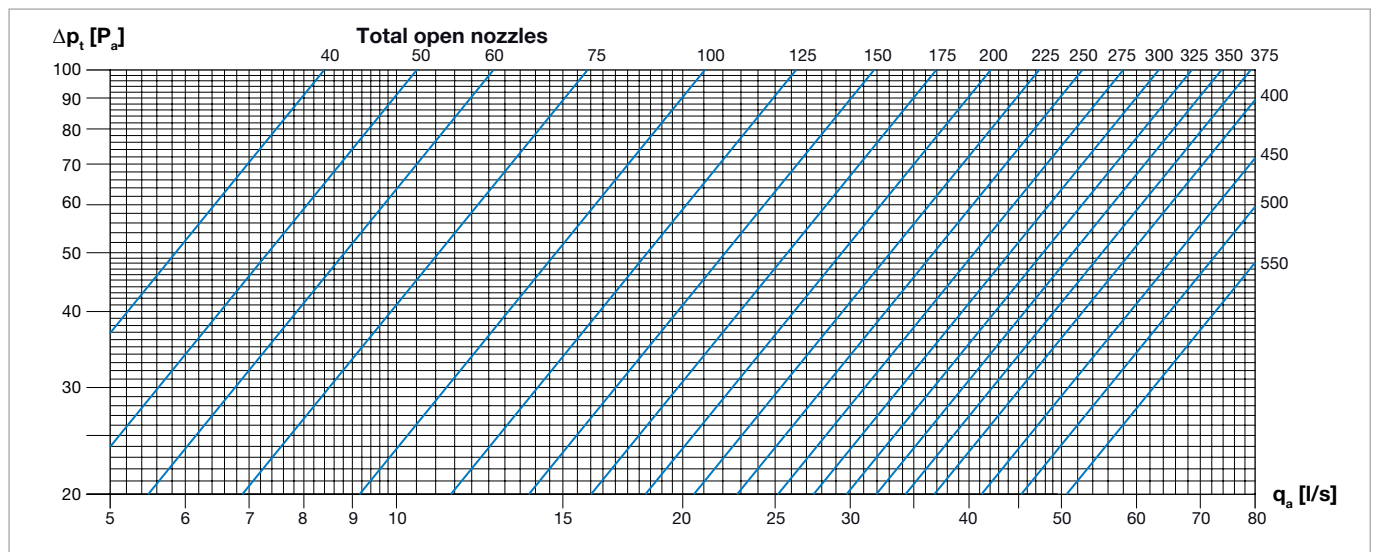


Diagram 1 Professor XP pressure / airflow diagram.

6.4 Water flow rate

6.4.1 Pre-setting of valves

All the integrated control valves (plus feature) are delivered not set. The presetting has to be done on site. For the presetting of valves, please see [LinFlow-A](#) (Angled) and [LinFlow-S](#) (Straight) water valves documentation.

6.4.2 Balancing strategy

Lindab recommends always balancing the water system to guarantee thermal comfort in all areas, to avoid noise nuisance problems and to save energy. A hydraulic balance is obvious to ensure that all the beams (panels or facade units) in the system will always be supplied with their required (planned) water flow rates (calculated with [LindQST\waterborne calculator](#)).

Lindab refers to the proportional method, where all beams (panels or facade units) are balanced to the same proportion of the requested water flow rate.

Installation instruction

Professor XP

7. Maintenance

The interval of cleaning depends on the indoor environment where the beam is placed. Under optimal conditions the beams only need cleaning every 5 years.

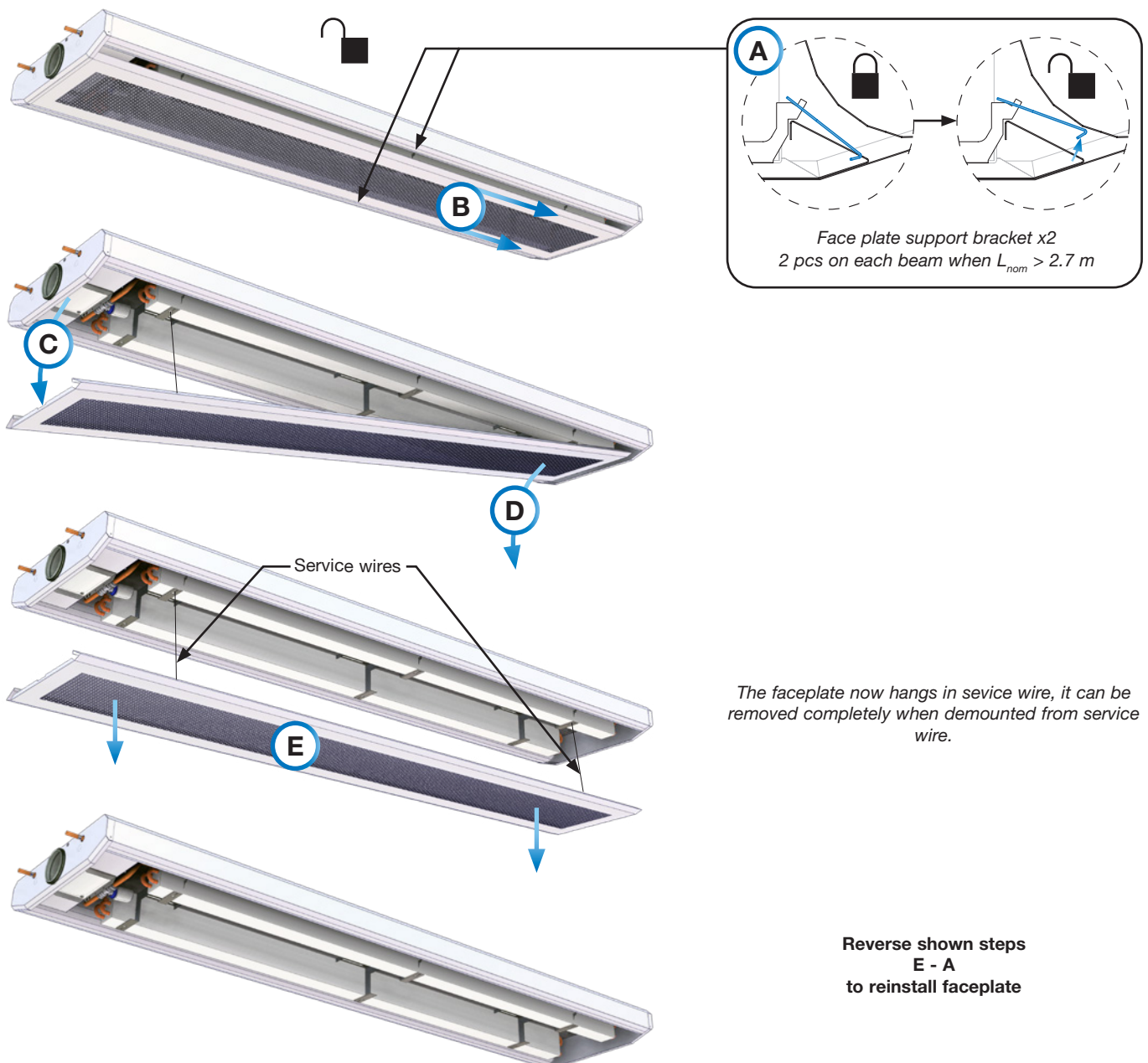
- Open the inlet plate using no tools (7.2).
- Clean the battery downside and the inlet faceplate inner parts with a dust cleaner / vacuum cleaner.
- Only use lukewarm water and a mild detergent and a piece of wet cloth to clean the inlet face plate.
- Open the inspection hatch (7.3).
- Clean the air plenum chamber and air connection with a vacuum cleaner.
- Clean the top side of the battery, nozzle plate, JetCones and the mixing chamber with a dust cleaner / vacuum cleaner.

7.1 Remove the outlet front grille

Not relevant for Professor XP.

7.2 Open inlet faceplate

F-45 / F-60



The faceplate now hangs in service wire, it can be removed completely when demounted from service wire.

Reverse shown steps
E - A
to reinstall faceplate

Installation instruction

Professor XP

I-45 / I-60.

Also valid for all Plusfeature models I-62, J-60, K-60, L-60, X-60, Y-60 and Z-60.



Reverse shown steps
E - A
to reinstall faceplate

Installation instruction

Professor XP

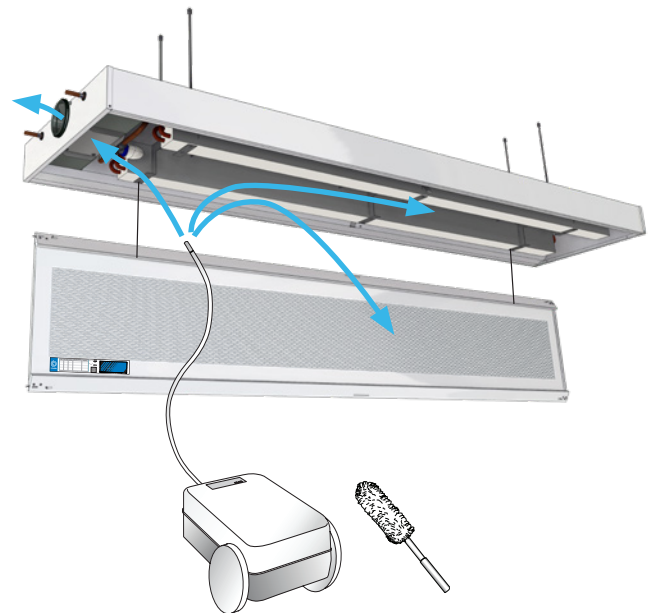
7.3 Open inspection hatch

Open faceplate. See 7.2. Opening inlet faceplate.

Note that you have 2 inspection hatches if you have 2 x 100 ventilation air supply connections. One in each end.



Access hatch



Via access hatch gain access directly to duct and other connected devices.

7.4 Lower battery

Not relevant for Professor XP.

Installation instruction

Professor XP

8. Accessories

Ask Lindab for the accessories mentioned in this document. Additional accessories (or additional dimensions) are available on request.**

Order code	Order number
2-way Control valve LinFlow-S-12 straight - push on	686552
2-way Control valve LinFlow-A-12 angled - push on	686554
4 pcs Threaded rod M8 -100mm + 4 pcs z-brackets + 16 pcs screw nuts	on request
4 pcs Threaded rod M8 -500mm + 4 pcs z-brackets + 16 pcs screw nuts	on request
4 pcs Threaded rod M8 -1000mm + 4 pcs z-brackets + 16 pcs screw nuts	on request
6 pcs Threaded rod M8 -100mm + 6 pcs z-brackets + 24 pcs screw nuts	on request
6 pcs Threaded rod M8 -500mm + 6 pcs z-brackets + 24 pcs screw nuts	on request
6 pcs Threaded rod M8 -1000mm + 6 pcs z-brackets + 24 pcs screw nuts	on request
Actuator A 40405 24 V on/off NC - 1m, non-halogen cable	684601
Actuator A 41405 24 V on/off NO - 1m, non-halogen cable	684603
Actuator APR 40405 0-10 V mod. NC, 1m, non-halogen cable	684667
Actuator APR 40405 0-10 V mod. NC, 1m, cable	684604
Aerator 12mm - tectite	647690
Ballofix Broen 12 mm with handle - shut-off valve	642663
Ballofix Broen 12 mm without handle - shut-off valve	642662
Copper insert 12 x 1,0 mm	884022
Flexible hose O2stopp_DN10 0,4m - JG12 push - JG12 push	686566
Flexible hose O2stopp_DN10 0,4m - JG12 push - straight end 12 mm	175984
Nozzle plug (Professor, Plafond)	642502
Nozzle tool (Professor, Plafond)	642635
Connection Cover PRO-CC/CW-45-XXXX-9003***	176412
Connection Cover PRO-CC/CW-60-XXXX-9003***	176412
Lindab PC 410	103344
Regula Combi see: "Accessories"	**
Regula Connect Card Basic	*/**
Regula Connect Card Multi	*/**
Regula Secura	**
Tectite angle 12 mm	884014
Tectite straight 12 mm	884050
Tectite demounting tool 12 mm	884087
Tectite demounting tool 12 mm, small	646881
Touch-up paint RAL 9003 - 25 ml	174759
Touch-up paint RAL 9010 - 25 ml	642531
Transformer 24V AC output	*/**

Table 6. Ordering codes and numbers for basic Professor XP accessories.

*see: "[Regula Connect – What do I get?](#)"

**see: "[Accessories](#)"

***XXXX = 0200 (mm) - 3600 (mm); incl. installation brackets.

See detailed order code in 5.5.1 in this document.



Most of us spend the majority of our time indoors. Indoor climate is crucial to how we feel, how productive we are and if we stay healthy.

We at Lindab have therefore made it our most important objective to contribute to an indoor climate that improves people's lives. We do this by developing energy-efficient ventilation solutions and durable building products. We also aim to contribute to a better climate for our planet by working in a way that is sustainable for both people and the environment.

[Lindab](#) | For a better climate