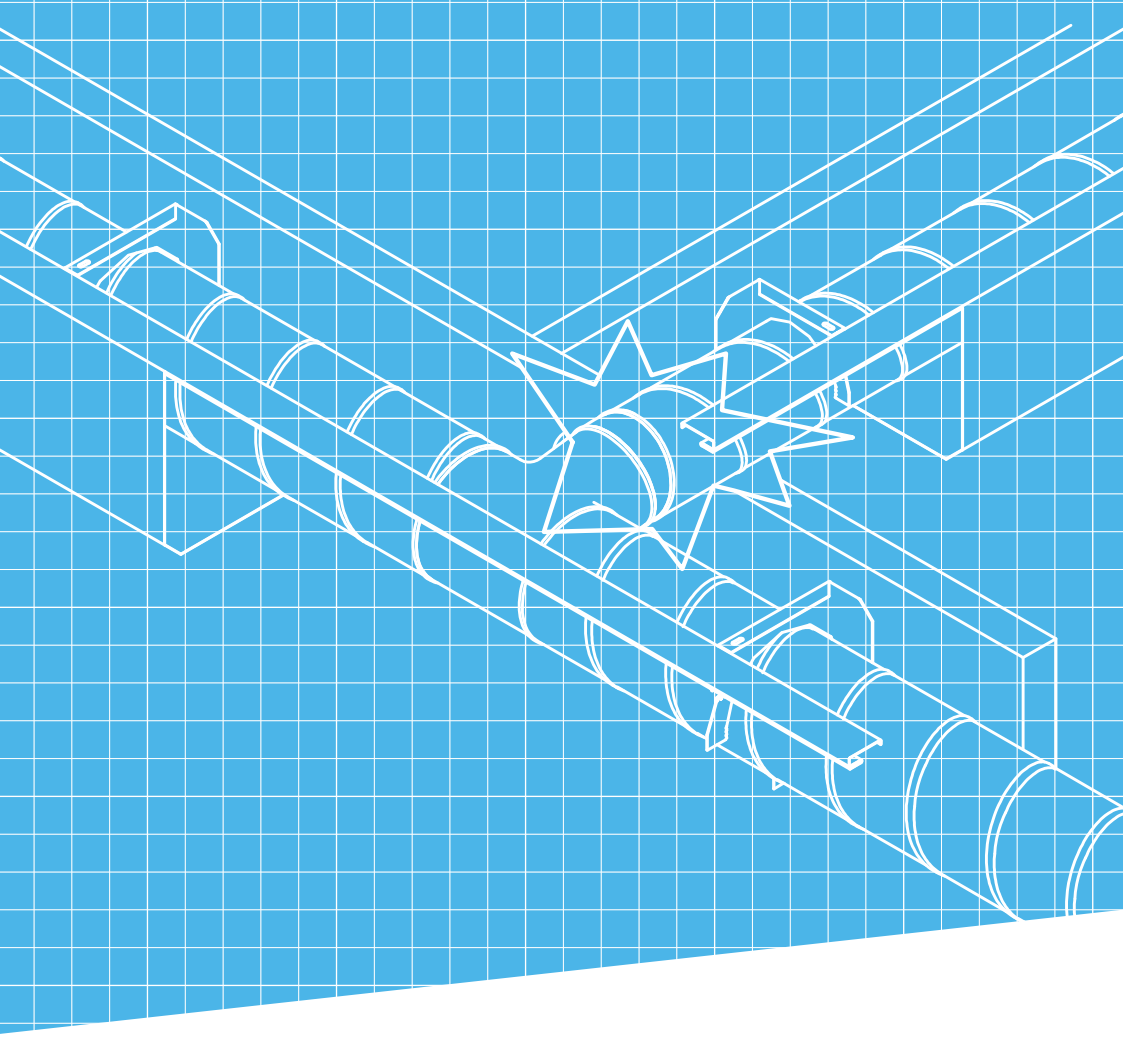


Lindab **InCapsa**

Mounting instructions

Lindab®

Contents

Description

Lindab InCapsa is a system that makes it easier to assemble, suspend and cover a ventilation system.

Lindab InCapsa consists of few products that can easily be assembled in different combinations to fit most rooms. In a few steps, you can install and cover a duct system behind panels of sheet metal.

Lindab InCapsa is suitable for rooms with straight walls and 90° degree corners. In rooms with different set-ups, e.g. furnished attics, sloping ceilings and curved walls, other solutions should be used.

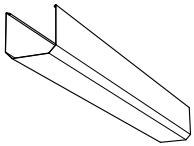
The system comes in three sizes, Ø100, Ø125 and Ø160, and is compatible with Lindab's duct systems.

Advantages of InCapsa

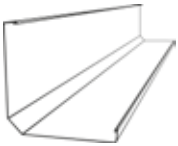
- Everything is fully assembled in one go.
- All work can be carried out by one category of professional.
- Saves both time and money.
- The system is easy to mount and demount.

Components

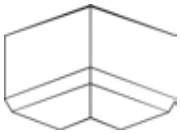
U-panel, CUP



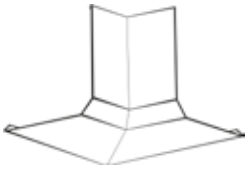
Panel, CP



Outer corner, CCO

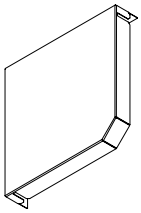


Inner corner, CCI

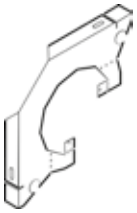


Rail, CSR

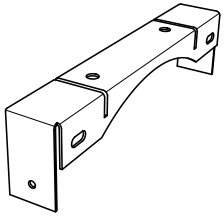
Gable, CG



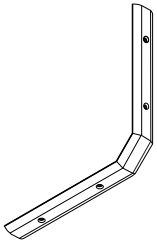
Console, CC



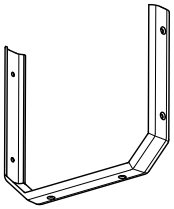
U-console, CUC



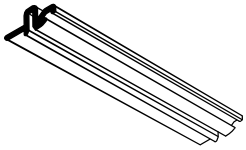
Joint, CPJO



U-outer joint, CPJUO

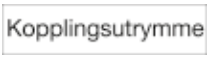


Inner joint, CPJI



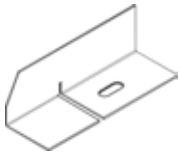
Joint screw, FTK

Information plate, CIP

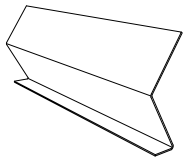


Access rail, CACR

Support plate, CSP



Rail alignment plate, CSRAP



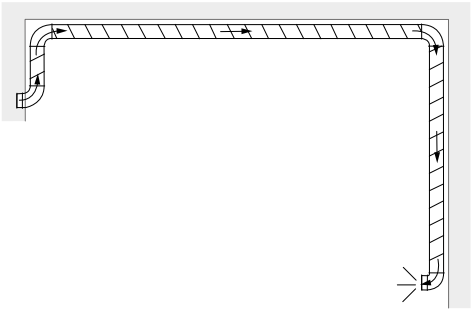
Tools you may require

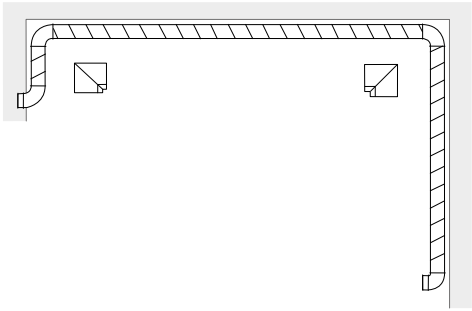
- Drill
- Plugs
- Screws
- Square
- Spirit level
- Marker pen
- Tape measure
- Metal shears
- Nibbler
- Pliers
- Rubber hammer

Other

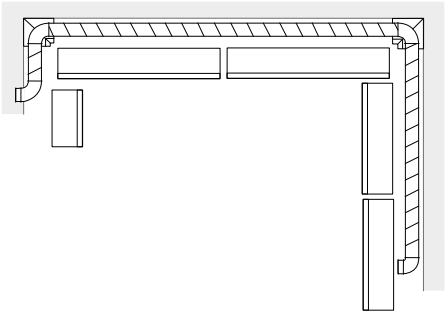
- Lindab duct system
- Lindab supply and exhaust air valves

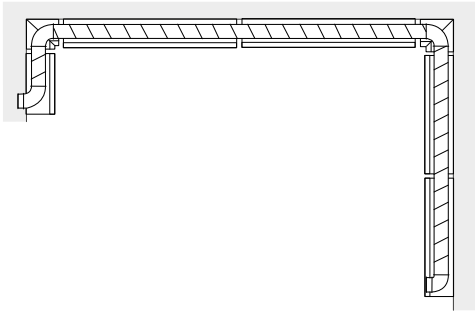
Planning and measuring

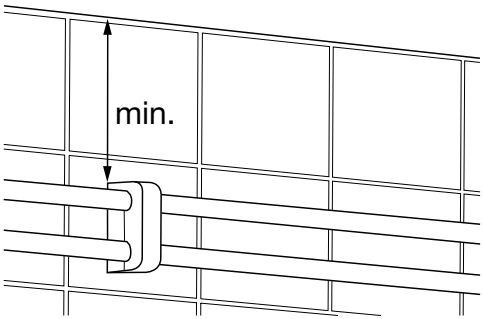


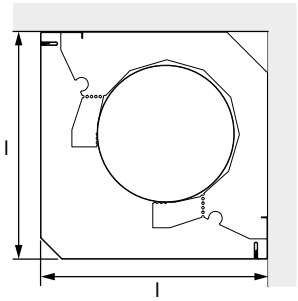


1. Carefully plan where you intend to mount the duct system in the room.
2. Ideally starting in a corner and letting the rails and panels meet in the centre of the straight sections.
3. Measure the room and determine how long all rails and panels should be. Remember that the rail and panel joints should not end in the same place, so try to get them to overlap each other in order to create stability.
4. Try to minimise the number of joints on the panels.







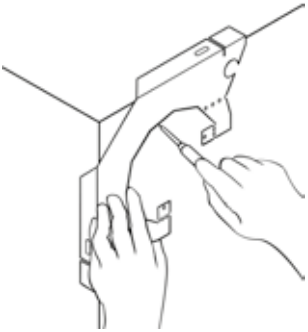


For InCapsa to be installed some space from the ceiling is required. Any obstacles should be moved or a solution other than InCapsa should be used.

Panel dimension	Minimum free heigth to celing	Installation length (l)
100	210	201,5
125	240	229
160	280	270,4

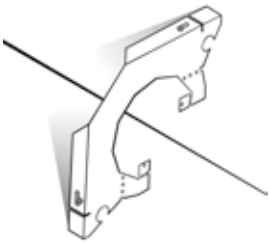
Making holes

Make a hole through the wall in which the duct is to be installed. A console of the same dimension as the duct may be used to find the correct position for the hole.



Panel dimension	Duct dimension	Hole diameter	Ceiling to centre of hole
100	100	110	87
125	100	110	107
125	125	135	100
160	100	110	140
160	125	135	136
160	160	170	118

Rails and consoles

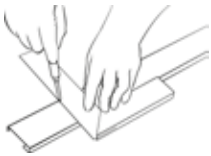


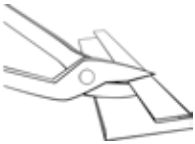
Mounting consoles

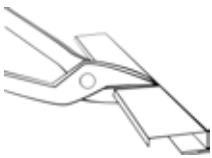
1. Mark the wall and the ceiling where the consoles are to be attached. The easiest way to locate the position of the fixing hole is to use a console. Be sure to hold the console close to both the ceiling and the wall to prevent the installation being skewed.
2. The holes should be positioned as far from the wall and ceiling as the elongated holes in the console allow. Each rail requires a minimum of two consoles.
3. The first console is attached 300 mm from the wall where the installation begins, with the next being sited at an appropriate distance to hold both ends of ceiling- and wall rails.
4. Drill holes in the ceiling and the wall and use suitable plug if necessary. Each console requires two screws, one in the ceiling and one in the wall.
5. Do not tighten the screws fully; leave them loose so that the console can move and there is room to insert the upturned edge of the rail into the cut-out slot in the console.

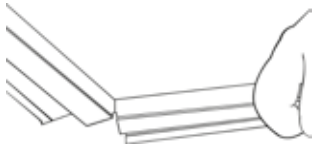
Cutting rails

1. Measure the room carefully and determine how long all rails must be. Mark on the rail where you need to cut it.
2. Cut the rails to size using metal shears. Start by cutting the portion of the rail folded in two up to the short side of the rail until you hear a click.
3. Then cut the upturned edge and long side.
4. Bend the rail back and forth on the short side of the rail until it breaks. Straighten the edge using a pair of pliers if it has become deformed.









Mitring rails in corners

Where rails meet in a corner, the edges can be mitred, allowing the joints to line up with the corners. This produces a more attractive end result than if you let the rails intersect. To find a 45° angle, the inner corner of the console can be used as a template. Mitred rails are available if you don't want to do this job yourself.

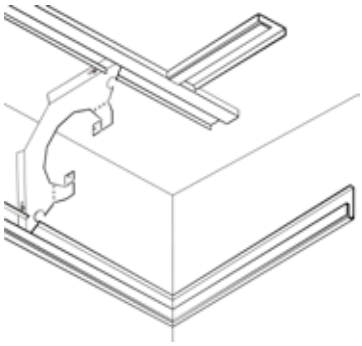
Inner corners

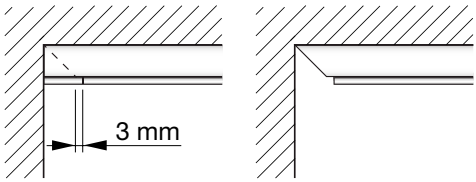
Ceiling rails

One goes towards the wall and the other is cut where the two meet.

Wall rails

Start from the corner and draw a line 45° into the room on the underside of the rail. Then draw a line on the folded part approximately 3 mm from the end of the 45° line in order to ensure that this does not coincide with the next rail in the corner. Cut off the folded part. Then carefully cut along the 45° line, making sure that this part, which is the only visible one, fits with the next rail in the corner.

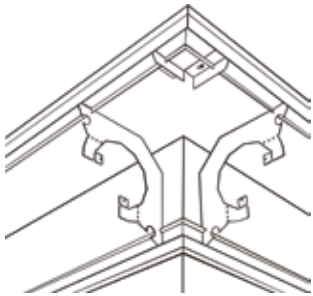


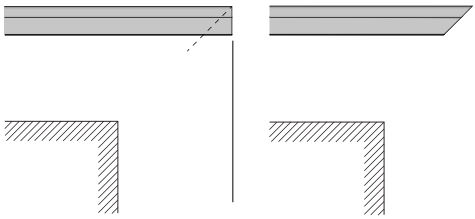


Outer corners

Ceiling rails

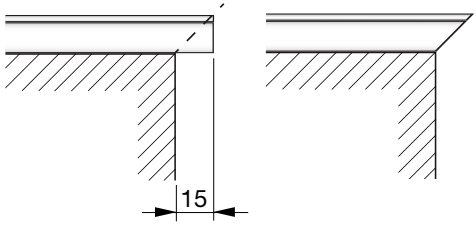
Draw a line on the rail 45° from the corner out into the room. Start by cutting the upturned edge and long side of the rail, then cut the folded part.





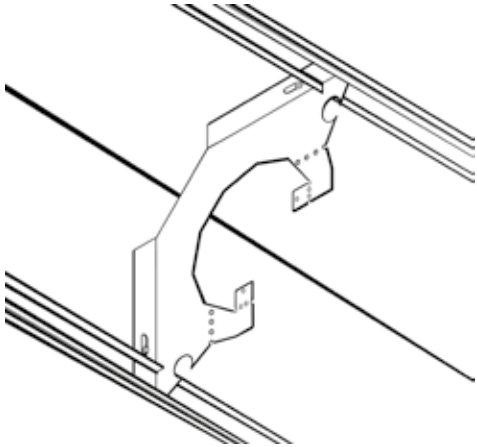
Wall rails

Start from the corner and let the rail go 15 mm out. Draw a line 45° from the corner out into the room. Then draw a line on the long side of the rail and the upturned edge along the corner edge. Start by cutting the upturned edge and long side. Then cut off the piece by cutting along the folded edge. Then cut along the angled line on the short side.



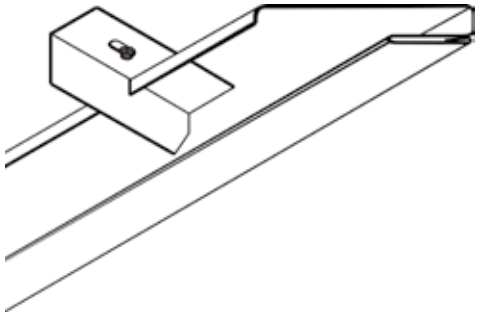
Mounting rails

1. Start at a wall by placing the first rail on the wall behind the consoles and tighten the screws slightly so that the rail is held in place but can still be adjusted. Make sure that the rail is horizontal.
2. Do the same with the corresponding rail on the ceiling. Tighten the screws. Place the next rail behind the consoles. Make sure that it is tight to the previous rail and that the folds engage with one another. Tighten the screws and then continue with the remaining rails.



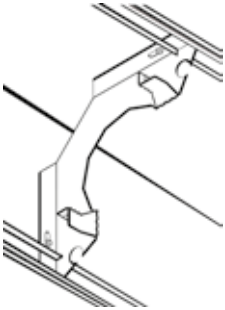
Support plates

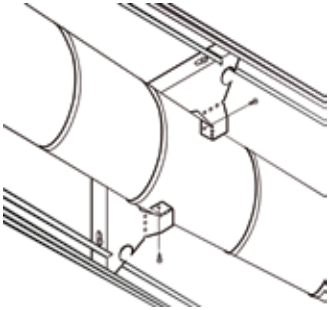
If you need to reinforce the rail attachments, you can use support plates. Support plates are particularly recommended when attaching rails in a ceiling at an outer corners and where it is not possible to use consoles.



Duct system

1. Bend the console's folding plates so that you can insert the duct system into the consoles.
2. Fit the duct system in the consoles and bend back the large tab of the folding plates so that the duct are held in place. The small tabs of the folding plates can be used to secure the duct system to the console using self-tapping screws.

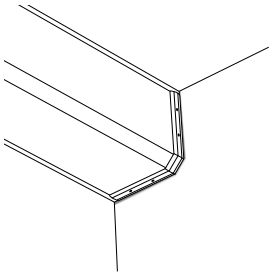


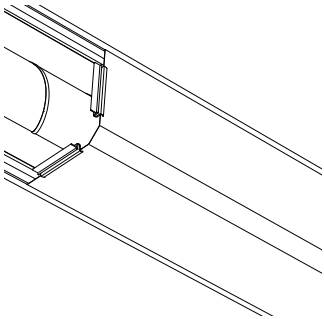


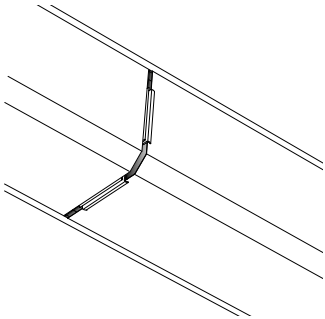
Panels and joints

To get a more appealing look, you should consider where the joints between the panels will be. Try to place joints on equal distant from each other in order to create symmetry.

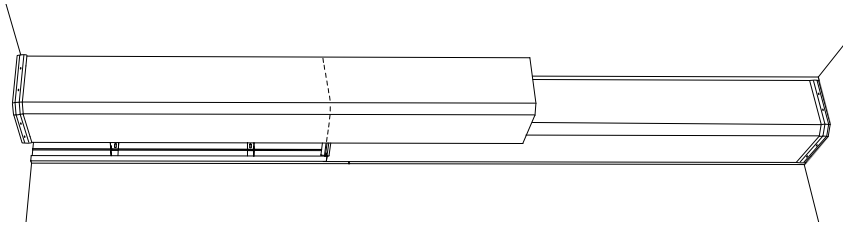
1. Start at a corner and attach two inner joints to the end of the panel that will be closest to the wall. Screw the outer joint to the inner joints with four joint screws. Hold the outer joint tight against the panel and start with the two screws furthest from the wall and ceiling.
2. Secure the panel to the rails by clicking the panel's folded edge in the ceiling rail's fold and then in the wall rail's fold so that the joint end up against the wall.
3. Attach two inner joints to the free end of the fitted panel.
4. Click subsequent panels into the rails so that one end lies against the inner joints of the previous panel, remembering to attach the panels correctly from the start since it is difficult to make lateral adjustments.
5. Attach two inner joints to the other end of the panel and continue attaching panels until you come to a corner or want to finish the covering of the duct system.







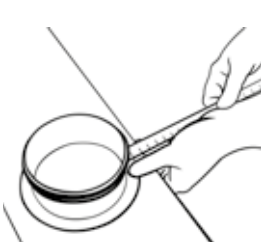
6. Attach two inner joints to the end of the final panel .
7. Hold the final panel between the already attached panel and the wall and mark where it should lie against the inner joints.
8. Using a square, mark on the panel where you want to cut it and then use the nibbler to cut. Straighten the edge using a pair of pliers if it has been deformed.
9. Remove the protective film from the panels.
10. In order to make it easy to remove a panel, the inner joints on both sides of the panel must not be attached to the panel you wish to remove.

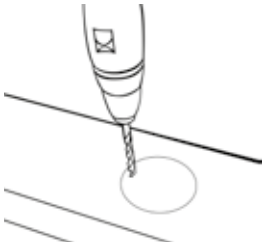


Holes for duct system

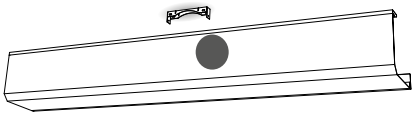
1. On the side of the panel, mark where the hole is to be located.
2. Use a fitting with the same dimension as the duct system inside the panel as a template. Place the fitting at the correct distance from the top edge of the panel as shown in the table below and draw the outline of your hole using a marker pen.
3. Drill a 10 mm hole about 10 mm from the line. Use metal shears and cut a smaller hole. Then cut the entire hole to the appropriate size, large enough to allow a fitting to pass through.

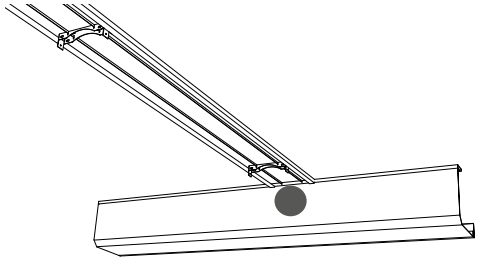
Panel dimension	Duct dimension	Distance from top of the panel to the fitting
100	100	24
125	100	44
125	125	24.5
160	100	77
160	125	61.5
160	160	26



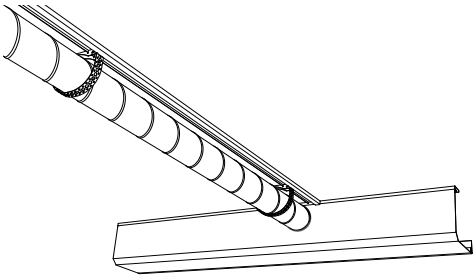


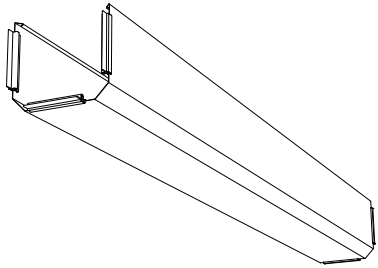
Crossing the ceiling



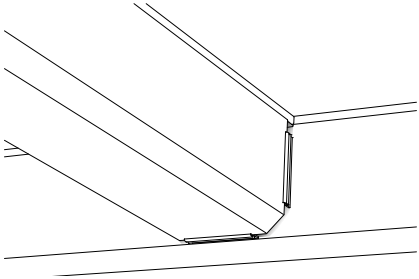


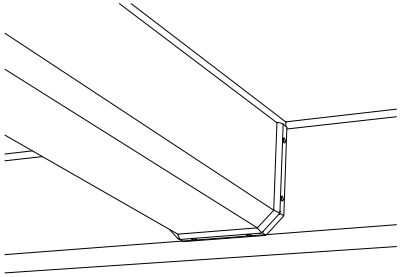
1. Mount two u-concoles using screws loosesly in the ceiling where the duct is supposed to be suspended.
2. Place two rails in the concoles slits and make sure that their ends are tight against the panel or wall. Tighten the screws so that the concels are thight against the ceiling.





3. Suspend the duct system to the u-concoles by using suspension bands.
4. Attach three inner joints to each end of the u-panel.

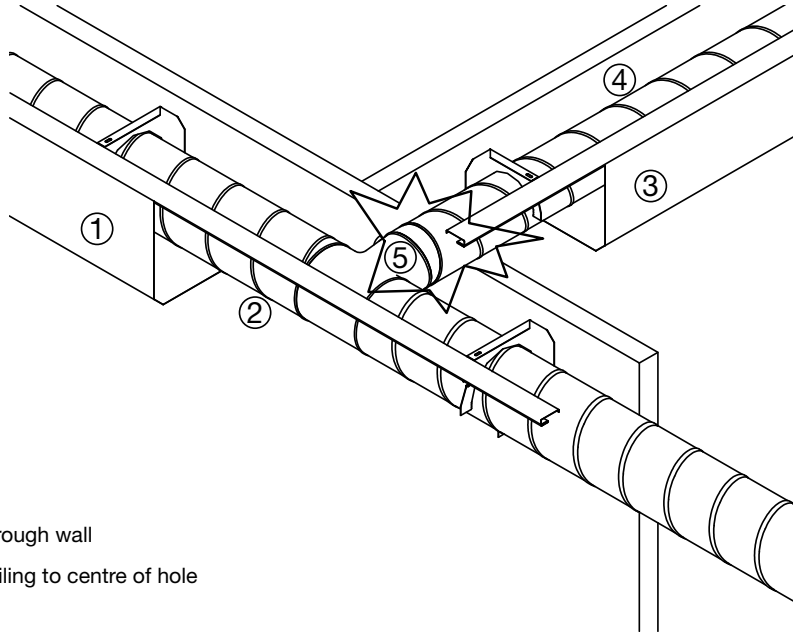




5. Secure the u-panel to the rails by clicking the panel's folded edge in the rail's slit so that the inner joints are tight against the panel or wall.
6. Hold the u-outer joint tightly pressed against the u-panel and attach it to the inner joints by using six joint screws.

Dimensional transitions

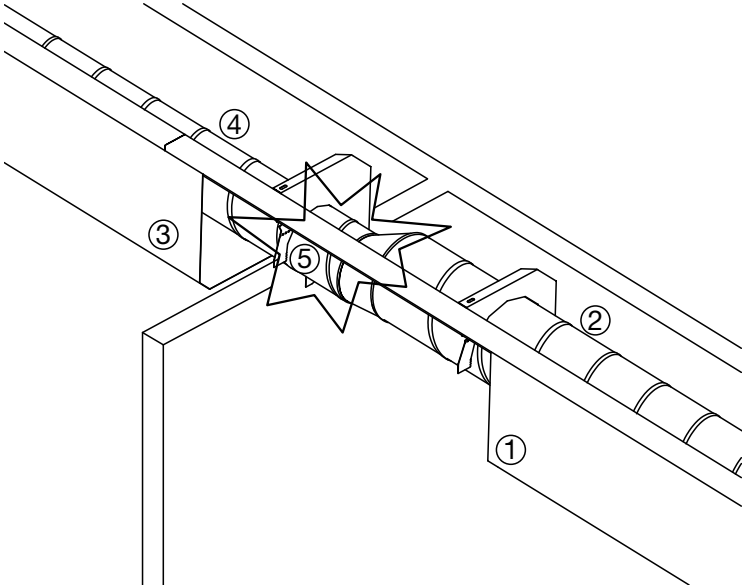
Perpendicular through wall



1. Panel dimension
2. Duct dimension
3. Panel dimension
4. Duct dimension
5. Transition
6. Hole diameter through wall
7. Distance from ceiling to centre of hole

1	2	3	4	5	6	7
100	100	100	100	TCPU 100 100	110	87
125	100	100	100	TCPMU 100 100 + BU 100 15	110	105
125	100	125	100	TCPU 100 100	110	107
125	125	100	100	TCPMU 125 100 + BU 100 15	110	90
125	125	125	125	TCPU 125 125	135	100
160	100	100	100	TCPMU 100 100 + BU 100 30	110	95
160	125	100	100	TCPMU 125 100 + BU 100 15	110	80
160	125	125	125	TCPMU 125 125 + BU 125 15	135	95
160	160	100	100	TCPMU 160 100 + BU 100 15	135	100
160	160	125	125	TCPMU 160 125 + BU 125 15	135	100
160	160	160	160	TCPU 160 160	170	119

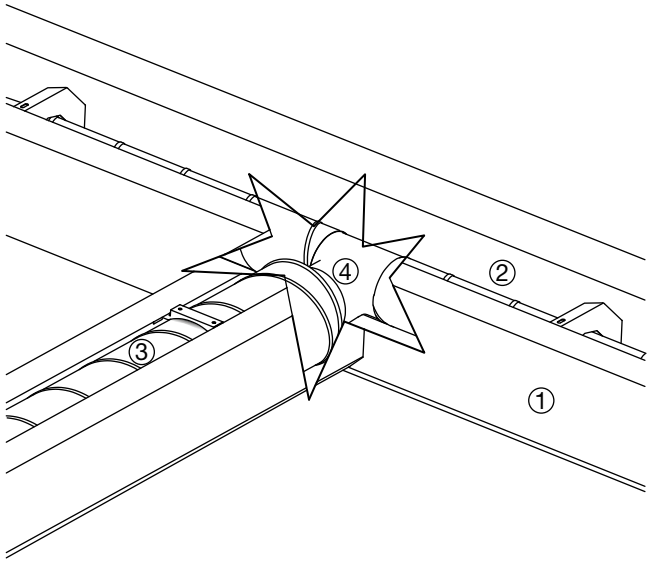
Straight through wall



1. Panel dimension
2. Duct dimension
3. Panel dimension
4. Duct dimension
5. Transition

1	2	3	4	5
100	100	100	100	-
125	100	100	100	Flexible duct
125	125	100	100	RLU 125 100
125	125	125	100	RLU 125 100
125	125	125	125	-
160	100	100	100	BU 100 15 SR 100 BU 100 15
160	100	125	100	BU 100 15 MF 100 BU 100 15
160	125	100	100	RLU 125 100 MF 100 BU 100 15 SR 100 BU 100 15
160	125	125	100	RLU 125 100 MF 100 BU 100 15 SR 100 BU 100 15
160	160	100	100	RLU 160 100
160	160	125	100	RLU 160 100
160	160	125	125	RLU 160 125
160	160	160	100	RLU 160 100
160	160	160	125	RLU 160 100
160	160	160	160	-

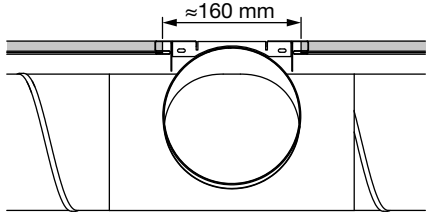
Panel to u-panel



1. Panel dimension
2. Duct dimension
3. Duct dimension in u-panel
4. Transition
5. Distance from celing to duct suspended in u-panel
6. Hole diameter through panel
7. Distance from ceiling to centre of hole

1	2	3	4	5	6	7
100	100	100	Straight	40	110	88
125	100	100	Straight	50	110	106
125	125	100	Straight	45	110	100
125	125	125	Straight	37	135	100
160	100	100	BU 100 15 + TCPMU 100 100	45	110	105
160	125	100	BU 100 15 + TCPMU 125 100	30	110	105
160	125	125	BU 125 15 + TCPMU 125 125	45	135	102
160	160	100	BU 100 15 + TCPMU 160 100	40	110	80
160	160	125	BU 125 15 + TCPMU 160 125	30	*	*
160	160	160	BU 160 15 + TCPMU 160 160	10	*	*

* Leave a gap, about 160 mm in the ceiling rails for the panel, CP, for the transition to fit.

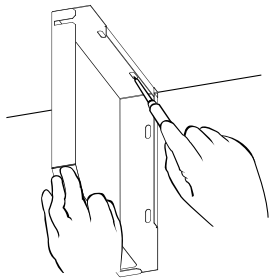


Gable

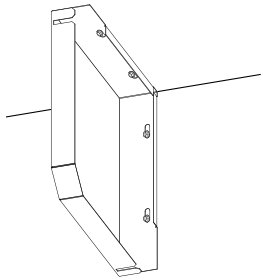
If the duct system ends in the middle of a wall, you can choose to either let the panels continue to the next wall or to use a gable.

Lindab recommends finishing at a wall to achieve a more pleasing appearance.

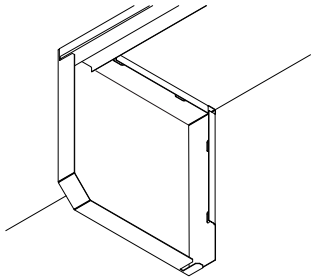
1. Keep the gable vertically against the ceiling and wall using a spirit level. Mark the hole positions. Drill holes and plug if necessary.



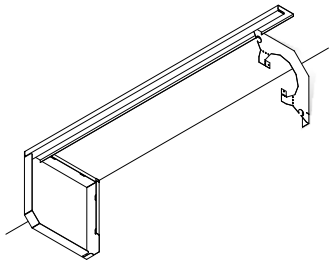
2. Attach the gable tightly against the ceiling and the wall using screws.



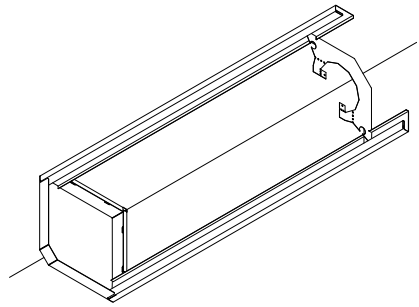
3. Guide the ceiling rail, without the protective foil, into the gable's slot. The rail shold be tight against the gable.



4. Attach a second console loosely about 100 mm from the end of the rail. Let the ceiling rail rest in the console's slot.

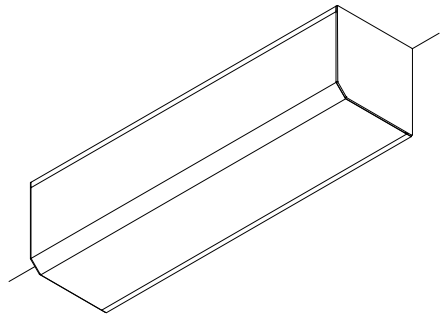


5. Mount the wall rail in the gable and the console. Attach the second console tightly against the wall and ceiling.



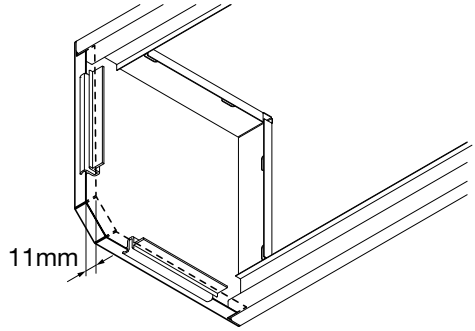
Gable without outer panel joint, CPJO

6. Secure the panel to the rails by clicking the panel's folded edge in the ceiling rail's fold and then in the wall rail's fold.

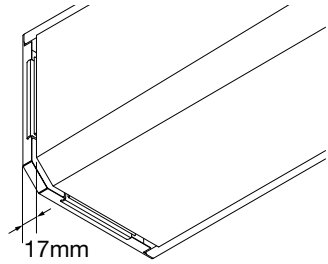


Gable with outer panel joint, CPJO

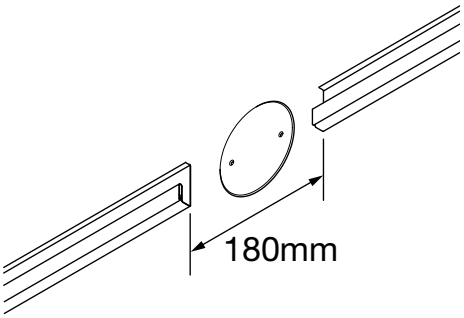
7. Cut of 11 mm of the gable. Attach two inner panel joints to the gable.

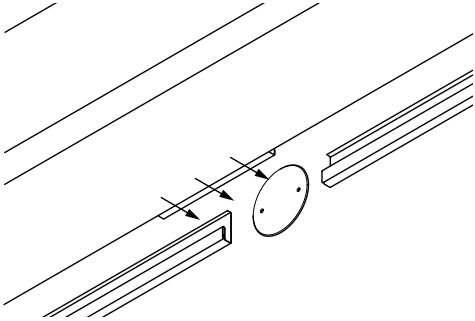


8. When attaching the panel to the rails leave a gap of 17 mm to the gabel. Attach the outer panel joint to the inner joint by using joint screws, FTK.

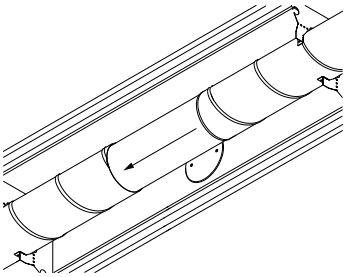


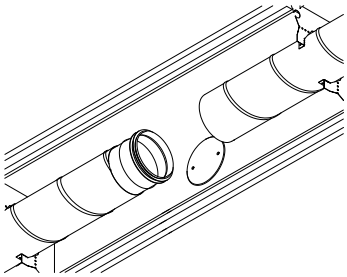
Electrical installations





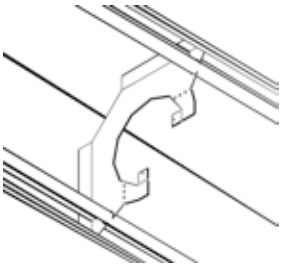
If a rail passes over an electrical box cover, leave a gap by the cover that is as long as a access rail. Attach the access rail to the panel and make sure it comes off when you remove the panel to access the electrical box. In order to obtain a neat installation, the electrical box cover should be no thicker than 3 mm.





If an electrical box cover is covered behind the duct system, fit a slide-in coupling in front of the cover to make it easier to gain access. If an electrical box cover is concealed behind the panel, an information plate must be placed on the panel.

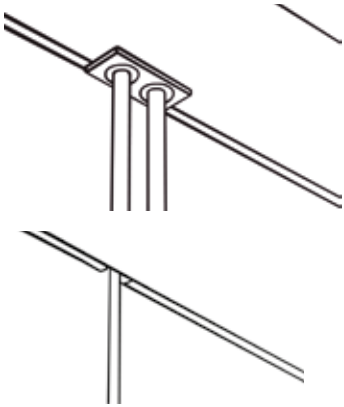
The consoles' two Ø16 mm holes can be used to attach plastic conduit pipes. To fit the pipes in position, either insert the pipes from the side or bend the metal corners, insert the pipes and bend back the corners.



Vertical obstacles

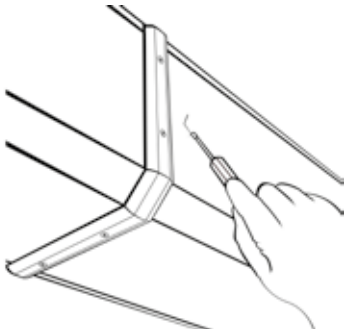
If you encounter vertical water pipes, make a hole measuring about 80×30 mm in the panel that bypasses the pipes. Fit a divisible rubber washer to the surface of the panel to hide the hole and create a neat installation.

When an electrical cable is routed vertically on the wall, leave a hole in the wall rail that is 6 mm larger than the diameter of the cable. Seal around the cable using elastic sealant.



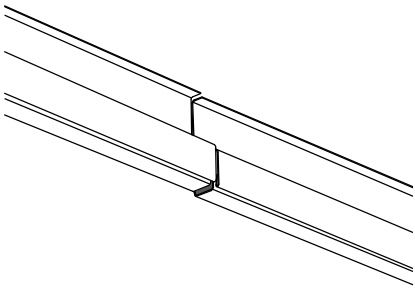
Touch-up paint

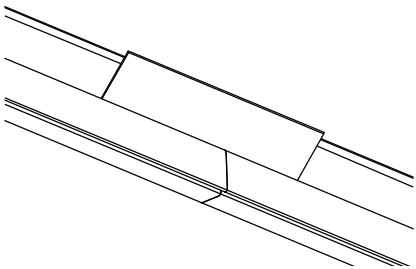
If the finish of the panels was damaged during installation, you can use touch-up paint to conceal the damage.



Rail alignment plate

If two rails don't align properly it is recommended to place a rail alignment plate inside the two rails where they meet to make them to align.





Fire

Each country has is its own fire regulations and they must allways be followed.

Good Thinking

At Lindab, good thinking is a philosophy that guides us in everything we do. We have made it our mission to create a healthy indoor climate – and to simplify the construction of sustainable buildings. We do that by designing innovative products and solutions that are easy to use, as well as offering efficient availability and logistics. We are also working on ways to reduce our impact on our environment and climate. We do that by developing methods to produce our solutions using a minimum of energy and natural resources, and by reducing negative effects on the environment. We use steel in our products. It's one of few materials that can be recycled an infinite number of times without losing any of its properties. That means less carbon emissions in nature and less energy wasted.

We simplify construction

Lindab®