

CEILING MOUNTED  
RADIANT PANELS

**CASA**

**LYNGSON**

HEAT IN VARIOUS FORMS

# TECHNICAL DATA

<b>Material</b>	Base made of 0.6 mm rolled and varnished aluminum sheet, top covered with 0.3 mm aluminum sheet, 12 mm copper tubes.
<b>Insulation</b>	The panel is filled with insulating polyurethane foam.
<b>Coating</b>	Powder painted, lacquered.
<b>Colour</b>	Standard colour RAL 9003 gloss 12. Other colors available on request.
<b>Max pressure</b>	10 bar
<b>Max temperature</b>	90°C
<b>Connections</b>	See the catalog below for connections.
<b>Quality</b>	Production according to EN 14037.

## DESCRIPTION

### CASA

- CASA is an extremely light sandwich-type ceiling panel for heating.
- The CASA can be freely suspended or integrated into a suspended ceiling system.
- Wide model range that can be connected in series. Line length up to 25 meters.
- CASA is a hygienic.

### FUNCTION

- Heating (with radiation).

### APPLICATION

- Sports halls
- Warehouses
- Production facilities
- Schools
- Offices
- Shops

## ADVANTAGES

### CASA

- The CASA panel heating system can save more than 40% energy.
- The sensed temperature can be 3K higher than the air in the room

- Economical operation of the system, does not require additional costs.
- Can be mounted separately or integrated into suspended ceiling system.
- Can be installed in large module lengths (up to 6m) to reduce joints.

### LOW INSTALATION COSTS

- Low panel weight.
- Fully assembled at the factory.
- Convenient mounting of fasteners.

### MOUNTING SIZES

- Minimum distance from the ceiling 30mm, if to be mounted directly to the ceiling.

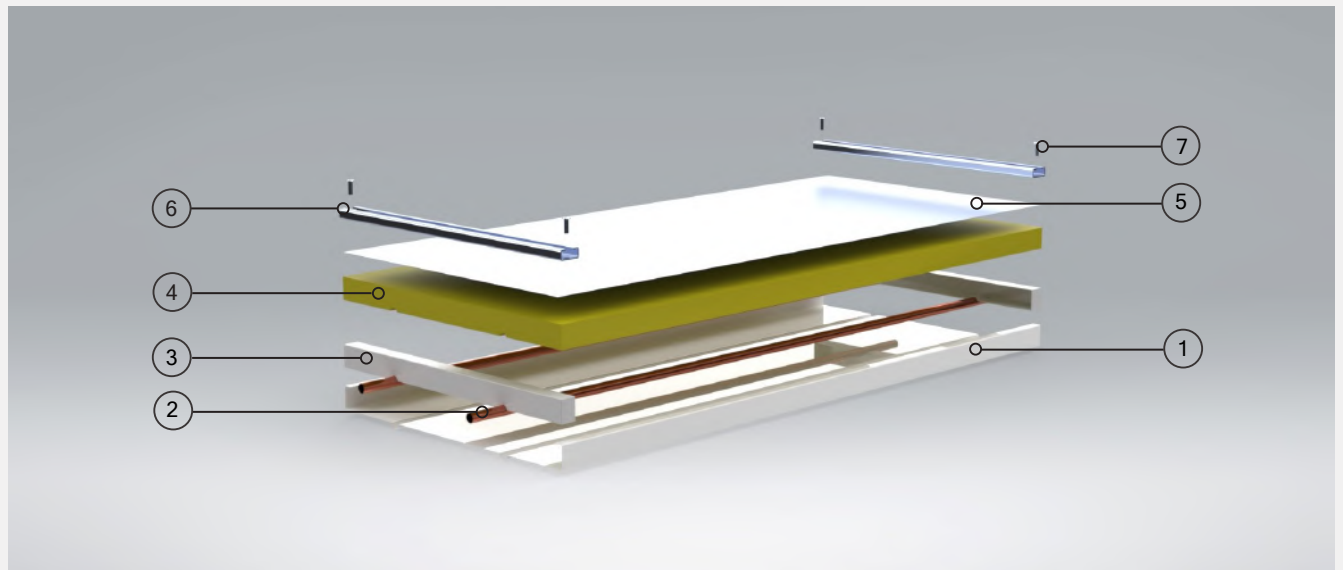
### OPERATING COSTS

- There are no moving parts that wear out.
- Smooth and closed, maintenance-free panel surfaces.

### HYGIEN

- The panel surfaces are smooth and easy to clean.

# CONSTRUCTION



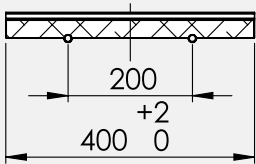
- ① Base plate. 0,6mm profiled and painted aluminum sheet
- ② 12mm cooper pipes
- ③ Plastic panel ends
- ④ Polyurethane foam insulation
- ⑤ 0.3mm covering aluminum sheet
- ⑥ Panel mounting C-profile
- ⑦ Rivets for connecting the panel to the mounting profile



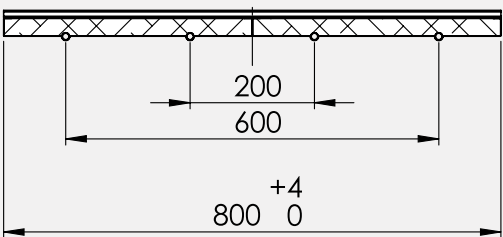
# DIMENSIONS

Model	Casa 400	Casa 800	Casa 1200
Width, mm	400	800	1200
Tickness, mm	43	43	43
Weight with insulation, kg/m	2,7	5,4	8,1
Volume, l/m	0,17	0,34	0,51
Lengths: From 1 to 6 meters in steps of 0.1 m			

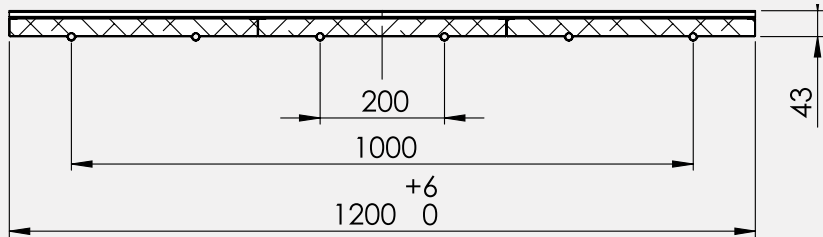
Casa 400



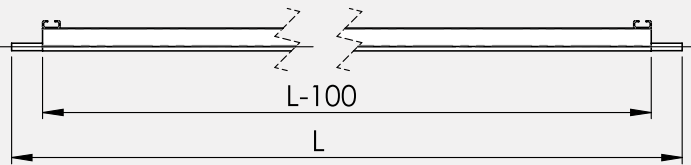
Casa 800



Casa 1200

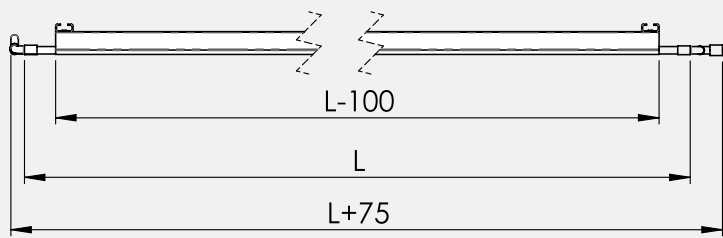


MP vidus panelis



The MP panel has smooth 12mm cooper pipe ends without attached fittings.

P panelis



The P panel is equipped with copper press fittings, which increase the length of the panel by 75 mm.

# TYPES AND CONNECTIONS

## Panel types and codes

Code	Product name	XX = lenght (dm)	Connection size
8004XX00	CASA 400 MP		Ø 12 mm
8008XX00	CASA 800 MP		Ø 12 mm
8012XX00	CASA 1200 MP		Ø 12 mm
8008XX10	CASA 800 P		Ø 15 mm
8012XX10	CASA 1200 P		Ø 15 mm
8008XX20	CASA 800 SP		Ø 15 mm
8012XX20	CASA 1200 SP		Ø 15 mm
8008XX25	CASA 800 SP-SP		Ø 15 mm
8012XX25	CASA 1200 SP-SP		Ø 15 mm
8004XX30	CASA 400 EP		Ø 12 mm
8008XX30	CASA 800 EP		Ø 12 mm
8012XX30	CASA 1200 EP		Ø 12 mm

# TYPES AND CONNECTIONS

## Panel types and codes

Code	Product name	XX = lenght (dm)	Connection size
8004XX40	CASA 400 D		Ø 12 mm
8008XX40	CASA 800 D		Ø 15 mm
8012XX40	CASA 1200 D		Ø 15 mm
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8004XX50	CASA 400 D-SP/EP		Ø 12 mm
8008XX50	CASA 800 D-SP/EP		Ø 15 mm
8012XX50	CASA 1200 D-SP/EP		Ø 15 mm
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8008XX60	CASA 800 S		Ø 12 mm
8012XX60	CASA 1200 S		Ø 12 mm
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8008XX70	CASA 800 S-SP		Ø 12 mm
8012XX70	CASA 1200 S-SP		Ø 12 mm
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8008XX80	CASA 800 S-EP		Ø 12 mm
8012XX80	CASA 1200 S-EP		Ø 12 mm



# CONNECTIONS

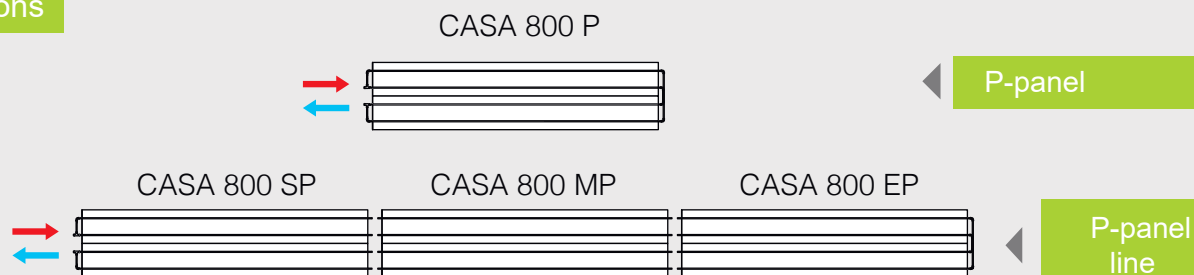
## Connection types and line generation

### How different panel models are used

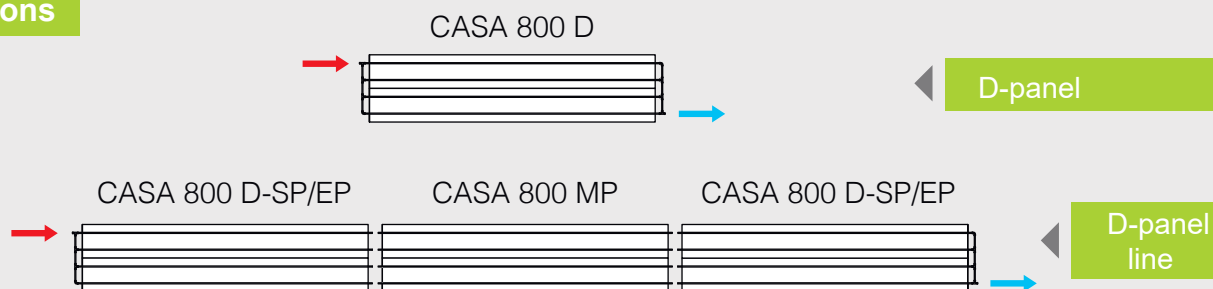
The length of the series of panels depends on the pressure drop to be calculated. When choosing different types of panel connection, it is important to take into account that turbulent flow must be ensured.

If turbulent flow is not achieved, the calculated power must be adjusted by a power factor. Casa can be installed freely suspended or built into the suspended ceiling.

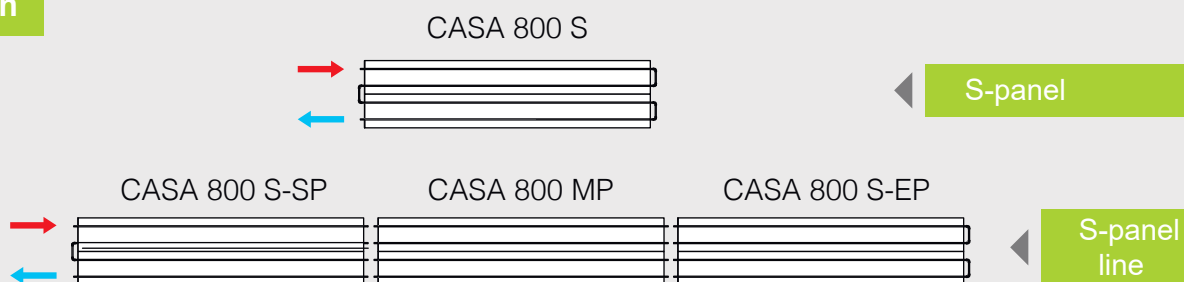
### P-connections



### D-connections

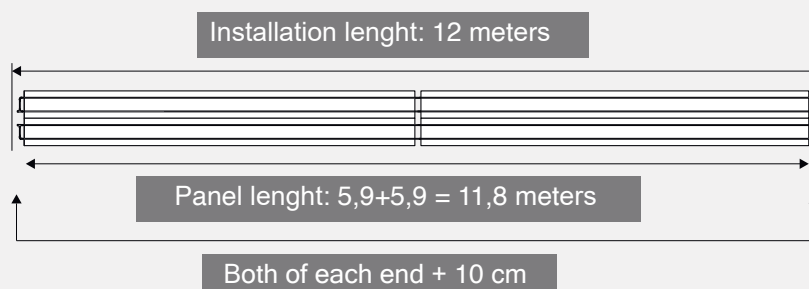


### S-connection



## Built-in ceilings

When using panels for suspended ceilings, the total length of the ordered panel line must be 200 mm shorter than the dimensions of the installed ceiling niche. This space will be occupied by the connection of the panels to the system and different cover plate models are used to hide them.



# CONNECTION AND TEMPERATURE CONTROL

## Valves and actuators

The control-zone valve is often located close to the ceiling heating panels, which means that thermoelectric actuators are often the most convenient solution.

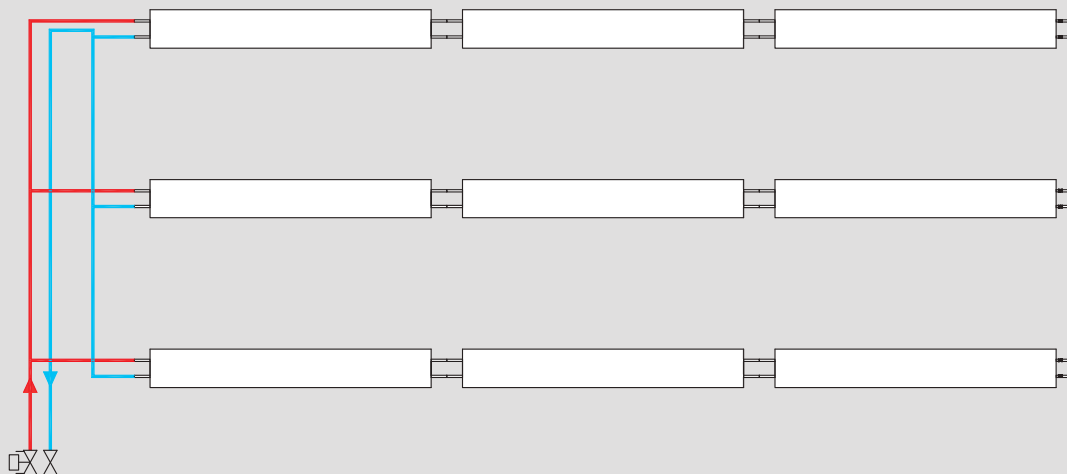
CASA's wide range of models and sizes covers a wide range of required energy. This requires a wide selection of valves. We can offer balancing-zone valves for ON/OFF control, as well as we can offer pressure-independent valves PICV, which can be equipped with both modulating and ON/OFF actuators.



It is important that the CASA panels or series are designed for turbulent flow according to page 13.

## Tichelmann connection

In cases where many identical lines are arranged in parallel, the number of control valves can be reduced by connecting the pipelines according to the Tichelmann principle. Please contact Lyngson for more information.



Use our user-friendly power and size calculation program. With the ceiling panel guide you can get an idea of the number of panels required.

[www.lyngson.lv/casa/](http://www.lyngson.lv/casa/)



# CONNECTION AND TEMPERATURE CONTROL

Control of one or serial panels with control-balance valve and thermoelectric actuator



Control the entire area with only one control valve and thermoelectric actuator. Addition with shut-off valve



The accessories in the examples are from several different manufacturer



Room thermostat



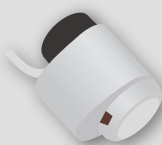
Room thermostat with capillary



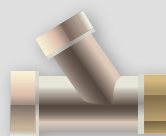
Wireless room thermostat



Control-balance valve



Actuator



Shut-off valve



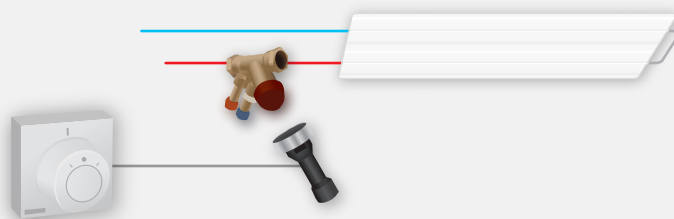
Wireless receiver

# CONNECTION AND TEMPERATURE CONTROL

One or more panel lines control with thermoelectric actuators and wireless room temperature controller.



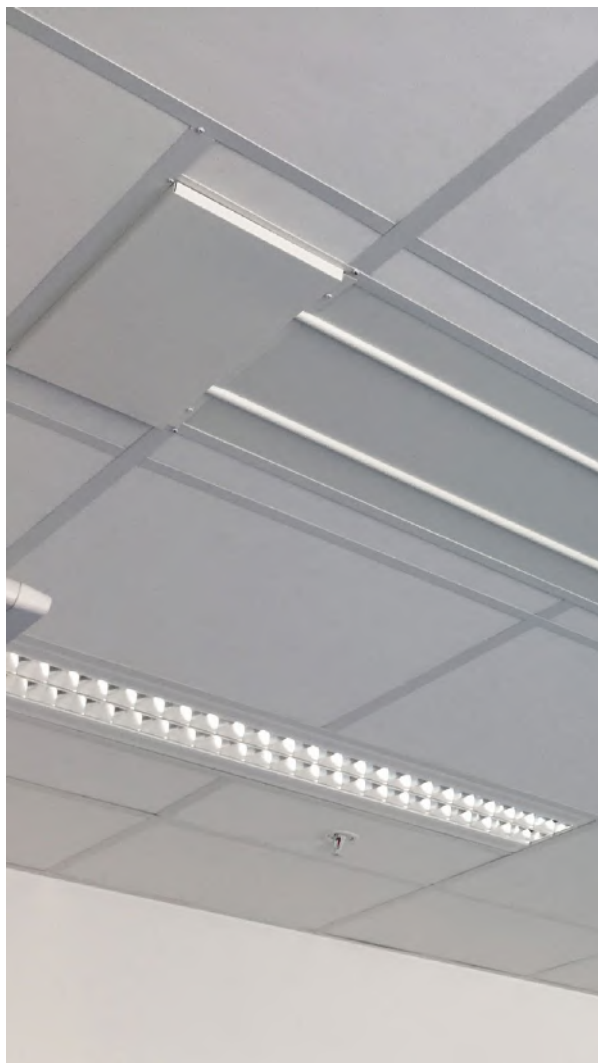
Control of a series of one or more panels with a zone-valve connected to a mechanical room temperature controller.



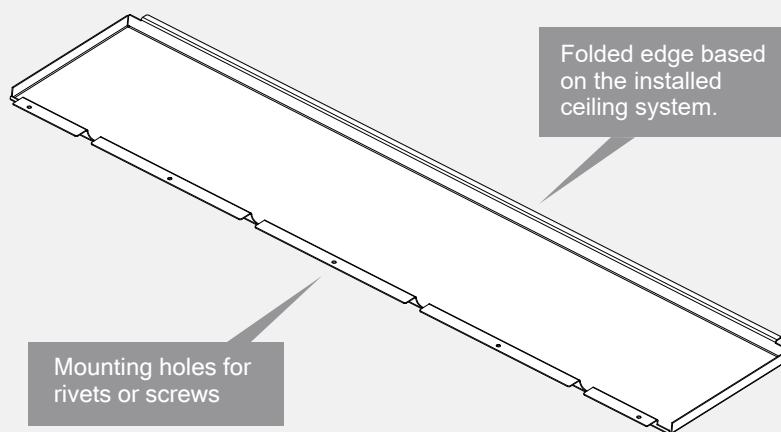
Control of the whole area using only one zone-valve and thermoelectric actuator .Tichelmann principle pipeline connection.



## ACCESSORIES



### Panels connection or line end cover plate



Ask your  
Lyngson  
representative  
for details.

When CASA is installed in a suspended ceiling system, the panel must be supplemented with cover plates that hide the pipe fittings. Cover plates are also available for free-hanging panels. They are inserted at the ends of the panel and overlap the panel with a few centimeters.

Cover plates are to be installed last, after the system has been assembled and tested. The end caps are available in two basic designs, one for mounting on a suspended ceiling system and one for free-hanging units. In addition, this model has a series of connection cover plates. The set includes painted screws.

# ACCESSORIES

Casa Plan can be ordered with connection and control accessories that simplify installation and system assembly to control the room temperature. Lyngson can supply the following products from various leading manufacturers. Contact us by email for more information.

## 540205

IMI thermostat with capillary  
0-27C, 5m.

## 540208

IMI thermostat with capillary  
0-27C, 8m.

## 540210

IMI thermostat with capillary  
0-27C, 10m.



## 549030



IMI room thermostat for on /  
off control, 230V.  
Max 10 pcs EMO T per 1  
controller (for heating).

## 830110



Tectite PushFit connection  
10mm - 1/2" internal thread.

## 830120

Connecting flexible hose 10mm.

## 830122

Connecting flexible hose 12mm.



Connecting flexible pipe  
Tectite. Connection 10 or 12  
mm Push-fit to 1/2" internal  
thread, length 1200mm.  
Simplifies panel connection to  
the above pipelines. Each  
panel requires two pipes.

## 830121



Flexible tube Tectite. Push-fit  
connection 12-12 mm, length  
900 mm. The Casa Plan series  
connection allows the panels to  
be connected at a distance of up  
to 600 mm.

## 549034

Actuator IMI EMO T, 230 V, NO.

## 549035

Actuator IMI EMO T, 230 V, NC.



Thermoelectric actuator  
with ON / OF function.

## 549110

IMI TBV-CDN15, LF.  
Kv: 0,05-0,9.

## 549111

IMI TBV-CDN15, NF.  
Kv: 0,22-1,8.

## 549112

IMI TBV-CDN20.  
Kv: 0,4-3,4.

## 549113

IMI TBV-CDN25.  
Kv: 0,8-7,2.



Zone balancing valve. Can  
be used for larger flows,  
such as string assembly and  
multi-panel control.

## 549084 + 539052



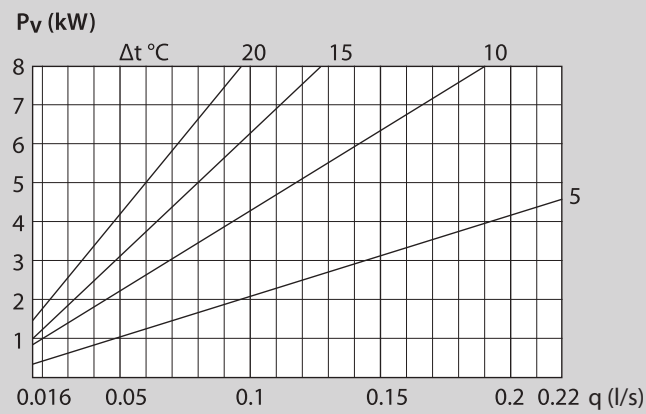
IMI TRV-3 valve, Calypso,  
DN10 + MAH 1/2". Kv: 0.01-0.52.  
Can be used for individual  
control of Casa Plan panels.  
Use the half-screw MAH 1/2" to  
connect to the Push-fit adapter  
830110.

# HEATING OUTPUT AND FLOW

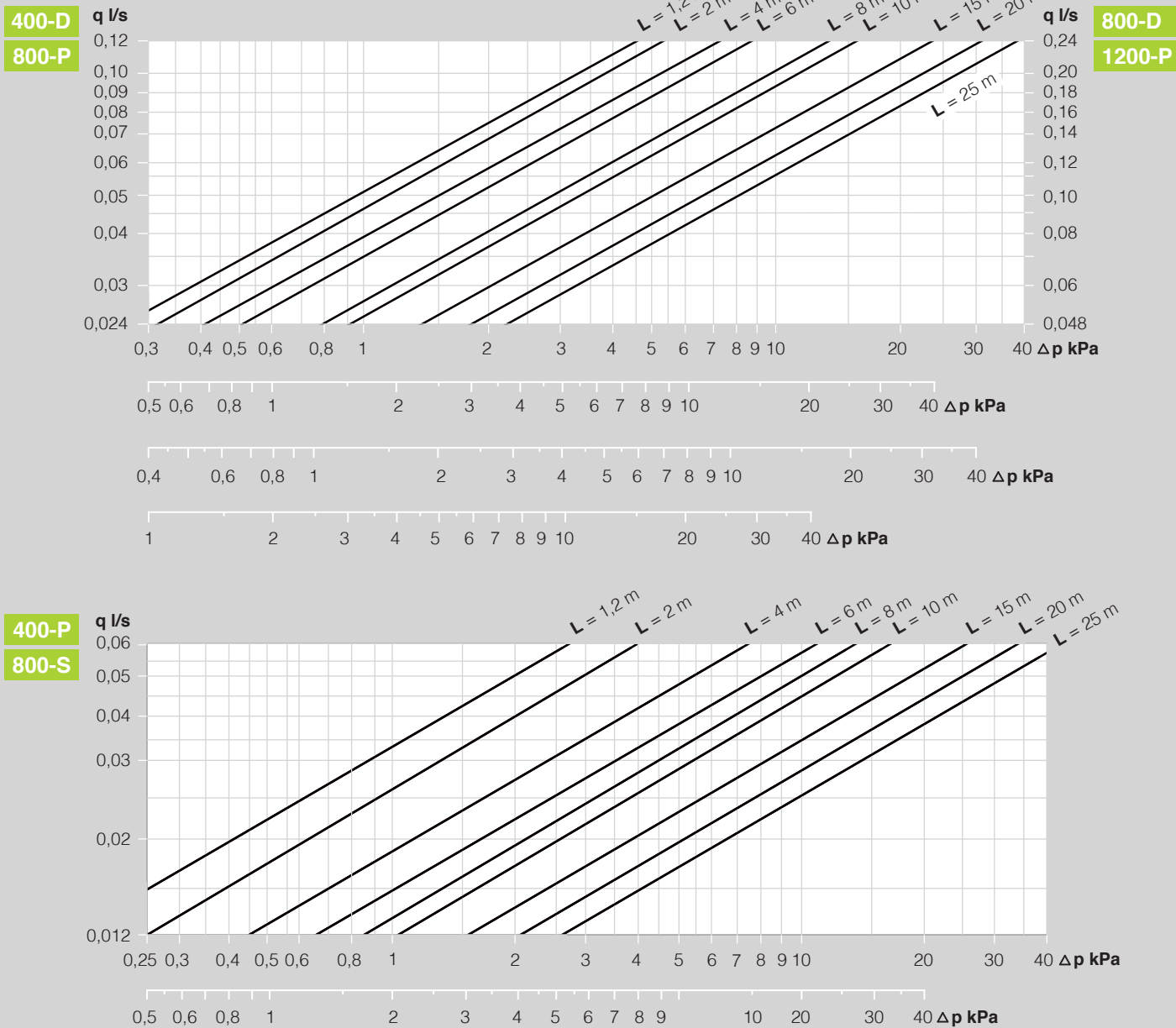
The flow must be large enough to obtain a turbulent flow in the pipes.  
The recommended minimum flow rate is 0.02 l/s in each panel pipe.

In the case of a slightly smaller flow, select a panel with connection type "S".

## Flow



## Pressure drop and flow per line



# HANGING SYSTEMS

CASA panels have two mounting kits to choose from depending on how the installation is to be performed.

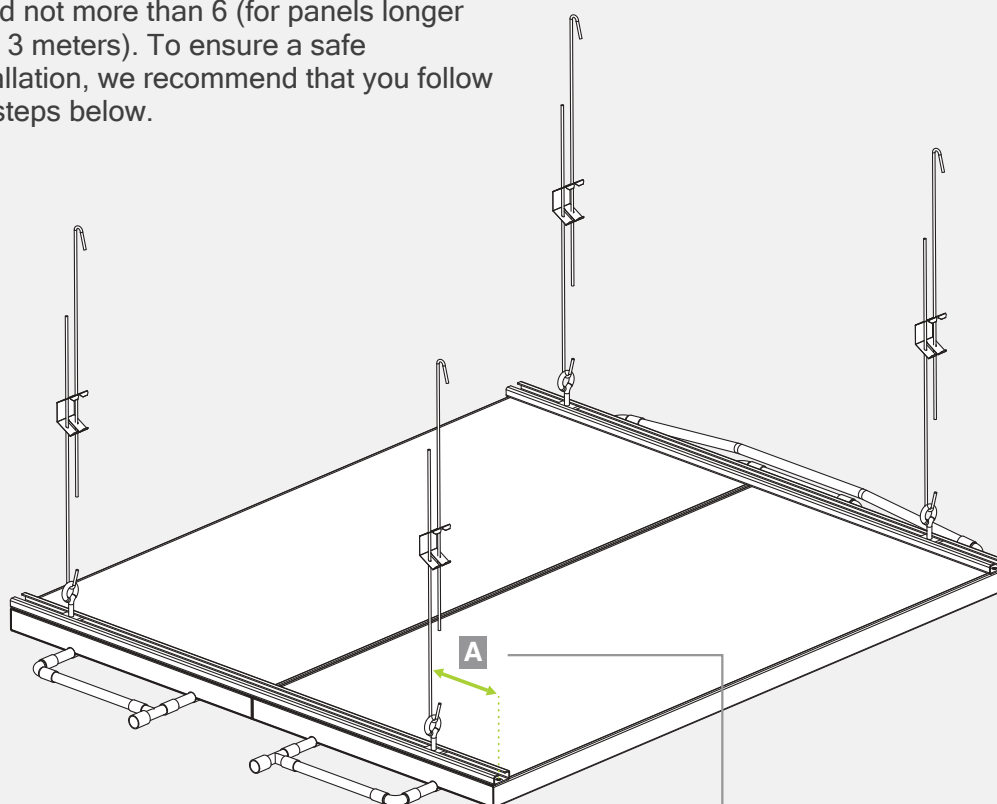
## Mounting kit C1, suspension

Selects when the installation is to be suspended freely from the ceiling or when the panels are to be installed in a suspended ceiling system.

The required number of mounting kits depends on the length of the panel, at least 4 and not more than 6 (for panels longer than 3 meters). To ensure a safe installation, we recommend that you follow the steps below.

## C1 included:

- adjustable suspension 540-1000 mm (Other lengths can be ordered. Contact Lyngson for more information).
- screw with loop
- square plate with thread.



## Do this:

1. Screw the screw with the loop into the square plate.
2. Slide it into the C profile of the panel to the specified size "A" and tighten the screw so that it cannot move in the C profile.
3. Lock the hangers. Use pliers to "squeeze" the hook around the eyebolt - this will prevent the hook from jamming.
4. Lock the drop in the upper ceiling loop and also squeeze it. Ceiling-mounted screw or bracket is not included in the C1 kit. It can be selected by ceiling type.

	Casa 400	Casa 800	Casa 1200
A	0-50	100-150	200-300



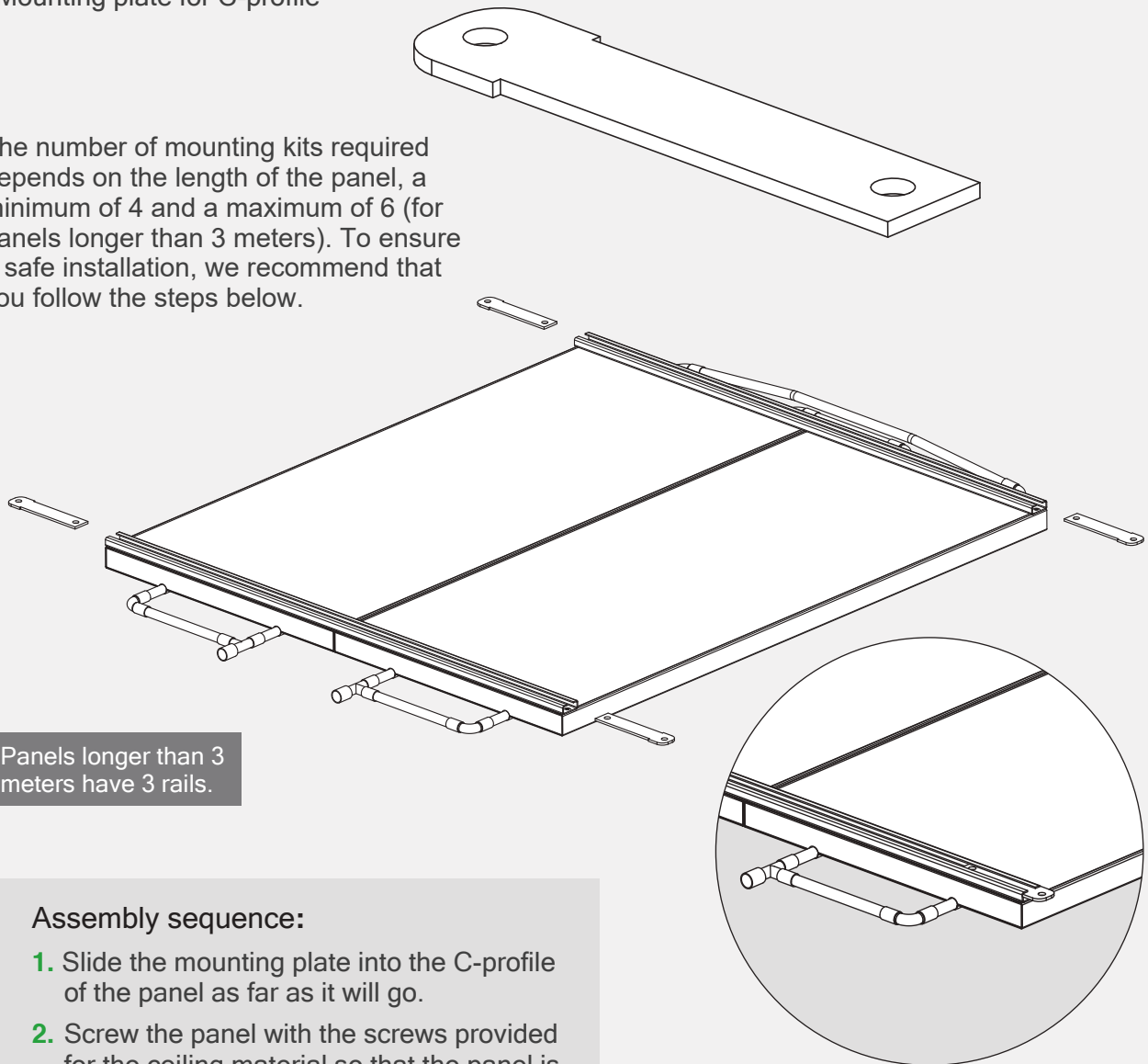
## Mounting kit C2, direct on the ceiling

It is chosen when the installation must be carried out directly on the ceiling. Installation is simple and is described below.

### C2 included:

- Mounting plate for C-profile

The number of mounting kits required depends on the length of the panel, a minimum of 4 and a maximum of 6 (for panels longer than 3 meters). To ensure a safe installation, we recommend that you follow the steps below.



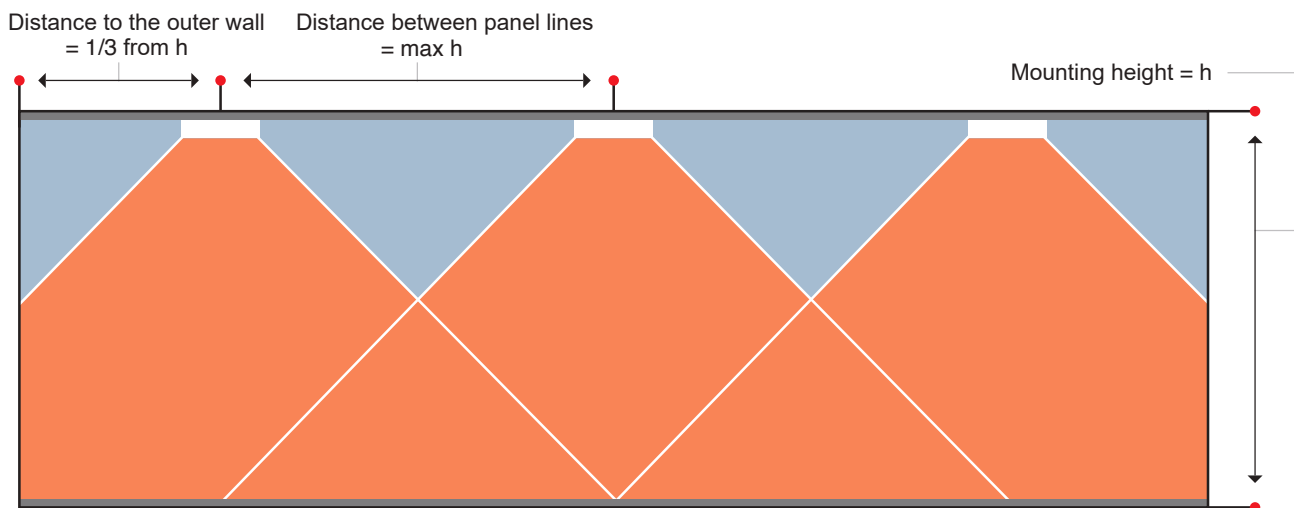
Panels longer than 3 meters have 3 rails.

### Assembly sequence:

1. Slide the mounting plate into the C-profile of the panel as far as it will go.
2. Screw the panel with the screws provided for the ceiling material so that the panel is firmly attached. Screws for ceiling mounting are not included in the C2 kit. They are selected according to the ceiling material.

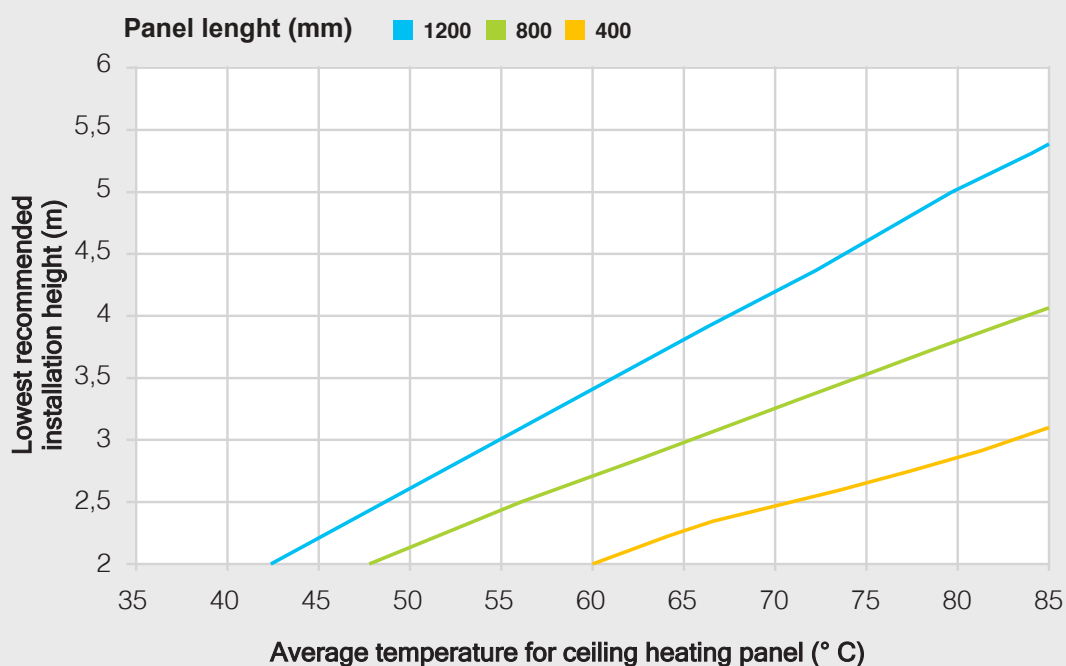


# SYSTEM PLANNING



CASA can be installed as separate panels or connected in series. There are often external conditions, such as the roof structure, ventilation system, lighting, which can affect the installation of panels. It is important not to "cover" the radiation area of the panel, for example with sound absorbers or other equipment.

In addition, the performance of CASA panels is not affected by the mounting height. Read more about this in the manual "Ceiling panel heating". In cases where the installation height of the panels is low, guideline values have been determined, which determine where the average temperature of the panel is most decisive, cf. chart below.





## CONNECTION

### Selection and installation of connections

It doesn't matter which connection is selected as the inlet flow, the panel function doesn't matter. Check pipe ends / connections for damage and scratches as this may cause leakage.

The valve or connection is connected according to the normal copper pipe connection procedure and follow the installation instructions for the selected valve or connection type.

The Casa panel is always built with 12 mm copper pipes, and all factory-installed press connections have a V-profile. The connection dimensions of each panel are described in the "Types and connections" section.

To connect a series of panels, a crimp connection is recommended, not soldering, which can damage the panel. The core of the panel is foam and must not come into contact with open flames.

As the panels do not have a vent valve, you should always make sure that the panel pipe connections in the system are at a higher point where the vent is installed.

## PACKAGING

### Product quality

The panels are delivered on special pallets with spacers. The sides are protected with a transport film to ensure optimal protection during transport and storage. After installation, the panel protective film must be removed.

When you receive the goods, make sure that the packaging is not damaged. All damage must be reported to the freight forwarder immediately. Handle the panel carefully during installation to avoid dents, scratches and other damage. Wear clean gloves when mounting the system.

### Care

If necessary, the entire panel can be cleaned with a damp cloth and a mild solvent-free detergent. Be careful not to damage the pipe connections or valves. Otherwise, the panel does not require additional maintenance.

**Always check the system under pressure before completing the installation.**



## HEAT IN VARIOUS FORMS

At Lyngson's wide range you will find a variety of heating elements, such as ceiling heating panels, convectors, fan air heaters, air curtains and radiators.

We work on the principle of always being better. We are constantly developing and improving our products, logistics and work processes to always provide the highest quality to the customer.

We offer everything from standard radiators to a wide range of convectors. We have the largest range of panel radiators on the market so far. We produce them in our most modern factory in Latvia.

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