



Panel installation caution

1. Installation

For detailed instructions, please consult specific installation notes.

2. Packaging and protection of panels

KIGO panels are delivered in a specifically designed package to ensure maximum protection during their transport and at reception at the installation site.



Caution should be taken that the packaging does not protect against rain and other inclement weather. In case of storms during the unloading and reception of the panels at the installation site, the use of a waterproof tarp is required.

It is also forbidden to store the climate panels outdoors. They must, at a minimum, be covered by a fixed roof, offering total protection against severe weather.

Any damage caused by a lack of compliance to the instructions above are not covered by the warranty.

3. Handling of panels

When panels are delivered in crates, it is necessary to lean each crate slightly and to lean it (side with nails) against a wall or a support system before opening the crate (side with screws).



Panels must be handled with care and with gloves in order not to damage the thermo-plated surface. If the panels will be stored ahead of their installation, it is strongly recommended to keep them in their original package and in a dust free area. If it is not possible to keep the panels in their original package, it is certainly not acceptable to lie them down directly on the floor without any protection. Place, at a minimum, two wooden slats find a solid support against a wall or vertical beam. Place the panels face against face with at least a separation cardboard piece between the faces, leaning them slightly to ensure they will not slide to the floor.

Any damage resulting from not adhering to these instructions will not be covered by the warranty.

4. Installation of panels



The KIGO climate panels installation instructions must be read before beginning the installation process and these must be followed carefully. Ensure in every case that the support to which the panels will be attached is in decent shape and able to sustain the additional load.



Adapt the personal protection equipment as well in relation to the installation environment, such as the height for example.

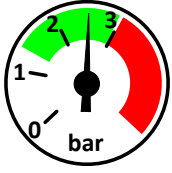
5. Flushing of distribution line

A serious flushing effort of the distribution lines must be completed according to norms and standards (SIA, SICC, VDI), including the connection between the groups of panels to these distribution lines before opening the isolation valves of each group. Care must be given to the disposal of ferrous metal residues since these are susceptible of initiating corrosion through contamination of the stainless steel which the climate panels exchangers are made of.

Damage due to internal corrosion is not covered by the warranty.

6. Pressure tests

The maximum pressure acceptable for KIGO climate panels is 3.0 bar.



If the pressure tests require a superior pressure level of the lines, the isolation valves of each group of climate panels must be shut down imperatively.

Any damage due to over pressurization will not be covered by the warranty.

7. Filling water quality (and refill water if required)

The filling water quality, and the refill water as well (if required), must respect values indicated below, these coming from the following standard SICC BT102-01

Des.	Description	Target	Unit	Des.	Description	Target	Unit
GH	Total hardness	< 10 *	mg/l CaCO ₃	LF	Conductivity	< 100	μS/cm
GH	Total hardness	< 1.0 *	°f	pH	pH level	6.0 à 8.5	-

- Filling and refill water must be demineralized.

In case of any doubt about the quality of the available water, it is most imperative to consult a specialist before filling the installed line.

8. Circuit water quality

The circuit water quality, after a few weeks of usage post installation and, later, as part of an annual control, must respect the values indicated below, derived from the standard SICC BT102-01:

Des.	Description	Target	Unit	Des.	Description	Target	Unit
GH	Total hardness	< 50	mg/l CaCO ₃	SO ₄ ²⁻	Sulfates	< 50	mg/l
GH	Total hardness	< 5.0	°f	O ₂	Oxygen	< 0.1	mg/l
LF	Conductivity	< 200	μS/cm	Fe	Dissolved iron	< 0.5	mg/l
pH	pH value	8.2 à 10	-	TOC	Total organic carbon value	< 30	mg/l
Cl ⁻	Chlorides	< 30	mg/l				

In case of any discrepancy, it is imperative to contact a specialist to discuss how to address the situation and correct the water quality.

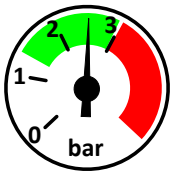
9. Flushing of the circuit and the climate panels

The presence of air in the circuit increases the risk of corrosion and the formation of mud. In addition, a poor flushing effort of the system will lead to poor efficiency in the usage of the climate panels. It is, hence, imperative to properly flush the circuit and to push out any air imprisoned by ensuring a flow superior to 100 g/l/h (500 l/h) in each group until total evacuation of air and the absence of any dripping noise.

It is necessary, for this operation, to operate the circulation pump at full speed, completely opening the balancing valves and closing the isolation valves of some groups to increase the flow in other groups. After completing air evacuation, close one group and then open the subsequent group until all groups have been all purged.

Proceed then to the set-up of the balancing valves and to the commission of the system for operational usage.

10. Post start-up operation quality control



As soon as the installation has been completed and that the panels are in operation for heating and cooling, it is strongly recommended to run a quality control test with a thermo-graphic camera. This will assure that all panels are properly irrigated and that there is no air left in the panels.