

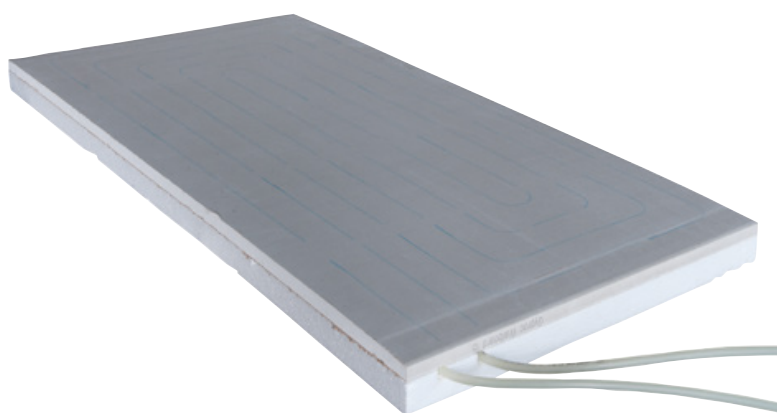
GKC Classic **GKC Super Classic** **GKC Ultra-P**



Radiant
Systems

Datasheet
0353EN 01/2023

Panels for radiant plasterboard ceilings



The panels of the GKC Classic, Super Classic and Ultra-P series, designed for the installation of heating and cooling radiant ceiling systems, consist in a plasterboard with a thermal activation composed by one or two circuits with 8 x 1 mm pipe and a sintered expanded polystyrene (EPS150) insulating layer, for a total thickness of 40 or 45 mm depending on versions. The panel's different formats ensure system modularity and flexibility; non-activated panels, without hydraulic circuits, enable completing radiant surfaces with surrounding structural elements. The panels are connected to the distribution network with 8 x 1 mm pipes.

➤ Versions and product codes

SERIES	PRODUCT CODE	TYPE	DIMENSIONS [mm]	PIPES PITCH [mm]	Kv	WEIGHT [kg]	AREA [m²]
GKC Classic	KS120Y200	Active - 2 circuits	1200 x 2000 x 45	50	0,1	32	2,4
	KS60Y200	Active - 1 circuit	600 x 2000 x 45	50	0,1	16	1,2
	KS60Y120	Active - 1 circuit	600 x 1200 x 45	50	0,12	9	0,72
	KS120L200	With light spacing Active - 2 circuits	1200 x 2000 x 45	50	0,1	32	2,4
	KS60L200	With light spacing Active - 1 circuit	600 x 2000 x 45	50	0,1	16	1,2
	KS60L120	With light spacing Active 1 circuit	600 x 1200 x 45	50	0,12	9	0,72
	KS120I200	Water repellent sheet* Active - 2 circuits	1200 x 2000 x 45	50	0,1	32	2,4
	KS60I200	Water repellent sheet* Active - 1 circuit	600 x 2000 x 45	50	0,1	16	1,2
	KS60I120	Water repellent sheet* Active - 1 circuit	600 x 1200 x 45	50	0,12	9	0,72
GKC Super Classic	KSS120Y200	Active - 2 circuits	1200 x 2000 x 45	30	0,07	32	2,4
	KSS60Y200	Active - 1 circuit	600 x 2000 x 45	30	0,07	16	1,2
	KSS60Y120	Active - 1 circuit	600 x 1200 x 45	30	0,1	9	0,72
	KSS120L200	With light spacing Active - 2 circuits	1200 x 2000 x 45	30	0,07	32	2,4
	KSS60L200	With light spacing Active - 1 circuit	600 x 2000 x 45	30	0,07	16	1,2
	KSS60L120	With light spacing Active 1 circuit	600 x 1200 x 45	30	0,1	9	0,72
	KSS120I200	Water repellent sheet* Active - 2 circuits	1200 x 2000 x 45	30	0,07	32	2,4
	KSS60I200	Water repellent sheet* Active - 1 circuit	600 x 2000 x 45	30	0,07	16	1,2
	KSS60I120	Water repellent sheet* Active - 1 circuit	600 x 1200 x 45	30	0,1	9	0,72
GKC Ultra-P	KSUP120Y200	Active - 2 circuits	1200 x 2000 x 40	30	0,07	31	2,4
	KSUP60Y200	Active - 1 circuit	600 x 2000 x 40	30	0,07	15	1,2
	KSUP60Y120	Active - 1 circuit	600 x 1200 x 40	30	0,1	9	0,72
GKC Inactive	KS120X300	Inactive - For compensation	1200 x 2000 x 45	-	-	30	2,4
	KS120I300	Water repellent sheet* Inactive - For compensation	1200 x 2000 x 45	-	-	30	2,4
	KSU120X300	Inactive - For compensation	1200 x 2000 x 40	-	-	30	2,4

* Radiant plasterboard panels with water repellent surface, suitable for rooms that can be attacked by molds and stains caused by humidity (bathrooms).

🔗 **NOTE.** The 1200x1000 mm panel can be obtained by cutting the 1200x2000 mm panels into two. The two circuits are completely separate. When cutting the 1200x2000 mm panels, pay attention to the drawing traced on the plasterboard's surface.

🔗 **NOTE.** For panels of the GKC Ultra-C series, consult the datasheet 1040EN.

Technical data

Technical features

- Pipe dimensions: $\varnothing 8 \times 1$ mm
- Total panel thickness:
 - Classic: 45 mm (insulation 30 mm + plasterboard 15 mm)
 - Super Classic: 45 mm (insulation 30 mm + plasterboard 15 mm)
 - Ultra-P: 40 mm (insulation 30 mm + plasterboard 10 mm)
- Radiant panels of B-s1,d0 fire class (EN 13501-1)

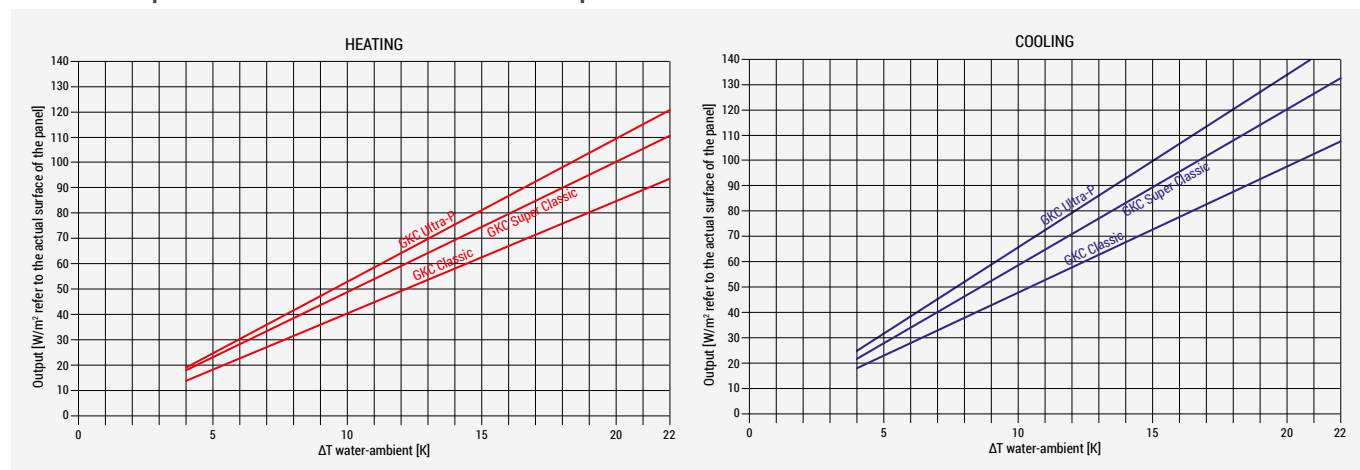
Materials

- Panel sheet:
 - Classic: plasterboard
 - Super Classic: plasterboard
 - Ultra-P: plasterboard with graphite
- Insulating layer: EPS150
- Pipes: $\varnothing 8 \times 1$ mm plastic material with anti-oxygen barrier
- Pipe protection caps: plastic material

Thermal outputs according to EN standards referred to active area

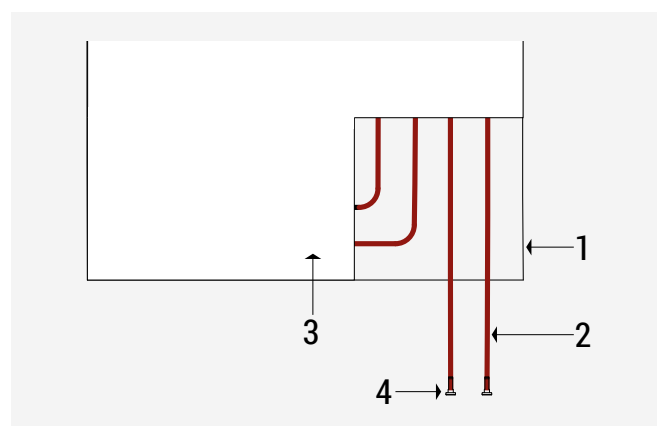
	FOR HEATING (ACCORDING TO EN14037)	FOR COOLING (ACCORDING TO EN14240)
Classic	68 W/m ² with water-ambient ΔT 15 K	41 W/m ² with water-ambient ΔT 8 K
Super Classic	77 W/m ² with water-ambient ΔT 15 K	48 W/m ² with water-ambient ΔT 8 K
Ultra-P	80 W/m ² with water-ambient ΔT 15 K	55 W/m ² with water-ambient ΔT 8 K

Thermal outputs referred to actual surface of the panel



NOTE. Thermal outputs according to thermostatic chamber tests. Outputs refer to actual surface of the panel.

Components



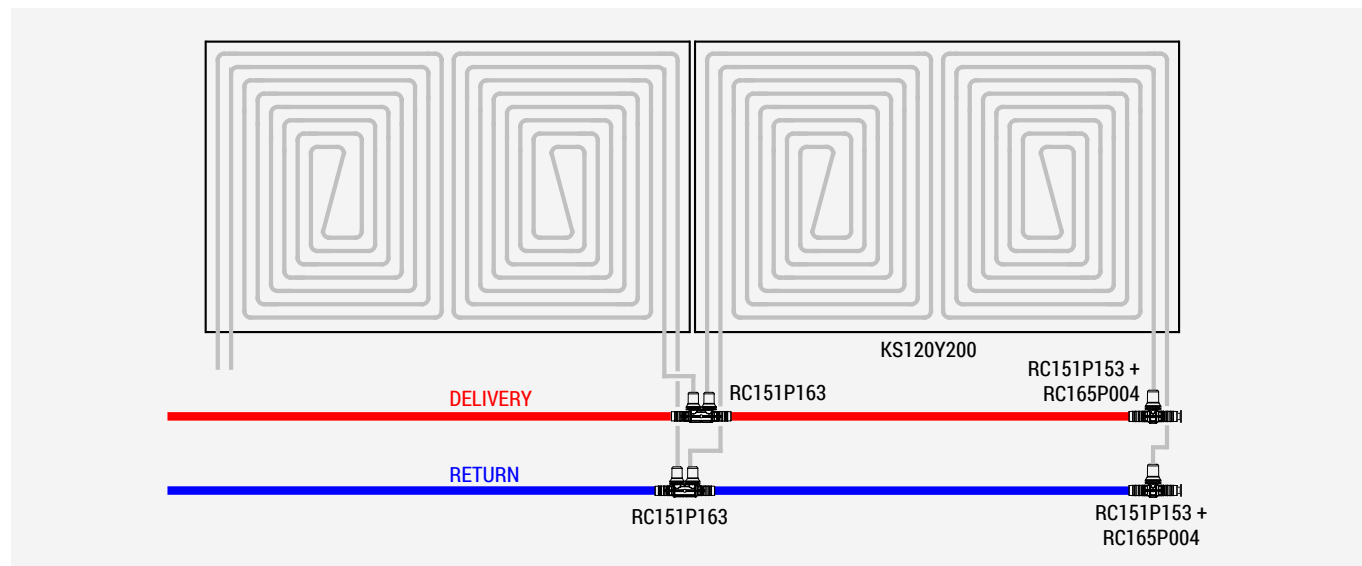
- 1 Plasterboard sheet
- 2 $\varnothing 8 \times 1$ mm plastic material pipes with anti-oxygen barrier
- 3 EPS150 insulating layer
- 4 Pipe protection plugs

➤ Connection and distribution system

The designed flow rate for each internal circuit is equal to 40÷50 l/h and determines a pressure drop of approx. 2000 mm for each circuit.

Such flow rate makes sure that water circulates in connection pipes at a greater speed than the critical one and, therefore, can push away any air bubbles that may be present in the pipes.

By connecting in parallel no.2 panels KS120Y200 and no.1 panel KS60Y200, for instance, it would be possible to achieve a pressure loss of approx. 150 mm on the distribution network (executed with 10 m of 20 x 2 mm multilayer pipes), i.e. negligible compared to that calculated for each panel.



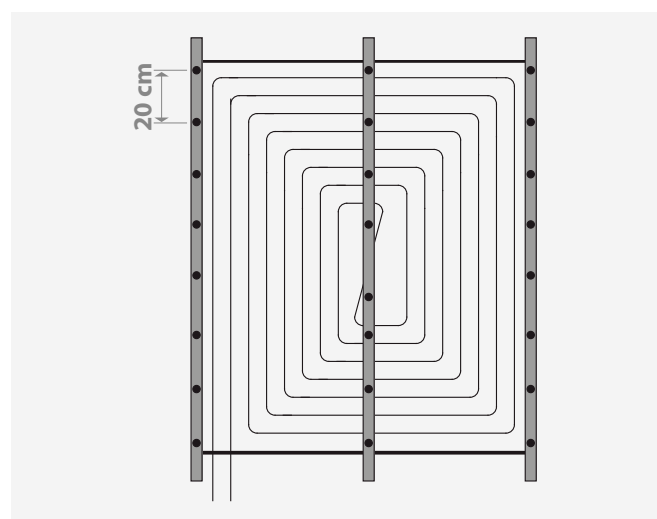
Panels should be connected using multilayer pipes Ø 20 x 2 mm that have not been pre-insulated (in bars) or pre-insulated (in coils) and **RC-P series plastic push-fittings**.

Adequate insulation will have to be provided for any non pre-insulated parts.

⚠ WARNING. Please note that RC-P series plastic push-fittings DO NOT require the use of RC900 sleeves.

➤ Installation guidelines

Prefabricated panels must be installed on the ceiling using carrying elements with galvanized profiles on which the modules must be fixed by means of screws with minimum length of 7 cm. The screws must be positioned in the middle of the pipe tracks traced on the panel, so as not to damage the pipes; the indicative pitch is 20 cm. Panels can be fixed to the carrying elements both longitudinally and transversally, as shown as follows.



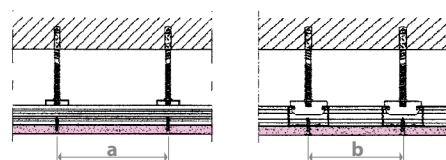
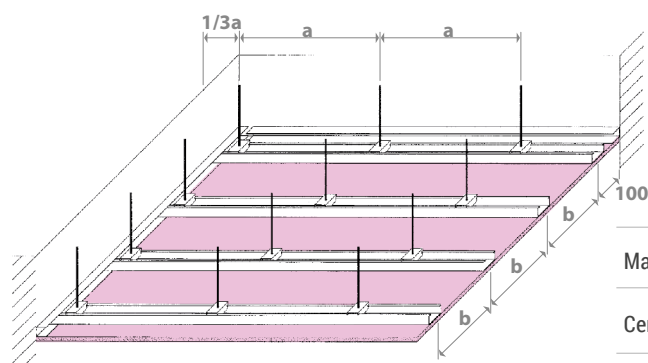
Ceiling installation of a radiant system requires the creation of a supporting structure either in the false ceiling or against the ceiling.

If the system is ceiling-mounted, the galvanized profiles are fixed directly to the ceiling with a single carrying element that acts as the center distance depending on the laying direction, be it longitudinal or transversal.

⚠ NOTA. Installation in the false ceiling shown in the following images is recommended over ceiling installation, as the latter configuration can cause cracks in the plaster.

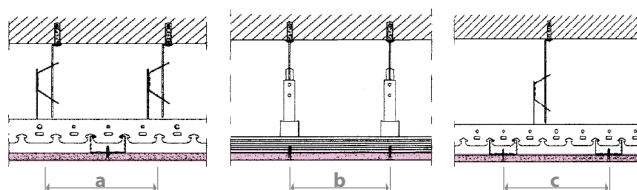
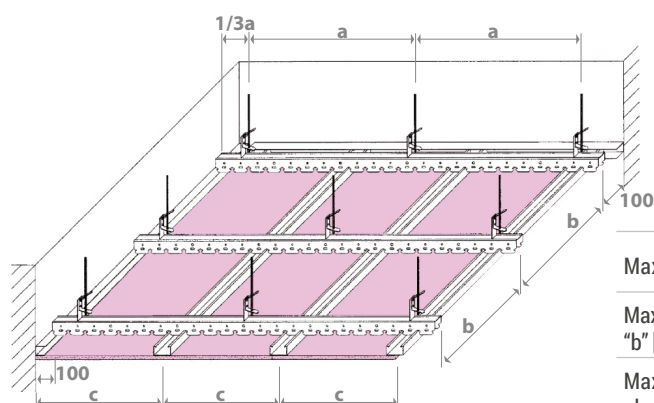
⚠ AVVERTENZA. On the jobsite, store in a dry area protected from the sun and the elements and handle the panels carefully, lifting them from the longer side without bending them too suddenly.

Single metal carrying element



Maximum suspension distance "a" [mm]	900
Center distance between carrier profiles "b" [mm]	longitudinal installation: 300 or 400 transversal installation: 500

Double metal carrying element with snap-on profile



Maximum suspension distance "a" [mm]	900
Max. center distance primary carrying elements "b" [mm]	900
Max. center distance secondary carrying elements "c" [mm]	longitudinal installation: 300 or 400 transversal installation: 500

Especially for compact installations, a clearance of approx. 25÷50 cm can be left between panel rows to insert backbone links. Moreover, the pipes coming out of individual radiant panels should be installed over risers, to prevent crushing.

The active surface must be created leaving a distance of approx. 3÷5 mm from side walls.

As for standard false ceilings, expansion joints should be provided each 15 m². Moreover, to enable system inspection, the distance between suspended boards and the false ceiling should be of at least 10 cm.

Once the prefabricated panels have been fixed to the metal carrying elements, radiant panel installation must be carried out with compensation (i.e. inactive) panels only after the pressure test has been completed (in compliance with datasheet 0415EN).

Wall application

Radiant panels can also be applied to the wall using metal carrying elements used for system installation. If a single carrying element is created, metal profiles are mounted directly onto the wall with a center distance of 50÷60 cm, fixed to the structure with dedicated screws, as described above, always leaving a service space of 25÷50 cm for connection lines between two rows of radiant panels. The areas needed for connection pipes must not be covered with panels; cladding, smoothing and plastering must be carried out after the system has been tested

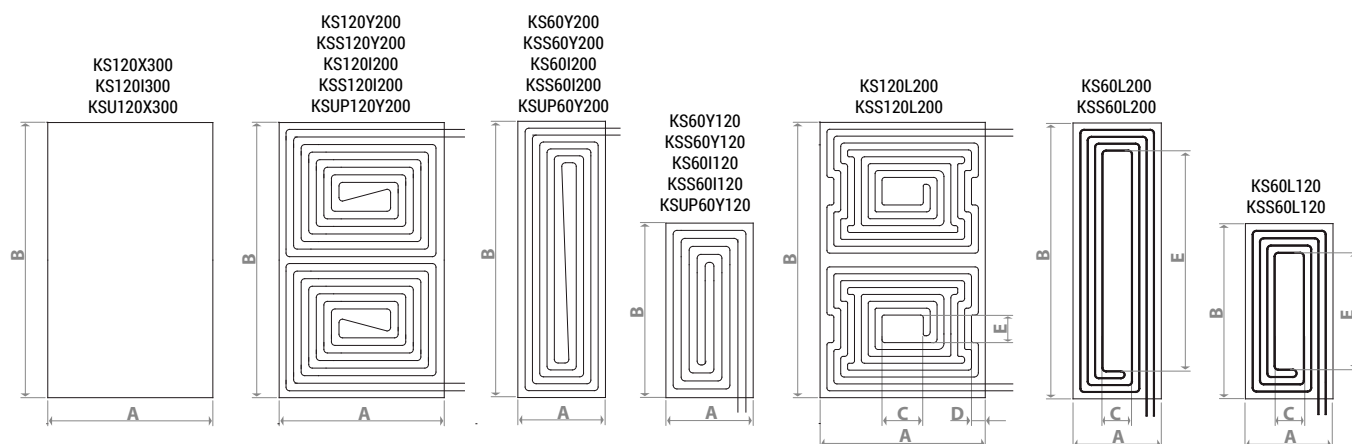
Radiant panels installation

After the hydraulic connection and the pressure test (in compliance with datasheet 0415EN) have been completed, the radiant surface must be finished with inactive compensation panels, and expansion joints must be provided in line with the guidelines for false ceilings.

After laying and radiant panels installation, grouting and smoothing can be completed.

Before finishing the wall with a paint layer, a layer of white primer applied to smooth out the surface and ensure the paint to be applied is evenly absorbed.

➤ Dimensions



SERIES	PRODUCT CODE	TYPE	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	THICKNESS [mm]	PIPES PITCH [mm]
GKC Classic	KS120Y200	Active - 2 circuits	1200	2000	-	-	-	45	50
	KS60Y200	Active - 1 circuit	600	2000	-	-	-		
	KS60Y120	Active - 1 circuit	600	1200	-	-	-		
	KS120L200	With light spacing - Active - 2 circuits	1200	2000	250	96	192		
	KS60L200	With light spacing - Active - 1 circuit	600	2000	192	-	1572		
	KS60L120	With light spacing - Active 1 circuit	600	1200	200	-	780		
	KS120I200	Water repellent sheet* - Active - 2 circuits	1200	2000	-	-	-		
	KS60I200	Water repellent sheet* - Active - 1 circuit	600	2000	-	-	-		
	KS60I120	Water repellent sheet* - Active - 1 circuit	600	1200	-	-	-		
GKC Super Classic	KSS120Y200	Active - 2 circuits	1200	2000	-	-	-	45	30
	KSS60Y200	Active - 1 circuit	600	2000	-	-	-		
	KSS60Y120	Active - 1 circuit	600	1200	-	-	-		
	KSS120L200	With light spacing - Active - 2 circuits	1200	2000	319	106	292		
	KSS60L200	With light spacing - Active - 1 circuit	600	2000	192	-	1572		
	KSS60L120	With light spacing - Active - 1 circuit	600	1200	200	-	780		
	KSS120I200	Water repellent sheet* - Active - 2 circuits	1200	2000	-	-	-		
	KSS60I200	Water repellent sheet* - Active - 1 circuit	600	2000	-	-	-		
	KSS60I120	Water repellent sheet* - Active - 1 circuit	600	1200	-	-	-		
GKC Ultra-P	KSUP120Y200	Active - 2 circuits	1200	2000	-	-	-	40	30
	KSUP60Y200	Active - 1 circuit	600	2000	-	-	-		
	KSUP60Y120	Active - 1 circuit	600	1200	-	-	-		
GKC Inactive	KS120X300	Inactive - For compensation	1200	2000	-	-	-	45	-
	KS120I300	Water repellent sheet* Inactive - For compensation	1200	2000	-	-	-		
	KSU120X300	Inactive - For compensation	1200	2000	-	-	-	40	-



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Product specifications

KS120Y200 (GKC CLASSIC)

Active type plasterboard panel. Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of two hydraulic circuits in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 50 mm. Dimensions 1200x2000x45 mm. Surface 2,4 m².

KS60Y200 (GKC CLASSIC)

Active type plasterboard panel. Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of a hydraulic circuit in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 50 mm. Dimensions 600x2000x45 mm. Surface 1,2 m².

KS60Y120 (GKC CLASSIC)

Active type plasterboard panel. Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of a hydraulic circuit in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 50 mm. Dimensions 600x1200x45 mm. Surface 0,72 m².

KS120LY200 (GKC CLASSIC)

Active type plasterboard panel with free area for recessed lights. Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of two hydraulic circuits in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 50 mm. Dimensions 1200x2000x45 mm. Surface 2,4 m².

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KS120I200 (GKC CLASSIC)

Active type plasterboard panel with water repellent surface, suitable for rooms that can be attacked by molds and stains caused by humidity (bathrooms). Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of two hydraulic circuits in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 50 mm. Dimensions 1200x2000x45 mm. Surface 2,4 m².

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KSS120Y200 (GKC SUPER CLASSIC)

Active type plasterboard panel. Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of two hydraulic circuits in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 30 mm. Dimensions 1200x2000x45 mm. Surface 2,4 m².

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KSUP120Y200 (GKC ULTRA-P)

Active type plasterboard panel. Comprised of a 10 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of two hydraulic circuits in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 30 mm. Dimensions 1200x2000x40 mm. Surface 2,4 m².

KSUP60Y200 (GKC ULTRA-P)

Active type plasterboard panel. Comprised of a 10 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). Activation consisting of a hydraulic circuit in plastic 8 x 1 mm pipe with anti-oxygen barrier, pitch 30 mm. Dimensions 600x2000x40 mm. Surface 1,2 m².

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KS120X300 (GKC INACTIVE)

Inactive type plasterboard panel. Comprised of a 15 mm plasterboard sheet and a 30 mm layer of expanded polystyrene thermal insulation (EPS150). To complete the false-ceiling made with the active panels GKC. Dimensions 1200x2000x45 mm. Surface 2,4 m².

KS120I300 (GKC INACTIVE)

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⚠ Safety Warning. Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety. An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

♻ Package Disposal. Carton boxes: paper recycling. Plastic bags and bubble wrap: plastic recycling.

ℹ Additional information. For more information, go to giacomini.com or contact our technical assistance service. This document provides only general indications. Giacomini S.p.A. may change at any time, without notice and for technical or commercial reasons, the items included herewith. The information included in this technical sheet do not exempt the user from strictly complying with the rules and good practice standards in force.

♻ Product Disposal. Do not dispose of product as municipal waste at the end of its life cycle. Dispose of product at a special recycling platform managed by local authorities or at retailers providing this type of service.