



ASSEMBLY INSTRUCTIONS

D-Dome 2.0 System



Content

▶ Tools overview	3
▶ General safety information	4
▶ Required Materials	6
▶ Assembly	9
▶ Notes	16

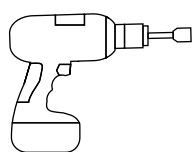
QUALITY TESTED – SEVERAL CERTIFICATIONS

K2 Systems stands for secure connections, highest quality and precision. Our customers and business partners have known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.

Please find our quality and product certificates under:
www.k2-systems.com/en/technical-information



Tools overview



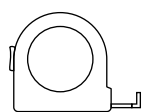
6mm



6-30Nm
(4,5-22,2 lb-ft)



6mm



≥3,0m



≥6,0m

General safety information

Please note that our general mounting instructions must be followed at all times and can be viewed online at www.k2-systems.com/en/technical-information

- ▶ The equipment may only be installed and operated by qualified and adequately trained installers.
- ▶ Prior to installation, ensure that the product complies with on-site static loading requirements. For roof-mounted systems, the roof load-bearing capacity must always be checked.
- ▶ National and local building regulations and environmental requirements must be adhered to.
- ▶ Compliance with health and safety regulations, accident prevention guidelines and applicable standards is required.
 - Protective equipment such as safety helmet, boots and gloves must be worn.
 - Roofing works must be in accordance with roofing regulations utilising fall protection safeguards when eaves height exceeds 3 m.
 - At least two people must be present for the duration of the installation work in order to provide rapid assistance in the event of an emergency.
- ▶ K2 mounting systems are continuously developed and improved and the installation process may thereby change at any time. Prior to installation consult our website at www.k2-systems.com/en/technical-information for up-to-date instructions. We can send you the latest version on request.
- ▶ The assembly instructions of the module manufacturer must be adhered to.
- ▶ Equipotential bonding/grounding/earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.
- ▶ At least one copy of the assembly instructions should be available on site throughout the duration of the installation.
- ▶ Failure to adhere to our general safety and assembly instructions and not using all system components, K2 is not liable for any resulting defects or damages. We do not accept liability for any damage resulting in the use of competitor's parts. Warranty is excluded in such cases.
- ▶ German law shall apply excluding the UN Convention on CISG. Place of venue is Stuttgart. Our General Terms of Business apply.
- ▶ If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 12 years! We strongly recommend reviewing our terms of guarantee, which can be viewed at www.k2-systems.com/en/technical-information We will also send this information on request.
- ▶ Dismantling of the system is performed in reverse order to the assembly.
- ▶ K2 stainless steel components are available in different corrosion resistance classes. Each structure or component must be carefully checked for possible corrosion exposure.

The following guidelines apply

The D-Dome 2.0 System can be installed under the following conditions. Please clarify in advance whether the manufacturer authorises clamping on the short side. For the module list, please contact your account manager or www.k2-systems.com.



ROOF REQUIREMENTS

- ▶ This system can be used on all established flat roof constructions with a pressure resistant substrate and a roof pitch of up to 5°. From a roof pitch of 3.1°, the system must be fixed mechanically. See installation instructions for roof anchors.
- ▶ The roof surface must be clean and dry. Roof irregularities must be corrected or removed where appropriate.
- ▶ The coefficient of friction of the roof must be determined on-site.
See video https://youtu.be/os-Cedx_QEk



STATIC REQUIREMENTS

- ▶ Sufficient roof structure load-bearing capacity, as well as insulation pressure capacity
- ▶ For framed modules with a frame height of 30-50 mm
- ▶ Permissible module dimensions: length 1386-2080 mm, width 950-1100 mm

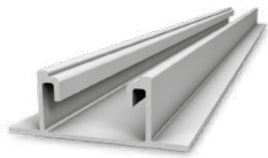


IMPORTANT MOUNTING INSTRUCTIONS

- ▶ On-site general standards and regulations for lightning protection must be observed and consultation with a specialist to create a lightning protection concept is recommended (use lightning protection clamp if necessary).
- ▶ External influences that act on this system are only reflected in the design of the ballast to a limited degree. For instance, unevenness, thermal elongation, moss, water accumulation and ageing of the sheeting cannot be considered, although these factors might also precipitate system displacement under certain circumstances. We recommend you check whether the system requires additional mechanical attachment, as the impact of these influences may be greater on slanted roofs.
- ▶ The inclination of the Dome system is 10°.
- ▶ A minimum distance to the roof edge of 600 mm must be observed.
- ▶ At least two modules must be assembled discontinuous to use this mounting system.
- ▶ Ensure a thermal separation (distance between module blocks) after a maximum of 11 m in the module row direction and in the direction of the base rail.
- ▶ Tightening torque of 14 Nm for all module clamps.
- ▶ In the event of exceptional circumstances (such as storms, heavy rain, earthquakes, etc.), the system should be checked by a specialist. Should an inspection find damage or plastic deformation (such as in the module clamp area) the components must be replaced.
- ▶ Adhere to module manufacturer recommendations for clamping area and module installation (see module manufacturer instructions). Check whether manufacturer approval is available for corner clamping.
- ▶ Compatibility of building protection mats with roof covering must be checked.
- ▶ It is important to ensure that the rain water flow is not hindered.
- ▶ Because of the different orientation of the solar modules, the string and inverter connection must be appropriately observed. It is recommended that the inverters and strings are connected separately.

Required Materials

In order to assemble the K2 Systems S-Dome installation system, the following listed system components are essential. The piece quantities are calculated on the basis of the respective requirements. The listed item numbers facilitate the comparison of items.



Mounting Rail K2 SpeedRail 22, 520 mm | 2001977

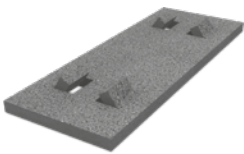
Material: aluminium EN AW-6063 T66



K2 D-Dome 2.0 | 2001962

Width: 65 mm

Material: aluminium EN AW-6063 T66



K2 Building protection mat Dome | 2001696

470x180x18 mm

Material: Unlaminated PUR-bonded rubber granulate

Alternatively: K2 Building protection mat Dome alu | 2001695

470x180x18 mm

Material: PUR-bound rubber granules with aluminium triplex foil, laminated

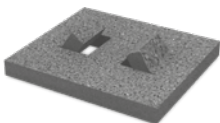
The respective use of a laminated or unlaminated building protection mat depends on the type of roof membrane and must be checked on site.



K2 Dome SD 2.0 | 2001968

Width: 65 mm

Material: aluminium EN AW-6063 T66



K2 Building protection mat Dome SD | 2001740

160x180x18 mm

Material: Unlaminated PUR-bonded rubber granulate

Alternatively: K2 Building protection mat Dome SD alu | 2001739

160x180x18 mm

Material: PUR-bound rubber granules with aluminium triplex foil, laminated

The respective use of a laminated or unlaminated building protection mat depends on the type of roof membrane and must be checked on site.



K2 Bolts with serrated under head | item number system-specific

according to M8 DIN 912/EN ISO 4762

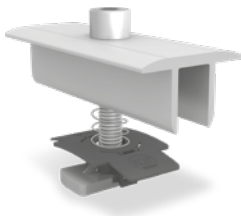
Material: stainless steel A2, WS 6 mm



M K2 Slot nut with clip

| 1001643

Material: stainless steel und PA



K2 Module middle clamp XS Set

| item number system-specific

The Set consists of:

- ▶ 1 Middle clamp XS, aluminium mill finish/ black
- ▶ 1 Allen bolt M8, stainless steel A2
- ▶ 1 MK2 slot nut with clip, stainless steel and PA
- ▶ 1 Securing washer S8, stainless steel A2



K2 Universal module clamps OneMid

| 2002514

Module frame height:: 32-42 mm

Alternativ: K2 Module End Clamp Standard Set

| item number system-specific

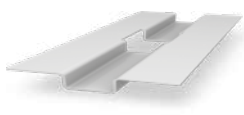


K2 Solar Cable Manager

| 2002870

Accessory for module cable mounting

OPTIONAL COMPONENTS FOR BALLASTING:



K2 SpeedPorter

| 2002300

Ballast support for slabs and stiffening
Material: aluminium EN AW-6063 T66



K2 Dome Porter 1750 mm

| 2000081

Ballast support for slabs
Pair of L-Profiles to carry required ballast as concrete slabs or similar
Material: aluminium

Alternatively: K2 Dome Porter 2050 mm

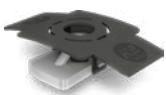
| 2001140



K2 Bolts with serrated under head

| 2001729

M8x20 according to DIN 912/ EN ISO 4762
Material: stainless steel A2, WS 6 mm

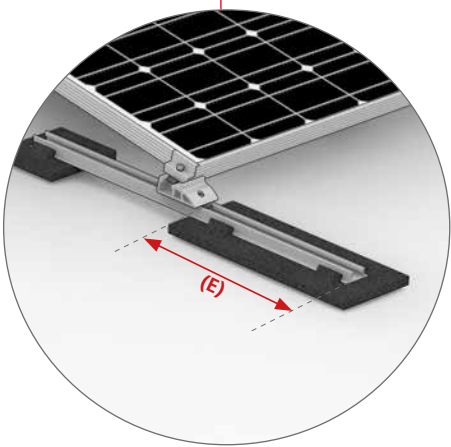
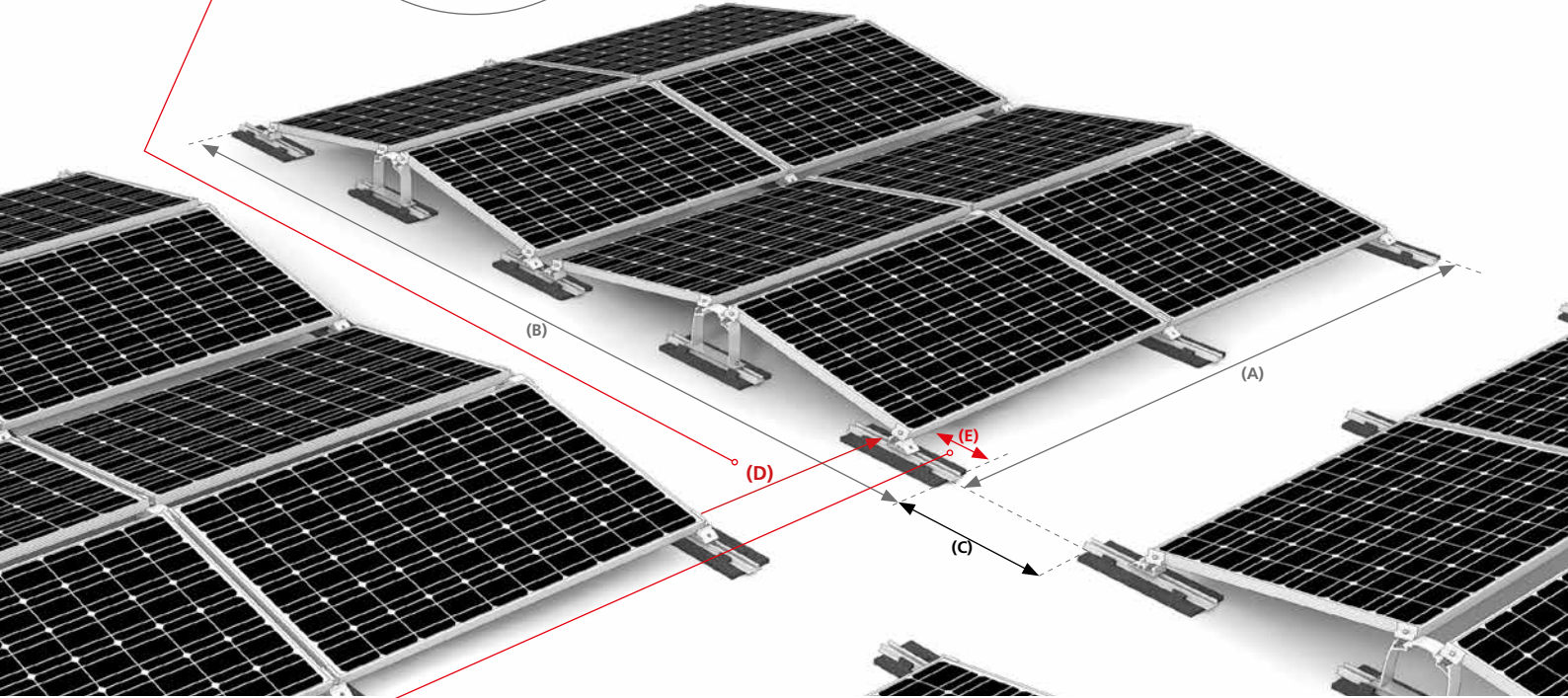
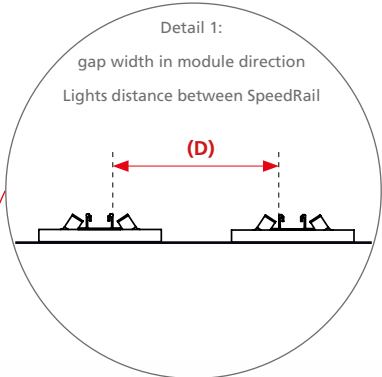


MK2 Slot nut with clip

| 1001643

Material: stainless steel A2 and PA

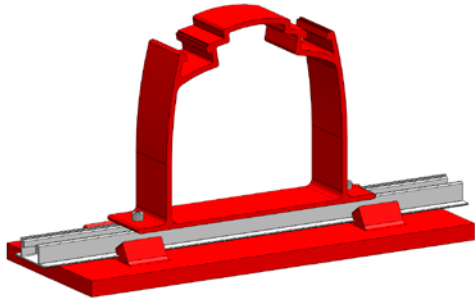
Assembly



SPACING BY D-DOME 2.0 SYSTEM:

- (A) Module block in module direction: max. 11 m
- (B) Module block in rail direction: max. 11 m
- (C) Joint width along the base rail: min. 20 mm
- (D) Gap width between module blocks in module row direction: min. 140 mm; (Lights distance according to detail 1)
- (E) Distance to rail end: min 40 mm

1 PRE-ASSEMBLING DOME SD 2.0 AND D-DOME 1000 2.0:

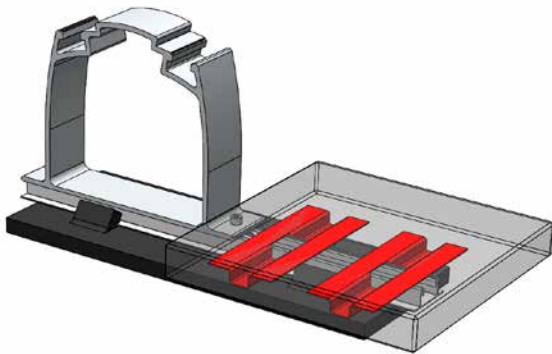


Lay the building protection mats with the aluminum-covered side (if used) facing down.

Lay the SpeedRail on top of the building protection mats and connect via snap tabs.

Insert the MK2 slot nuts into the rails and turn 90° clockwise to lock in place.

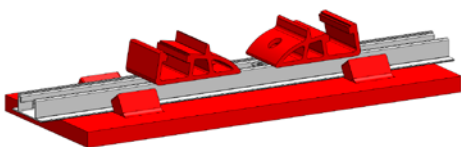
Fix each D-Dome 2.0 with two allen bolts and two MK2 slot nuts on the SpeedRail.



If the K2 SpeedPorter will be used for ballast, the D-Dome 2.0 must be positioned so that two SpeedPorters can be mounted.

Fix the D-Dome 2.0 2 cm from the rail edge. Attach the SpeedPorter to the D-Dome 2.0. The distance between the SpeedPorters corresponds to the selected ballast bricks (20 cm maximum width). Tightening torque: 16 Nm

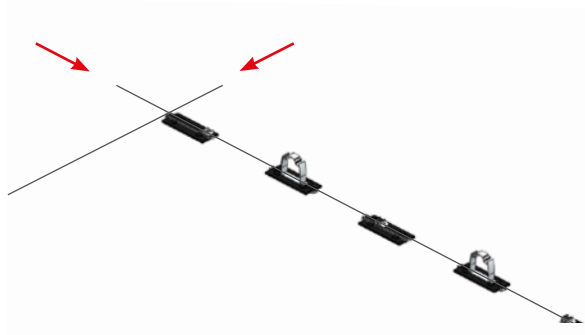
On both sides of the D-Dome 2.0 position two Dome SD and fix to the Speed Rail with allen bolts and the MK 2 slot nuts. We recommend leaving a foot-wide gap (max . 26 cm) between the Dome SDs for any potential maintenance work, however they can be fixed closely together.



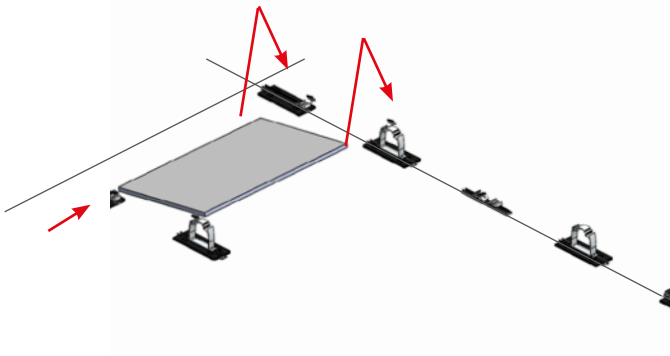
The parallel spacing between the SpeedRails is defined by the module width (950-1100 mm) and is determined by the end positions during installation.

2 INTERPRETATION

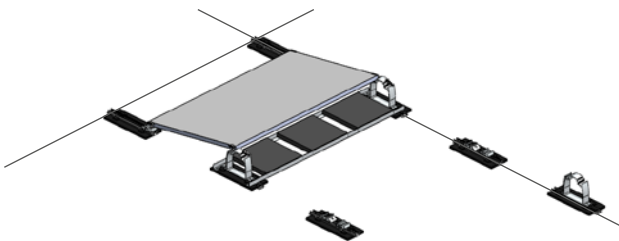
Pre-assemble all Dome components on the short rails accordingly and install on the roof according to the following scheme:



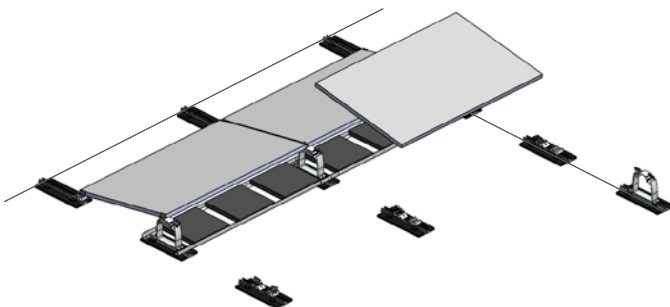
- ▶ Calibrate two side edges of the system and mark with the chalk line.
- ▶ Roughly spread out pre-assembled rail segments with Dome components over the roof
- ▶ Align first row to the line



- ▶ Start assembly on one side of the module. The spacing depends on the module dimensions and pre-assembled components.

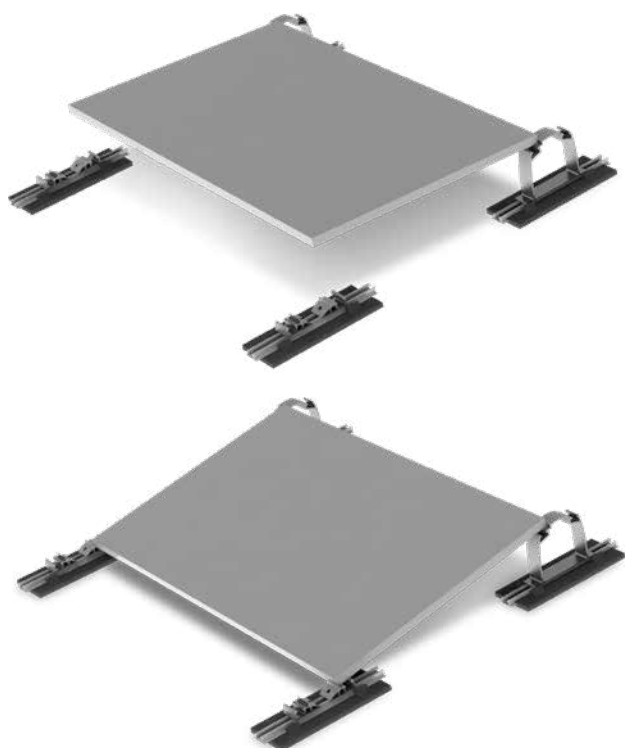


If necessary, use Short Porter / Porter for ballast.
See page 13.



Mount modules on opposite sides (Ensure that the clamps are securely seated).

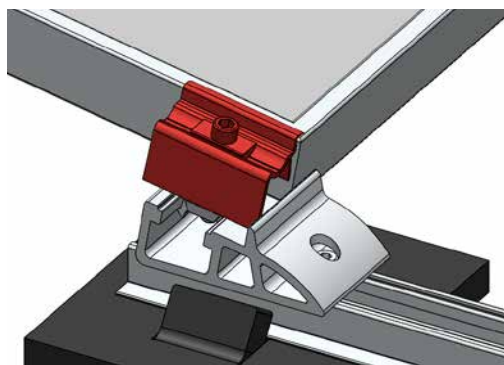
3 POSITION AND FASTEN MODULE



Fasten module clamps sets to the end of the row. Attach the D1000 and SD 2.0 with MK2 slot nuts and clamps and rotate 90°. Fasten clamps to the module frame with an allen bolt.

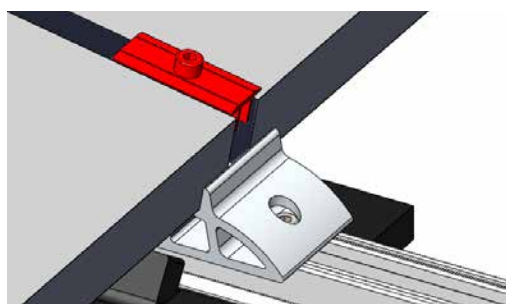
Attention:

Only modules approved for corner clamping may be used, see point „GENERAL SAFETY INFORMATION “ on page 5. Please take care not to cover any drainage holes in modules, otherwise potential condensation cannot run off.



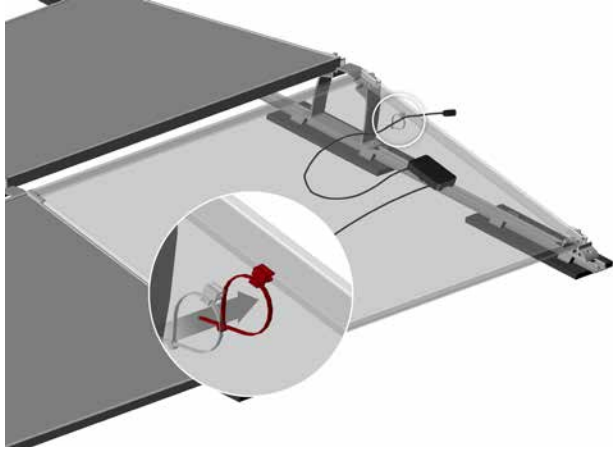
Fix the module in place at the end of a row with universal module end clamp OneEnd. Klick the Stance in the notches. Place clamps on the module frames and fix them.

Alternatively, use the standard end clamp sets. Insert the M K2 nut into the slot of the Dome SD 2.0 and the D-Dome 2.0 and turn clockwise by 90°. Place clamps on the module frames and fix them.



Between every two modules, use two XS middle clamp sets. Insert clamp sets in the D1000 and SD 2.0 notches and rotate 90°. Place the clamps onto the module frame and fix them in place.




4 FIX CABLE MANAGER



Bend the K2 Solar Cable Manager to a circle and plug it into the module frame backside. Then insert the cables through the cable tie.

5 BALLASTING THE SYSTEM

In some areas, the system may need to be outfitted with ballast. If this needs to be done, please refer to the following ballast table.

non-binding ballast weight table					
Recommended ballast weight components	brick dimensions [cm]*	Maximum number of bricks in D1000 2.0 (2001962)	Maximum number of bricks in ballast components	Brick weights [kg]*	Ballast per D-Dome 2.0 elevation [kg]
 D1000 2.0	20x10x8	2		3,5	7,0
	20x10x10	1		4,5	4,5
	20x20x6	2		5,4	10,8
	20x20x8	1		7,2	7,2
	20x20x10	1		9,0	9,0
 K2 Porter	40x40x4		6	14,0	84,0
	40x40x5		6	19,0	114,0
	50x50x4		6	22,0	132,0
 K2 SpeedPorter	20x20x6	2		5,4	21,6
	20x20x8	1		7,2	21,6
	20x20x10	1	3	9,0	18,0
	30x30x4		2	7,9	23,7
	50x20x8			18	36,0

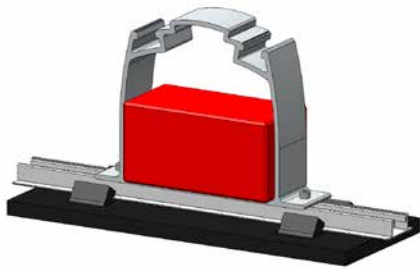
Warning: Pay attention to module inclination when using Speed Porter and Porter!

For ballast weights exceeding 100 kg, please consult a K2 technician. We are happy to assist you with selecting the optimal ballast components once you the ballast size is determined.

Table for bricks and slabs *		
Type	Weight in kg	Dimensions (LxBxH) in cm
Paving bricks	2,2	10x10x10
	3,5	20x10x8
	4,5	20x10x10
	5,4	20x20x6
	7,2	20x20x8
lagstones (slabs)	14	40x40x4
	19	40x40x5
	22	50x50x4

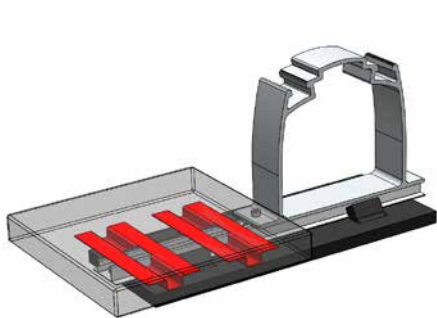
* recommended values

BALLASTING IN D-DOME 2.0



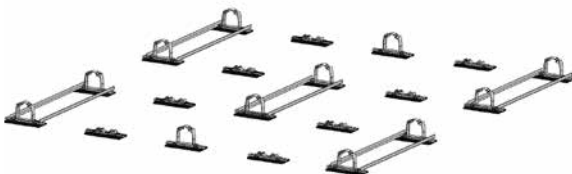
One or two individual weight bricks can be placed in the cavity of the D1000 2.0.

INSTALLING K2 SPEEDPORTER

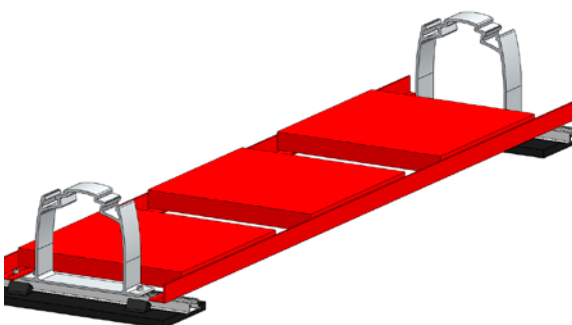


Depending on ballast size, position each SpeedPorter with the appropriate distance and insert the ballast.

BALLASTING WITH K2 PORTER:



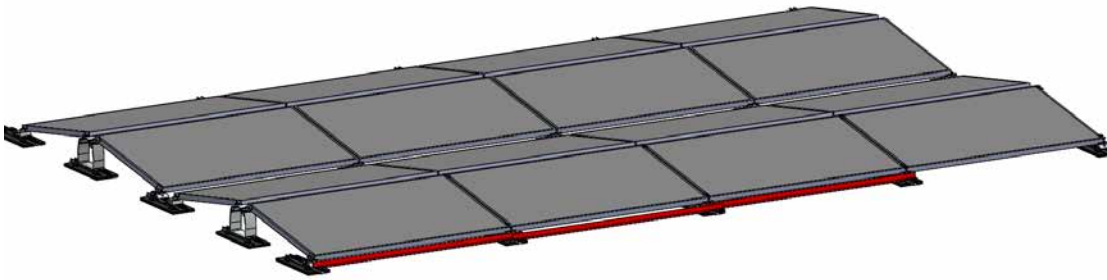
Mount the Porters within a module block according to the drawing in an offset fashion, and distribute the ballast evenly.



Fix Porters (L-brackets) in place on the parallel SpeedRail with MK 2 slot nuts and countersunk screws.

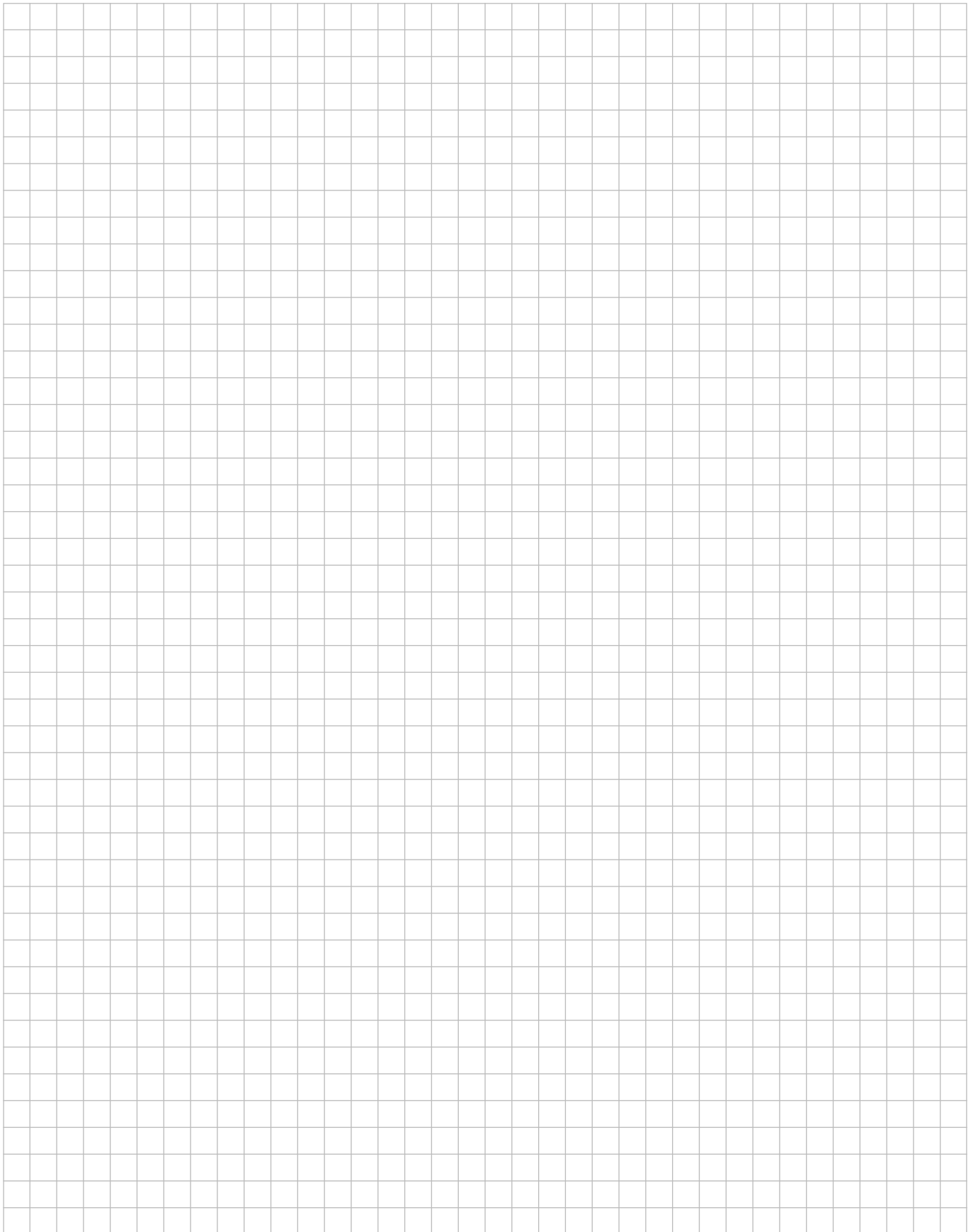
The distance between the Porters depends on the size of the ballast bricks chosen; due to the length of the SpeedRail, bricks with a maximum width of 50 cm may be used.

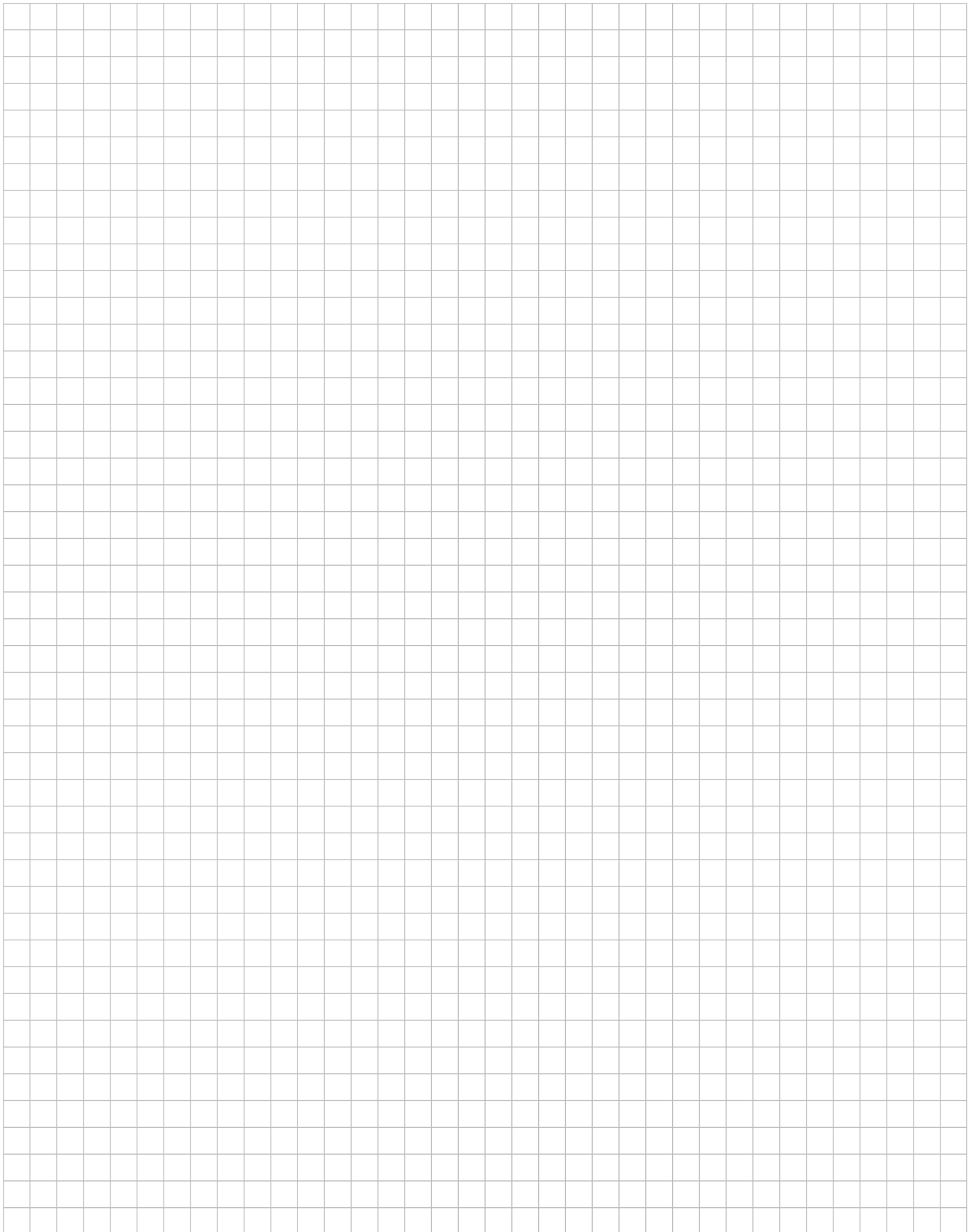
Tightening torque: 16 Nm



K2 Porters for bracing can be used for ballast reduction in the corner areas. According to the technical design, these must always be positioned on the three outside modules.

Notes





THANK YOU FOR CHOOSING A K2 MOUNTING SYSTEM.

Systems from K2 Systems are quick and easy to install. We hope these instructions have helped. Please contact us with any questions or suggestions for improvement.

Our contact data:

- ▶ www.k2-systems.com/en/contact
- ▶ **Service Hotline: +49 (0)7159 42059-0**

German law shall apply excluding the UN Convention on CISG.
Place of venue is Stuttgart.

Our General Terms of Business apply. Please refer:
www.k2-systems.com

K2 Systems GmbH

Industriestraße 18
71272 Renningen
Germany

Tel. +49 (0) 7159 - 42059 - 0
Fax +49 (0) 7159 - 42059 - 177

info@k2-systems.com
www.k2-systems.com