

# Flat roof structures



## Flat roof structures (FR)

STRUCTURE	CARD NO.	CONSTRUCTION TYPE	MODULE DIRECTION	MODULE LAYOUT	INSTALLATION	MAX PV MODULE LENGTH	PAGE
Welded structure (FR-W)	01	Universal (US)	South (S)	Horizontal (H)	Short side (SA)	2100	3
	02	Universal (US)	South (S)	Horizontal (H)	Long side (LAZ)	2100	6
						2300	
						2500	
	03	Universal (US)	South (S)	Vertical (V)	Long side (LAZ)	1950	9
	04	Universal (US)	East-west (EW)	Horizontal (H)	Short side (SA)	2100	12
	05	Universal (US)	East-west (EW)	Horizontal (H)	Long side (LAZ)	2100	15
						2300	
						2500	
	06	Projected (PS)	South (S)	Horizontal (H)	Short side (SA)	Individual	
Ballast structure (FR-B)	07	Projected (PS)	South (S)	Horizontal (H)	Long side (LAZ)	Individual	
	08	Projected (PS)	South (S)	Vertical (V)	Long side (LAZ)	Individual	
	09	Projected (PS)	East-west (EW)	Horizontal (H)	Short side (SA)	Individual	
	10	Projected (PS)	East-west (EW)	Horizontal (H)	Long side (LAZ)	Individual	
	11	Universal (US)	South (S)	Horizontal (H)	Short side (SA)	2100	18
	12	Universal (US)	South (S)	Horizontal (H)	Long side (LAZ)	2100	21
		Universal (US)	South (S)	Horizontal (H)		2300	
		Universal (US)	South (S)	Horizontal (H)		2500	
	13	Universal (US)	South (S)	Vertical (V)	Long side (LAZ)	1950	24
	14	Universal (US)	East-west (EW)	Horizontal (H)	Short side (SA)	2100	27
Screw-on structure (FR-S)	15	Universal (US)	East-west (EW)	Horizontal (H)	Long side (LAZ)	2100	30
		Universal (US)	East-west (EW)	Horizontal (H)		2300	
		Universal (US)	East-west (EW)	Horizontal (H)		2500	
	16	Projected (PS)	South (S)	Horizontal (H)	Short side (SA)	Individual	
	17	Projected (PS)	South (S)	Horizontal (H)	Long side (LAZ)	Individual	
	18	Projected (PS)	South (S)	Vertical (V)	Long side (LAZ)	Individual	
	19	Projected (PS)	East-west (EW)	Horizontal (H)	Short side (SA)	Individual	
	20	Projected (PS)	East-west (EW)	Horizontal (H)	Long side (LAZ)	Individual	
	21	Universal (US)	South (S)	Horizontal (H)	Short side (SA)	2100	33
	22	Universal (US)	South (S)	Horizontal (H)	Long side (LAZ)	2100	36
		Universal (US)	South (S)	Horizontal (H)		2300	
		Universal (US)	South (S)	Horizontal (H)		2500	
	23	Universal (US)	South (S)	Vertical (V)	Long side (LAZ)	1950	39
	24	Universal (US)	East-west (EW)	Horizontal (H)	Short side (SA)	2100	42
	25	Universal (US)	East-west (EW)	Horizontal (H)	Long side (LAZ)	2100	45
		Universal (US)	East-west (EW)	Horizontal (H)		2300	
		Universal (US)	East-west (EW)	Horizontal (H)		2500	
	26	Projected (PS)	South (S)	Horizontal (H)	Short side (SA)	Individual	
	27	Projected (PS)	South (S)	Horizontal (H)	Long side (LAZ)	Individual	
	28	Projected (PS)	South (S)	Vertical (V)	Long side (LAZ)	Individual	
	29	Projected (PS)	East-west (EW)	Horizontal (H)	Short side (SA)	Individual	
	30	Projected (PS)	East-west (EW)	Horizontal (H)	Long side (LAZ)	Individual	

Find a representative →

Legal note →



Projected structures are made for an individual order with 4 week production period.  
Universal structures are currently in stock and available on hand.



## 01

## Welded structure

FR-W-US-S/H/SA/MAX-LONG2100

## TYPE

Universal (US)

## MODULE DIRECTION

South (S)

## MODULE LAYOUT

Horizontal (H)

## INSTALLATION

Short side (SA)

## MAX PV MODULE LENGTH

2100



SEE ONLINE →



## DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, without the need additional ballast.
- Created with the participation of a specialist in the installation of membrane coverings.
- Its unique shape has been designed to significantly reduce assembly time and maximize the force necessary to remove the base.
- Non-invasive assembly with welding technology using the, so called, leister (in the case of PVC) or a gas burner (in the case of bitumen felt).
- High durability of the welded system is confirmed by specialized laboratory tests.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- Only one welded base per support is required for proper installation.
- Optionally - a hybrid system that allows the base to be welded and at the same time to load the wind deflector with ballast (in roof areas particularly exposed to wind suction).

## Flat roof structures (FR)



## CHARACTERISTICS

## FR-W-US-S/H/SA/MAX-LONG2100

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Welded (W)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Horizontal (H)
How to install a PV module	Short side (SA)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is welded to the roof surface
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	5,54
Purlin length (mm)	Without purlins
Wind brace length (mm)	2175
Maximum PV module length (mm) <sup>3</sup>	2100
How to install the clamps	Clamps mounted to the triangle - key system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTsolar-FR-US-S



Welded base  
for support

RBTsolar-KD-PZ



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Hexagonal nut  
M10 IE

NM10Z



Washer M10 300HV  
ISO7093-1 IE

PSZM10Z



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M10X20 IE

SM10X20Z

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



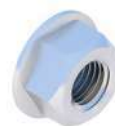
End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLRS50ALN  
KLRS50ALCZ



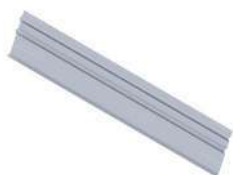
Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2175/2355/2703mm

RBTsolar-KD-W-2175/2355/2703



Ballast wind shelter  
South support  
L=2175/2355/2703mm

RBTsolar-KD-WB-2175/2355/2703



## 02

## Welded structure

FR-W-US-S/H/LAZ/MAX-LONG2100  
FR-W-US-S/H/LAZ/MAX-LONG2300  
FR-W-US-S/H/LAZ/MAX-LONG2500

### TYPE

Universal (US)

### MODULE DIRECTION

South (S)

### MODULE LAYOUT

Horizontal (H)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

2100 / 2300 / 2500



SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, without the need additional ballast.
- Created with the participation of a specialist in the installation of membrane coverings.
- Its unique shape has been designed to significantly reduce assembly time and maximize the force necessary to remove the base.
- Non-invasive assembly with welding technology using the, so called, leister (in the case of PVC) or a gas burner (in the case of bitumen felt).
- High durability of the welded system is confirmed by specialized laboratory tests.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- Only one welded base per support is required for proper installation.
- Optionally - a hybrid system that allows the base to be welded and at the same time to load the wind deflector with ballast (in roof areas particularly exposed to wind suction).
- In case of mounting PV modules in a horizontal arrangement, an additional element are ZET profiles with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



1. Upper telescope - short side  
RBTSOLAR-KDPT\_5\_365
2. Lower telescope - short side  
RBTSOLAR-KDPT\_4\_350
3. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
4. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
5. Welded base for support  
RBTSOLAR-KD-PZ
6. Base south  
RBTSOLAR-KDPP\_1\_1560
7. Purlin for support L=2175/2380/2728  
RBTSOLAR-KD-PL-2175/2380/2728

## CHARACTERISTICS

## FR-W-US-S/H/LAZ

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Welded (W)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Horizontal (H)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is welded to the roof surface
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

	MAX-LONG2100	MAX-LONG2300	MAX-LONG2500
Approximate weight of the structure per 1m2 of installation without additional ballast (kg/m2) <sup>2</sup>	9,76	8,54	7,26
Purlin length (mm)	2175	2380	2728
Wind brace length (mm)	2175	2355	2703
Maximum PV module length (mm) <sup>3</sup>	2100	2300	2500

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

**RBTSOLAR-FR-US-S**



Welded base  
for support

**RBTSOLAR-KD-PZ**



Self-locking nut  
M8 DIN985 A2

**NSHM8A2**



Hexagonal nut  
M10 IE

**NM10Z**



Washer M10 300HV  
ISO7093-1 IE

**PSZM10Z**



Round washer  
A2 8.4 DIN125A

**PPM8A2**



Allen screw  
M8X100 DIN912 A2

**SIM8X100A2**



Hexagonal screw  
M10X20 IE

**SM10X20Z**



Hexagonal screw  
M8X20 DIN933 A2

**SM8X20A2**



Purlin for support  
L=2175/2380/2728

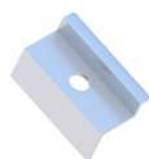
**RBTSOLAR-KD-PL-2175/2380/2728**

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

**BLW55X25EPDMZ**



End clamp  
30/32/35/40  
Nature/Black

**KLK50/30(32/35/40)ALN**  
**KLK50/30(32/35/40)ALCZ**



Middle clamp  
50 universal  
Nature/Black

**KLRS50ALN**  
**KLRS50ALCZ**



Allen screw  
M8X35 DIN912 A2

**SIM8X35A2**



Windchest  
South support  
L=2175/2355/2703mm

**RBTSOLAR-KD-W-2175/2355/2703**



Ballast wind shelter  
South support  
L=2175/2355/2703mm

**RBTSOLAR-KD-WB-2175/2355/2703**



## 03

## Welded structure

FR-W-US-S/V/LAZ/MAX-LONG1950

### TYPE

Universal (US)

### MODULE DIRECTION

South (S)

### MODULE LAYOUT

Vertical (V)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

1950



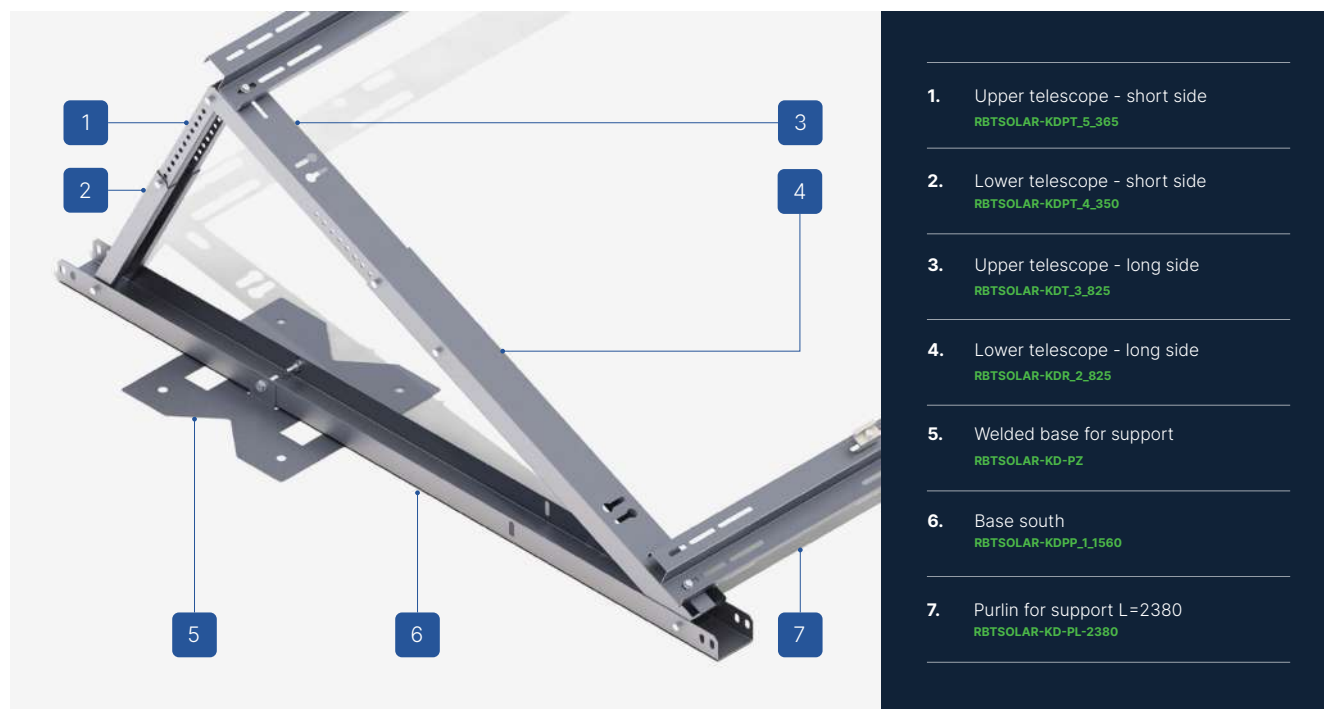
SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, without the need additional ballast.
- Created with the participation of a specialist in the installation of membrane coverings.
- Its unique shape has been designed to significantly reduce assembly time and maximize the force necessary to remove the base.
- Non-invasive assembly with welding technology using the, so called, leister (in the case of PVC) or a gas burner (in the case of bitumen felt).
- High durability of the welded system is confirmed by specialized laboratory tests.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- Only one welded base per support is required for proper installation.
- Optionally - a hybrid system that allows the base to be welded and at the same time to load the wind deflector with ballast (in roof areas particularly exposed to wind suction).

## Flat roof structures (FR)



## CHARACTERISTICS

## FR-W-US-S/V/LAZ/MAX-LONG1950

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Welded (W)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Vertical (V)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is welded to the roof surface
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	5,54
Purlin length (mm)	2380
Wind brace length (mm)	2355
Maximum PV module length (mm) <sup>3</sup>	1950
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTSOLAR-FR-US-S



Welded base  
for support

RBTSOLAR-KD-PZ



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Hexagonal nut  
M10 IE

NM10Z



Washer M10 300HV  
ISO7093-1 IE

PSZM10Z



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M10X20 IE

SM10X20Z



Hexagonal screw  
M8X20 DIN933 A2

SM8X20A2



Purlin for support  
L=2380

RBTSOLAR-KD-PL-2380

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLRS50ALN  
KLRS50ALCZ



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2355

RBTSOLAR-KD-W-2355



Ballast wind shelter  
South support  
L=2355

RBTSOLAR-KD-WB-2355



## 04

## Welded structure

FR-W-US-EW/H/SA/MAX-LONG2100

### TYPE

Universal (US)

### MODULE DIRECTION

East-west (EW)

### MODULE LAYOUT

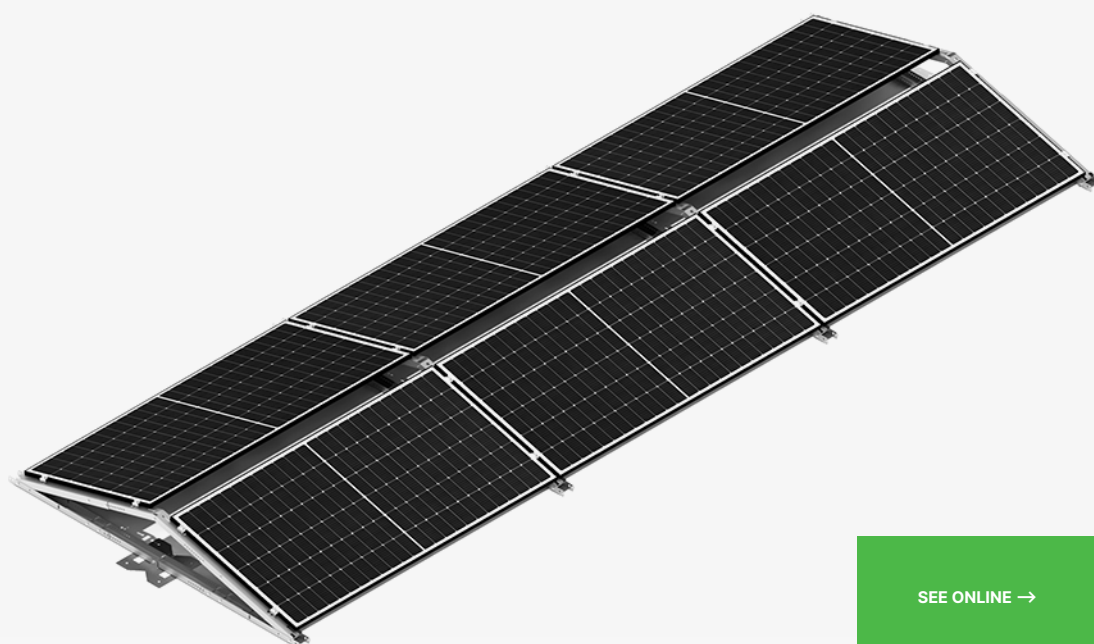
Horizontal (H)

### INSTALLATION

Short side (SA)

### MAX PV MODULE LENGTH

2100



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### DESCRIPTION

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- Created with the participation of a specialist in the installation of membrane coverings.
- Its unique shape has been designed to significantly reduce assembly time and maximize the force necessary to remove the base.
- Non-invasive assembly with welding technology using the, so called, leister (in the case of PVC) or a gas burner (in the case of bitumen felt),
- High durability of the welded system is confirmed by specialized laboratory tests.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- Only one welded base per support is required for proper installation.

## Flat roof structures (FR)



1. Lower telescope - long side  
RBTsolar-KDR\_2\_825
2. Upper telescope - long side  
RBTsolar-KDT\_3\_825
3. Upper telescope - long side  
RBTsolar-KDT\_3\_825
4. Lower telescope - long side  
RBTsolar-KDR\_2\_825
5. End telescope - base  
RBTsolar-KDWZP\_6\_880
6. Middle telescope - base  
RBTsolar-KDWZL\_7\_1544
7. Welded base for support  
RBTsolar-KD-PZ
8. End telescope - base  
RBTsolar-KDWZP\_6\_880

## CHARACTERISTICS

## FR-W-US-EW/H/SA/MAX-LONG2100

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Welded (W)
Type of construction	Universal (US)
Module orientation	East-west (EW)
Module layout	Horizontal (H)
How to install a PV module	Short side (SA)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is welded to the roof surface
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	No
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	9,49
Purlin length (mm)	Without purlins
Wind brace length (mm)	Without wind guard
Maximum PV module length (mm) <sup>3</sup>	2100
How to install the clamps	Clamps mounted to the triangle - key system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

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Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
East-west

**RBTSOLAR-FR-US-EW**



Welded base  
for support

**RBTSOLAR-KD-PZ**



Self-locking nut  
M8 DIN985 A2

**NSHM8A2**



Hexagonal nut  
M10 IE

**NM10Z**



Washer M10 300HV  
ISO7093-1 IE

**PSZM10Z**



Round washer  
A2 8.4 DIN125A

**PPM8A2**



Allen screw  
M8X100 DIN912 A2

**SIM8X100A2**



Hexagonal screw  
M10X20 IE

**SM10X20Z**

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



End clamp  
30/32/35/40  
Nature/Black

**KLK50/30(32/35/40)ALN**  
**KLK50/30(32/35/40)ALCZ**



Middle clamp  
50 universal  
Nature/Black

**KLSR50ALN**  
**KLSR50ALCZ**



Flange nut  
serrated  
M8 DIN6923 A2

**NKM8A2**



Allen screw  
M8X35 DIN912 A2

**SIM8X35A2**

## 05

## Welded structure

FR-W-US-EW/H/LAZ/MAX-LONG2100  
FR-W-US-EW/H/LAZ/MAX-LONG2300  
FR-W-US-EW/H/LAZ/MAX-LONG2500

### TYPE

Universal (US)

### MODULE DIRECTION

East-west (EW)

### MODULE LAYOUT

Horizontal (H)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

2100 / 2300 / 2500



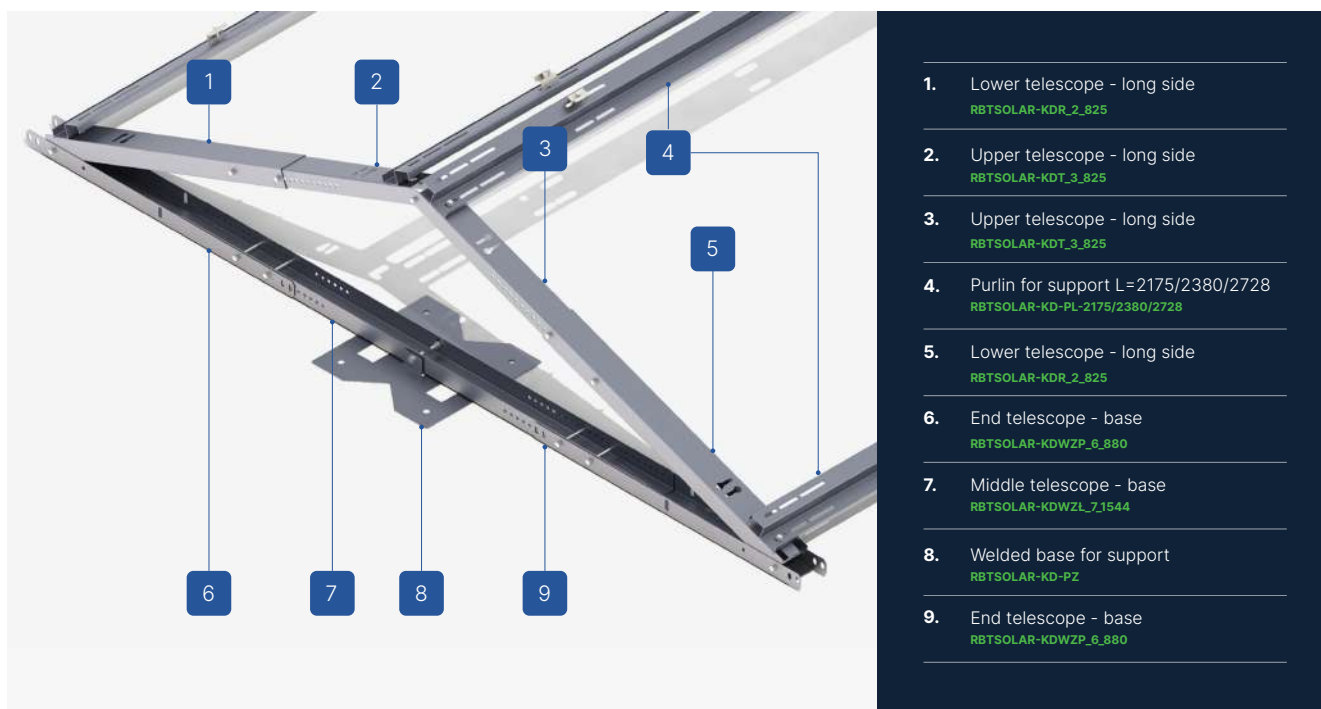
SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, without the need for additional ballast.
- Created with the participation of a specialist in the installation of membrane coverings.
- Its unique shape has been designed to significantly reduce assembly time and maximize the force necessary to remove the base.
- Non-invasive assembly with welding technology using the, so called, leister (in the case of PVC) or a gas burner (in the case of bitumen felt),
- High durability of the welded system is confirmed by specialized laboratory tests.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- Only one welded base per support is required for proper installation,
- Optionally - a hybrid system that allows the base to be welded and at the same time to load the wind deflector with ballast (in roof areas particularly exposed to wind suction).
- In the case of mounting PV modules in a horizontal arrangement, an additional element are ZET profiles with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



## CHARACTERISTICS

## FR-W-US-EW/H/LAZ

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Welded (W)
Type of construction	Universal (US)
Module orientation	East-west (EW)
Module layout	Horizontal (H)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is welded to the roof surface
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	No
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

	MAX-LONG2100	MAX-LONG2300	MAX-LONG2500
Approximate weight of the structure per 1m2 of installation without additional ballast (kg/m2) <sup>2</sup>	16,80	15,05	12,89
Purlin length (mm)	2175	2380	2728
Wind brace length (mm)	Without wind guard	Without wind guard	Without wind guard
Maximum PV module length (mm) <sup>3</sup>	2100	2300	2500

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
East-west

RBTSOLAR-FR-US-EW



Welded base  
for support

RBTSOLAR-KD-PZ



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Hexagonal nut  
M10 IE

NM10Z



Washer M10 300HV  
ISO7093-1 IE

PSZM10Z



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M10X20 IE

SM10X20Z



Hexagonal screw  
M8X20 DIN933 A2

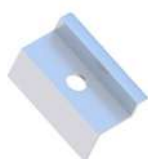
SM8X20A2



Purlin for support  
L=2175/2380/2728

RBTSOLAR-KD-PL-2175/2380/2728

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2

## 11

## Ballast structure

FR-B-US-S/H/SA/MAX-LONG2100

## TYPE

Universal (US)

## MODULE DIRECTION

South (S)

## MODULE LAYOUT

Horizontal (H)

## INSTALLATION

Short side (SA)

## MAX PV MODULE LENGTH

2100



SEE ONLINE →



## DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, where additional ballast is necessary, without the possibility of using a welded structure.
- Non-invasive assembly, using the appropriate number of ballast blocks, in accordance with the ballast plan.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- The system allows you to add weight to the base and simultaneously load the wind deflector with ballast (in roof areas particularly exposed to wind suction).



## Flat roof structures (FR)



1. Upper telescope - short side  
RBSOLAR-KDPT\_5\_365

2. Lower telescope - short side  
RBSOLAR-KDPT\_4\_350

3. Upper telescope - long side  
RBSOLAR-KDPT\_3\_825

4. Lower telescope - long side  
RBSOLAR-KDPT\_2\_825

5. Omega for support  
(Base for ballast blocks)  
RBSOLAR-KD-PB

6. Base south  
RBSOLAR-KDPP\_1\_1560

## CHARACTERISTICS

## FR-B-US-S/H/SA/MAX-LONG2100

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Ballast (B)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Horizontal (H)
How to install a PV module	Short side (SA)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is placed on the roof covering and then additionally ballasted using concrete blocks placed on a ballast platform
Does the structure require additional ballast?	Yes
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	6,40
Purlin length (mm)	Without purlins
Wind brace length (mm)	2175
Maximum PV module length (mm) <sup>3</sup>	2100
How to install the clamps	Clamps mounted to the triangle - key system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTSOLAR-FR-US-S



Omega dla podpory  
(Podstawa dla bloczków  
balastowych)

RBTSOLAR-KD-PB



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLSR50ALN  
KLSR50ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2175/2355/2703mm

RBTSOLAR-KD-W-2175/2355/2703



Ballast wind shelter  
South support  
L=2175/2355/2703mm

RBTSOLAR-KD-WB-2175/2355/2703

## 12

## Ballast structure

FR-B-US-S/H/LAZ/MAX-LONG2100  
FR-B-US-S/H/LAZ/MAX-LONG2300  
FR-B-US-S/H/LAZ/MAX-LONG2500

## TYPE

Universal (US)

## MODULE DIRECTION

South (S)

## MODULE LAYOUT

Horizontal (H)

## INSTALLATION

Long side (LAZ)

## MAX PV MODULE LENGTH

2100 / 2300 / 2500



SEE ONLINE →



## DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, where necessary additional ballast, without the possibility of using a welded structure.
- Non-invasive assembly, using the appropriate number of ballast blocks, in accordance with the ballast plan.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- The system allows you to add weight to the base and simultaneously load the wind deflector with ballast (in roof areas particularly exposed to wind suction).
- In case of mounting PV modules in a horizontal arrangement, an additional element are ZET profiles with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



1. Upper telescope - short side  
RBTsolar-KDPT\_5\_365
2. Lower telescope - short side  
RBTsolar-KDPT\_4\_350
3. Upper telescope - long side  
RBTsolar-KDT\_3\_825
4. Lower telescope - long side  
RBTsolar-KDR\_2\_825
5. Omega for support  
(Base for ballast blocks)  
RBTsolar-KD-PB
6. Base south  
RBTsolar-KDPP\_1\_1560
7. Purlin for support L=2175/2380/2728  
RBTsolar-KD-PL-2175/2380/2728

## CHARACTERISTICS

## FR-B-US-S/H/LAZ

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Ballast (B)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Horizontal (H)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is placed on the roof covering and then additionally ballasted using concrete blocks placed on a ballast platform
Does the structure require additional ballast?	Yes
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

	MAX-LONG2100	MAX-LONG2300	MAX-LONG2500
Approximate weight of the structure per 1m2 of installation without additional ballast (kg/m2) <sup>2</sup>	10,22	10,61	11,20
Purlin length (mm)	2175	2380	2728
Wind brace length (mm)	2175	2355	2703
Maximum PV module length (mm) <sup>3</sup>	2100	2300	2500

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTSOLAR-FR-US-S



Omega dla podpory  
(Podstawa dla bloczków  
balastowych)

RBTSOLAR-KD-PB



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M8X20 DIN933 A2

SM8X20A2



Purlin for support  
L=2175/2380/2728

RBTSOLAR-KD-PL-2175/2380/2728

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLRS50ALN  
KLRS50ALCZ



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2175/2355/2703mm

RBTSOLAR-KD-W-2175/2355/2703



Ballast wind shelter  
South support  
L=2175/2355/2703mm

RBTSOLAR-KD-WB-2175/2355/2703





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## Ballast structure

FR-B-US-S/V/LAZ/MAX-LONG1950

### TYPE

Universal (US)

### MODULE DIRECTION

South (S)

### MODULE LAYOUT

Vertical (V)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

1950



SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, where necessary additional ballast, without the possibility of using a welded structure.
- Non-invasive assembly, using the appropriate number of ballast blocks, in accordance with the ballast plan.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- The system allows you to add weight to the base and simultaneously load the wind deflector with ballast (in roof areas particularly exposed to wind suction).
- In case of mounting PV modules in a vertical arrangement, an additional element are ZET profiles with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



1. Upper telescope - short side  
RBTSOLAR-KDPT\_5\_365
2. Lower telescope - short side  
RBTSOLAR-KDPT\_4\_350
3. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
4. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
5. Omega for support  
(Base for ballast blocks)  
RBTSOLAR-KD-PB
6. Base south  
RBTSOLAR-KDPP\_1\_1560
7. Purlin for support L=2380  
RBTSOLAR-KD-PL-2380

## CHARACTERISTICS

## FR-B-US-S/V/LAZ/MAX-LONG1950

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Ballast (B)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Vetrical (V)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is placed on the roof covering and then additionally ballasted using concrete blocks placed on a ballast platform
Does the structure require additional ballast?	Yes
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	5,78
Purlin length (mm)	2380
Wind brace length (mm)	2355
Maximum PV module length (mm) <sup>3</sup>	1950
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTSOLAR-FR-US-S



Omega dla podpory  
(Podstawa dla bloczków  
balastowych)

RBTSOLAR-KD-PB



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M8X20 DIN933 A2

SM8X20A2



Purlin for support  
L=2380

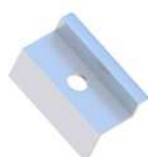
RBTSOLAR-KD-PL-2380

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



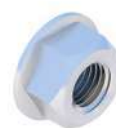
End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLSR50ALN  
KLSR50ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2355

RBTSOLAR-KD-W-2355



Ballast wind shelter  
South support  
L=2355

RBTSOLAR-KD-WB-2355



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## Ballast structure

FR-B-US-EW/H/SA/MAX-LONG2100

## TYPE

Universal (US)

## MODULE DIRECTION

East-west (EW)

## MODULE LAYOUT

Horizontal (H)

## INSTALLATION

Short side (SA)

## MAX PV MODULE LENGTH

2100



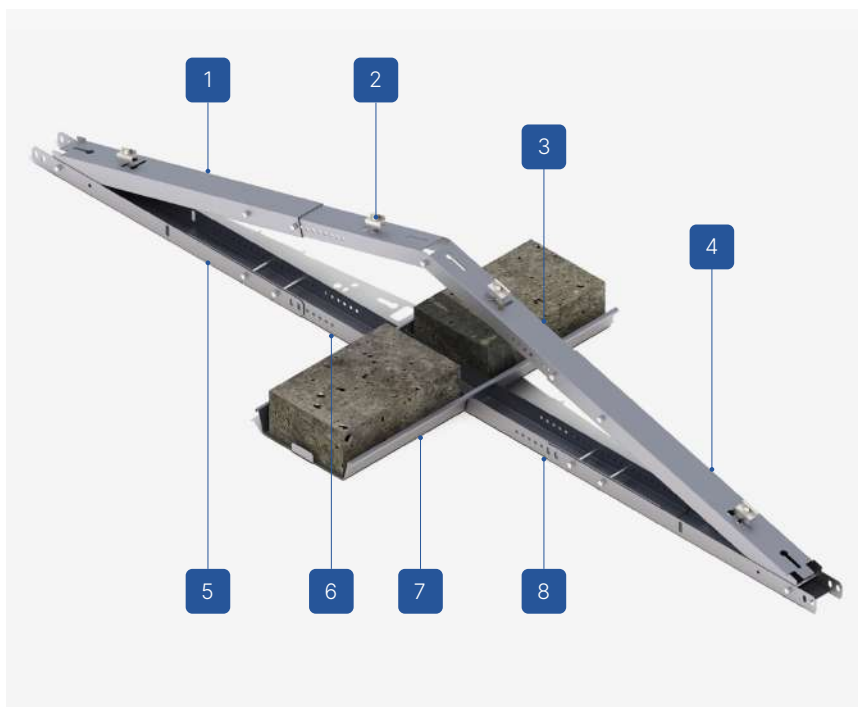
SEE ONLINE →



## DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, where necessary additional ballast, without the possibility of using a welded structure.
- Non-invasive assembly, using the appropriate number of ballast blocks, in accordance with the ballast plan.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.

## Flat roof structures (FR)



1. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
2. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
3. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
4. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
5. End telescope - base  
RBTSOLAR-KDWZP\_6\_880
6. Middle telescope - base  
RBTSOLAR-KDWZL\_7\_1544
7. Omega for support  
(Base for ballast blocks)  
RBTSOLAR-KD-PB
8. End telescope - base  
RBTSOLAR-KDWZP\_6\_880

## CHARACTERISTICS

## FR-B-US-EW/H/SA/MAX-LONG2100

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Ballast (B)
Type of construction	Universal (US)
Module orientation	East-west (EW)
Module layout	Horizontal (H)
How to install a PV module	Short side (SA)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is placed on the roof covering and then additionally ballasted using concrete blocks placed on a ballast platform
Does the structure require additional ballast?	Yes
Is it possible to apply the hybrid solution (weld + ballast)?	No
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	9,94
Purlin length (mm)	Without purlins
Wind brace length (mm)	Without wind guard
Maximum PV module length (mm) <sup>3</sup>	2100
How to install the clamps	Clamps mounted to the triangle - key system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation



Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
East-west

**RBTSOLAR-FR-US-EW**



Omega dla podpory  
(Podstawa dla blozków  
balastowych)

**RBTSOLAR-KD-PB**



Self-locking nut  
M8 DIN985 A2

**NSHM8A2**



Round washer  
A2 8.4 DIN125A

**PPM8A2**



Allen screw  
M8X100 DIN912 A2

**SIM8X100A2**

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



End clamp  
30/32/35/40  
Nature/Black

**KLK50/30(32/35/40)ALN**  
**KLK50/30(32/35/40)ALCZ**



Middle clamp  
50 universal  
Nature/Black

**KLSR50ALN**  
**KLSR50ALCZ**



Flange nut  
serrated  
M8 DIN6923 A2

**NKM8A2**



Allen screw  
M8X35 DIN912 A2

**SIM8X35A2**



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## Ballast structure

FR-B-US-EW/H/LAZ/MAX-LONG2100  
FR-B-US-EW/H/LAZ/MAX-LONG2300  
FR-B-US-EW/H/LAZ/MAX-LONG2500

### TYPE

Universal (US)

### MODULE DIRECTION

East-west (EW)

### MODULE LAYOUT

Horizontal (H)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

2100 / 2300 / 2500



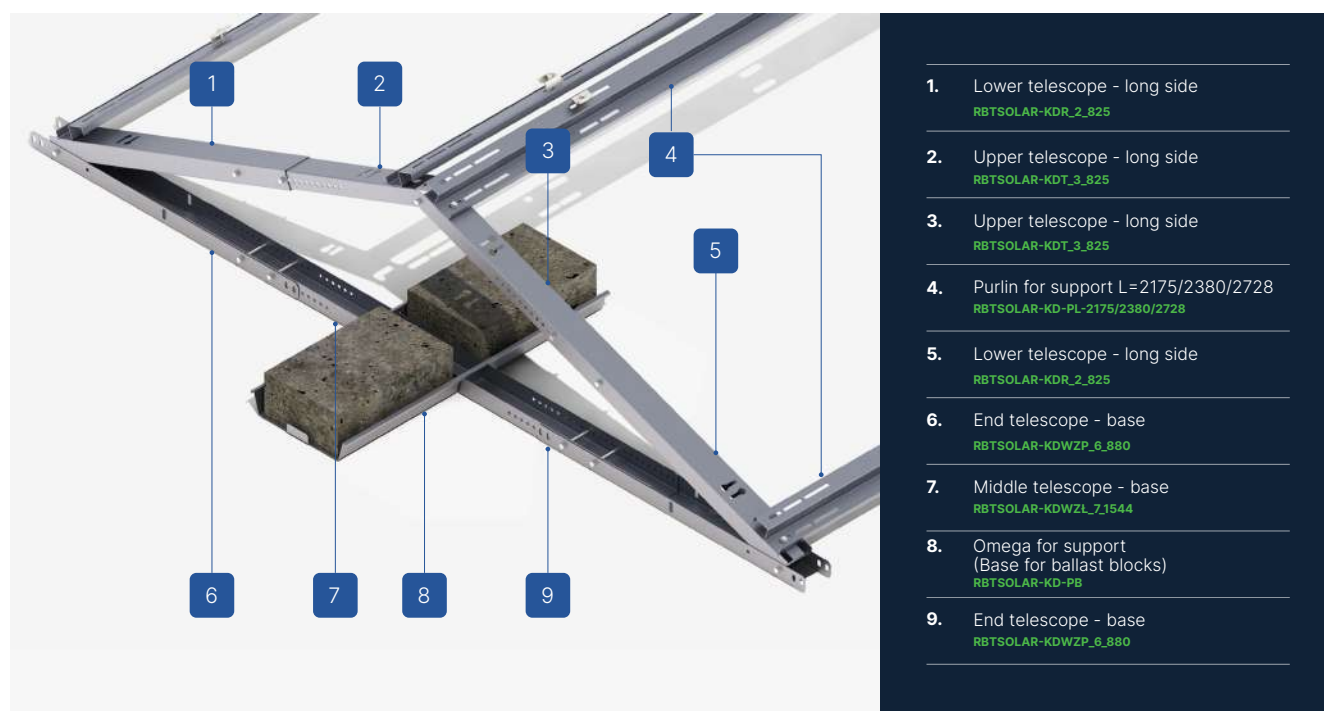
SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis™ sheet metal, intended for flat roofs, where necessary additional ballast, without the possibility of using a welded structure.
- Non-invasive assembly, using the appropriate number of ballast blocks, in accordance with the ballast plan.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- In the case of mounting PV modules in a horizontal arrangement, an additional element are ZET profiles with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)


**CHARACTERISTICS**
**FR-B-US-EW/H/LAZ**

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Ballast (B)
Type of construction	Universal (US)
Module orientation	East-west (EW)
Module layout	Horizontal (H)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane
Method of assembly	The base of the structure is placed on the roof covering and then additionally ballasted using concrete blocks placed on a ballast platform
Does the structure require additional ballast?	Yes
Is it possible to apply the hybrid solution (weld + ballast)?	No
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

	<b>MAX-LONG2100</b>	<b>MAX-LONG2300</b>	<b>MAX-LONG2500</b>
Approximate weight of the structure per 1m2 of installation without additional ballast (kg/m2) <sup>2</sup>	17,57	15,43	13,20
Purlin length (mm)	2175	2380	2728
Wind brace length (mm)	Without wind guard	Without wind guard	Without wind guard
Maximum PV module length (mm) <sup>3</sup>	2100	2300	2500

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
East-west

RBTSOLAR-FR-US-EW



Omega dla podpory  
(Podstawa dla bloczków  
balastowych)

RBTSOLAR-KD-PB



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M8X20 DIN933 A2

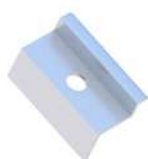
SM8X20A2



Purlin for support  
L=2175/2380/2728

RBTSOLAR-KD-PL-2175/2380/2728

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2

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## Screw-on structure

FR-S-US-S/H/SA/MAX-LONG2100

### TYPE

Universal (US)

### MODULE DIRECTION

South (S)

### MODULE LAYOUT

Horizontal (H)

### INSTALLATION

Short side (SA)

### MAX PV MODULE LENGTH

2100



SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis sheet, intended for flat or sloping roofs, without the need for additional ballasting and without the possibility of using a welded structure.
- Invasive installation system, by attaching to the roof substructure using the appropriate number of screws.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.

## Flat roof structures (FR)



1. Upper telescope - short side  
RBTSOLAR-KDPT\_5\_365

2. Lower telescope - short side  
RBTSOLAR-KDPT\_4\_350

3. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825

4. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825

5. Base south  
RBTSOLAR-KDPP\_1\_1560

## CHARACTERISTICS

## FR-S-US-S/H/SA/MAX-LONG2100

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Screw-on (S)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Horizontal (H)
How to install a PV module	Short side (SA)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane/sandwich panel/trapezoidal sheet
Method of assembly	The base of the structure is attached to the roof substructure
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	5,15
Purlin length (mm)	Without purlins
Wind brace length (mm)	2175
Maximum PV module length (mm) <sup>3</sup>	2100
How to install the clamps	Clamps mounted to the triangle - key system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTSOLAR-FR-US-S



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

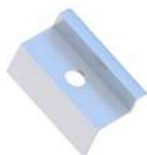
SIM8X100A2

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLSR50ALN  
KLSR50ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2175/2355/2703mm

RBTSOLAR-KD-W-2175/2355/2703



Ballast wind shelter  
South support  
L=2175/2355/2703mm

RBTSOLAR-KD-WB-2175/2355/2703



M10 double thread screw  
200/250/300

RBTSOLAR-KD-DWUG200/250/300



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## Screw-on structure

FR-S-US-S/H/LAZ/MAX-LONG2100  
FR-S-US-S/H/LAZ/MAX-LONG2300  
FR-S-US-S/H/LAZ/MAX-LONG2500

### TYPE

Universal (US)

### MODULE DIRECTION

South (S)

### MODULE LAYOUT

Horizontal (H)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

2100 / 2300 / 2500



SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis sheet, intended for flat or sloping roofs, without the need for additional ballasting and without the possibility of using a welded structure.
- Invasive installation system, by attaching to the roof substructure using the appropriate number of screws.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- In case of mounting PV modules in a vertical arrangement and with a side length exceeding 2100 mm in a horizontal arrangement, ZET profiles are an additional element with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



1. Upper telescope - short side  
RBSOLAR-KDPT\_5\_365
2. Lower telescope - short side  
RBSOLAR-KDPT\_4\_350
3. Upper telescope - long side  
RBSOLAR-KDPT\_3\_825
4. Lower telescope - long side  
RBSOLAR-KDPT\_2\_825
5. Base south  
RBSOLAR-KDPP\_1\_1560
6. Purlin for support L=2175/2380/2728  
RBSOLAR-KD-PL-2175/2380/2728

## CHARACTERISTICS

## FR-S-US-S/H/LAZ

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Screw-on (S)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Horizontal (H)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane/sandwich panel/trapezoidal sheet
Method of assembly	The base of the structure is attached to the roof substructure
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

	MAX-LONG2100	MAX-LONG2300	MAX-LONG2500
Approximate weight of the structure per 1m2 of installation without additional ballast (kg/m2) <sup>2</sup>	8,96	9,35	6,72
Purlin length (mm)	2175	2380	2728
Wind brace length (mm)	2175	2355	2703
Maximum PV module length (mm) <sup>3</sup>	2100	2300	2500

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

RBTsolar-FR-US-S



Self-locking nut  
M8 DIN985 A2



Round washer  
A2 8.4 DIN125A



Allen screw  
M8X100 DIN912 A2



Hexagonal screw  
M8X20 DIN933 A2

SM8X20A2



Purlin for support  
L=2175/2380/2728

RBTsolar-KD-PL-2175/2380/2728

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

BLW55X25EPDMZ



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLSR50ALN  
KLSR50ALCZ



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



Windchest  
South support  
L=2175/2355/2703mm

RBTsolar-KD-W-2175/2355/2703



Ballast wind shelter  
South support  
L=2175/2355/2703mm

RBTsolar-KD-WB-2175/2355/2703



M10 double thread screw  
200/250/300

RBTsolar-KD-DWUG200/250/300



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## Screw-on structure

FR-S-US-S/V/LAZ/MAX-LONG1950

### TYPE

Universal (US)

### MODULE DIRECTION

South (S)

### MODULE LAYOUT

Vertical (V)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

1950



SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis sheet, intended for flat or sloping roofs, without the need for additional ballasting and without the possibility of using a welded structure.
- Invasive installation system, by attaching to the roof substructure using the appropriate number of screws.

- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- In case of mounting PV modules in a vertical arrangement and with a side length exceeding 2100 mm in a horizontal arrangement, ZET profiles are an additional element with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



1. Upper telescope - short side  
RBTSOLAR-KDPT\_5\_365
2. Lower telescope - short side  
RBTSOLAR-KDPT\_4\_350
3. Upper telescope - long side  
RBTSOLAR-KDPT\_3\_825
4. Lower telescope - long side  
RBTSOLAR-KDPT\_2\_825
5. Base south  
RBTSOLAR-KDPP\_1\_1560
6. Purlin for support L=2380  
RBTSOLAR-KD-PL-2380

## CHARACTERISTICS

## FR-S-US-S/V/LAZ/MAX-LONG1950

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Screw-on (S)
Type of construction	Universal (US)
Module orientation	South (S)
Module layout	Vertical (V)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane/sandwich panel/trapezoidal sheet
Method of assembly	The base of the structure is attached to the roof substructure
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	Yes - possibility of additional ballasting of the wind tower
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	5,1
Purlin length (mm)	2380
Wind brace length (mm)	2355
Maximum PV module length (mm) <sup>3</sup>	1950
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
South

**RBTSOLAR-FR-US-S**



Self-locking nut  
M8 DIN985 A2



Round washer  
A2 8.4 DIN125A



Allen screw  
M8X100 DIN912 A2



Hexagonal screw  
M8X20 DIN933 A2

**SM8X20A2**



Purlin for support  
L=2175/2380/2728

**RBTSOLAR-KD-PL-2175/2380/2728**

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



Sheet metal screw  
OC 5.5X25 EPDM

**BLW55X25EPDMZ**



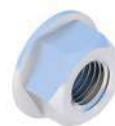
End clamp  
30/32/35/40  
Nature/Black

**KLK50/30(32/35/40)ALN**  
**KLK50/30(32/35/40)ALCZ**



Middle clamp  
50 universal  
Nature/Black

**KLSR50ALN**  
**KLSR50ALCZ**



Flange nut  
serrated  
M8 DIN6923 A2

**NKM8A2**



Allen screw  
M8X35 DIN912 A2

**SIM8X35A2**



Windchest  
South support  
L=2355

**RBTSOLAR-KD-W-2355**



Ballast wind shelter  
South support  
L=2355

**RBTSOLAR-KD-WB-2355**



M10 double thread screw  
200/250/300

**RBTSOLAR-KD-DWUG200/250/300**



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## Screw-on structure

FR-S-US-EW/H/SA/MAX-LONG2100

### TYPE

Universal (US)

### MODULE DIRECTION

East-west (EW)

### MODULE LAYOUT

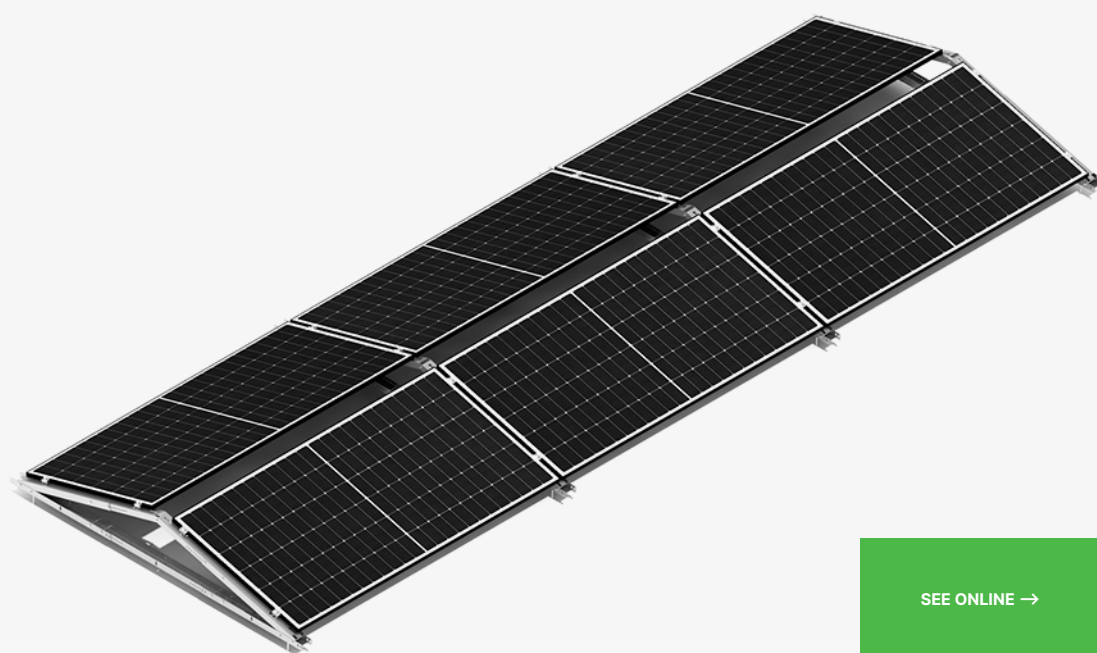
Horizontal (H)

### INSTALLATION

Short side (SA)

### MAX PV MODULE LENGTH

2100



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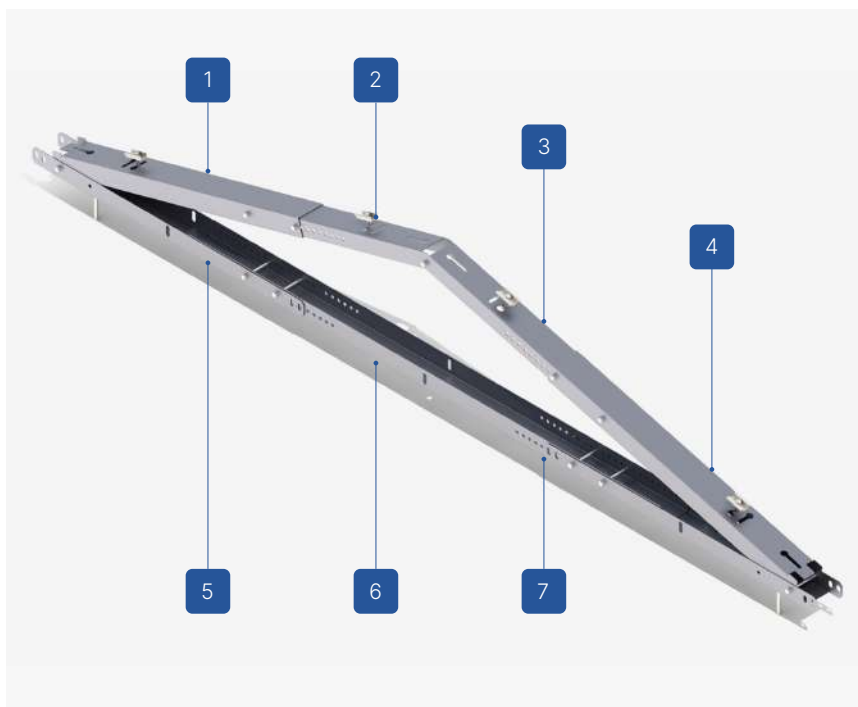


### DESCRIPTION

- Multi-part structure, made of Magnelis sheet, intended for flat or sloping roofs, without the need for additional ballasting and without the possibility of using a welded structure.
- Invasive installation system, by attaching to the roof substructure using the appropriate number of screws.
- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.



## Flat roof structures (FR)



1. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
2. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
3. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
4. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
5. End telescope - base  
RBTSOLAR-KDWZP\_6\_880
6. Middle telescope - base  
RBTSOLAR-KDWZL\_7\_1544
7. End telescope - base  
RBTSOLAR-KDWZP\_6\_880

## CHARACTERISTICS

## FR-S-US-EW/H/SA/MAX-LONG2100

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Screw-on (S)
Type of construction	Universal (US)
Module orientation	East-west (EW)
Module layout	Horizontal (H)
How to install a PV module	Short side (SA)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane/sandwich panel/trapezoidal sheet
Method of assembly	The base of the structure is attached to the roof substructure
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	No
Approximate weight of the structure per 1m <sup>2</sup> of installation without additional ballast (kg/m <sup>2</sup> ) <sup>2</sup>	8,69
Purlin length (mm)	Without purlins
Wind brace length (mm)	Without wind guard
Maximum PV module length (mm) <sup>3</sup>	2100
How to install the clamps	Clamps mounted to the triangle - key system
Method of distribution	Available in stock

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
East-west

RBTSOLAR-FR-US-EW



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Middle clamp  
50 universal  
Nature/Black

KLSR50ALN  
KLSR50ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



M10 double thread screw  
200/250/300

RBTSOLAR-KD-DWUG200/250/300



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## Screw-on structure

FR-S-US-EW/H/LAZ/MAX-LONG2100  
FR-S-US-EW/H/LAZ/MAX-LONG2300  
FR-S-US-EW/H/LAZ/MAX-LONG2500

### TYPE

Universal (US)

### MODULE DIRECTION

East-west (EW)

### MODULE LAYOUT

Horizontal (H)

### INSTALLATION

Long side (LAZ)

### MAX PV MODULE LENGTH

2100 / 2300 / 2500



SEE ONLINE →



### DESCRIPTION

- Multi-part structure, made of Magnelis sheet, intended for flat or sloping roofs, without the need for additional ballasting and without the possibility of using a welded structure.
- Invasive installation system, by attaching to the roof substructure using the appropriate number of screws.

- Ready to be used for modules of various power and sizes, thanks to the use of two adjustable telescopic arms.
- In case of mounting PV modules in a vertical arrangement and with a side length exceeding 2100 mm in a horizontal arrangement, ZET profiles are an additional element with bean holes, to which the modules are mounted using clamps and an M8 Allen screw.

## Flat roof structures (FR)



1. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
2. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
3. Upper telescope - long side  
RBTSOLAR-KDT\_3\_825
4. Purlin for support L=2175/2380/2728  
RBTSOLAR-KD-PL-2175/2380/2728
5. Lower telescope - long side  
RBTSOLAR-KDR\_2\_825
6. End telescope - base  
RBTSOLAR-KDWZP\_6\_880
7. Middle telescope - base  
RBTSOLAR-KDWZL\_7\_1544
8. End telescope - base  
RBTSOLAR-KDWZP\_6\_880

## CHARACTERISTICS

## FR-S-US-EW/H/LAZ

Roof type	Flat roof (FR)
Method of mounting the structure on the roof	Screw-on (S)
Type of construction	Universal (US)
Module orientation	East-west (EW)
Module layout	Horizontal (H)
How to install a PV module	Long side (LAZ)
Application/substrate on which it is mounted	PVC membrane/bituminous membrane/sandwich panel/trapezoidal sheet
Method of assembly	The base of the structure is attached to the roof substructure
Does the structure require additional ballast?	No
Is it possible to apply the hybrid solution (weld + ballast)?	No
How to install the clamps	Clamps mounted to purlins - bean system
Method of distribution	Available in stock

	MAX-LONG2100	MAX-LONG2300	MAX-LONG2500
Approximate weight of the structure per 1m2 of installation without additional ballast (kg/m2) <sup>2</sup>	13,61	14,38	12,35
Purlin length (mm)	2175	2380	2728
Wind brace length (mm)	Without wind guard	Without wind guard	Without wind guard
Maximum PV module length (mm) <sup>3</sup>	2100	2300	2500

<sup>1</sup> the proposed installation method for a given type of module may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation.

<sup>2</sup> weight calculated for a system of three modules in one row with the maximum dimensions for a given type of structure

<sup>3</sup> the given maximum size of the module and the proposed method of its installation may differ from the installation method provided by the PV module manufacturer, whose recommendations and recommendations determine the proper installation

Flat roof structures (FR)



LIST OF PARTS - BASE OF CONSTRUCTION



Universal triangle  
East-west

RBTsolar-FR-US-EW



Self-locking nut  
M8 DIN985 A2

NSHM8A2



Round washer  
A2 8.4 DIN125A

PPM8A2



Allen screw  
M8X100 DIN912 A2

SIM8X100A2



Hexagonal screw  
M8X20 DIN933 A2

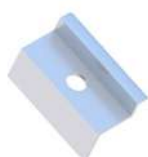
SM8X20A2



Purlin for support  
L=2175/2380/2728

RBTsolar-KD-PL-2175/2380/2728

LIST OF PARTS - OTHER INSTALLATION ELEMENTS



End clamp  
30/32/35/40  
Nature/Black

KLK50/30(32/35/40)ALN  
KLK50/30(32/35/40)ALCZ



Flange nut  
serrated  
M8 DIN6923 A2

NKM8A2



Allen screw  
M8X35 DIN912 A2

SIM8X35A2



M10 double thread screw  
200/250/300

RBTsolar-KD-DWUG200/250/300

# Our representatives



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