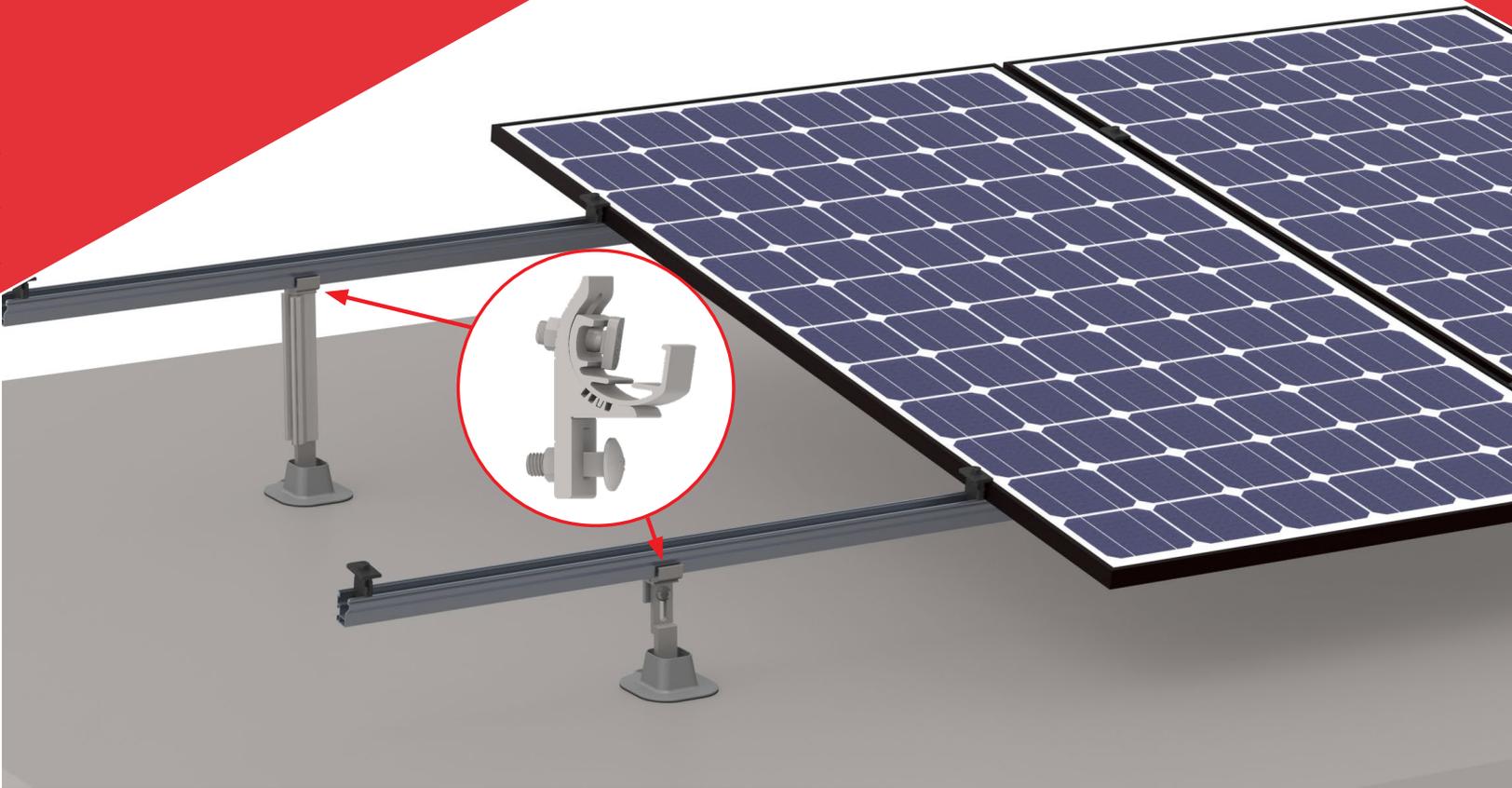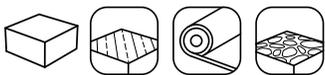# CrossRail Simple Tilt System

⊖ **DATA SHEET**

PRODUCT FEATURES

/ Tilt system compatible with all low slope roof coverings

/ Same universal components as CrossRail System results in quick installation

/ Various rail profiles to meet any design load

/ Simple Knee utilizes pre-designed tilt angle of 0°, 10°, 15° or 25°

/ CrossRails provide ultimate design flexibility

	CrossRail Simple Tilt System
Roof Type	All flat roof coverings: TPO, PVC, EPDM, Modified Bitumen, Concrete
Material	6000 series aluminum
Flexibility	Modular construction, suitable for any system size, height adjustable
PV Modules	For all common module types
Module Orientation	Portrait
Roof Connection	Roof attachment for specified roof type
Structural Validity	IBC compliant, stamped engineering letters available for all solar states
Certifications	UL 2703, ASCE 7-16, Class A Fire Rating
Warranty	25 years

Simple Tilt Dimensions for Installation

The Simple Tilt System is a completely custom solution. Figure 1 and Table 1 and 2 below provide recommended installation dimensions based on examples of standard PV modules with fastening locations at 1/6 of the module edge dimension. Always make sure the dimensions are suitbale for the project site.
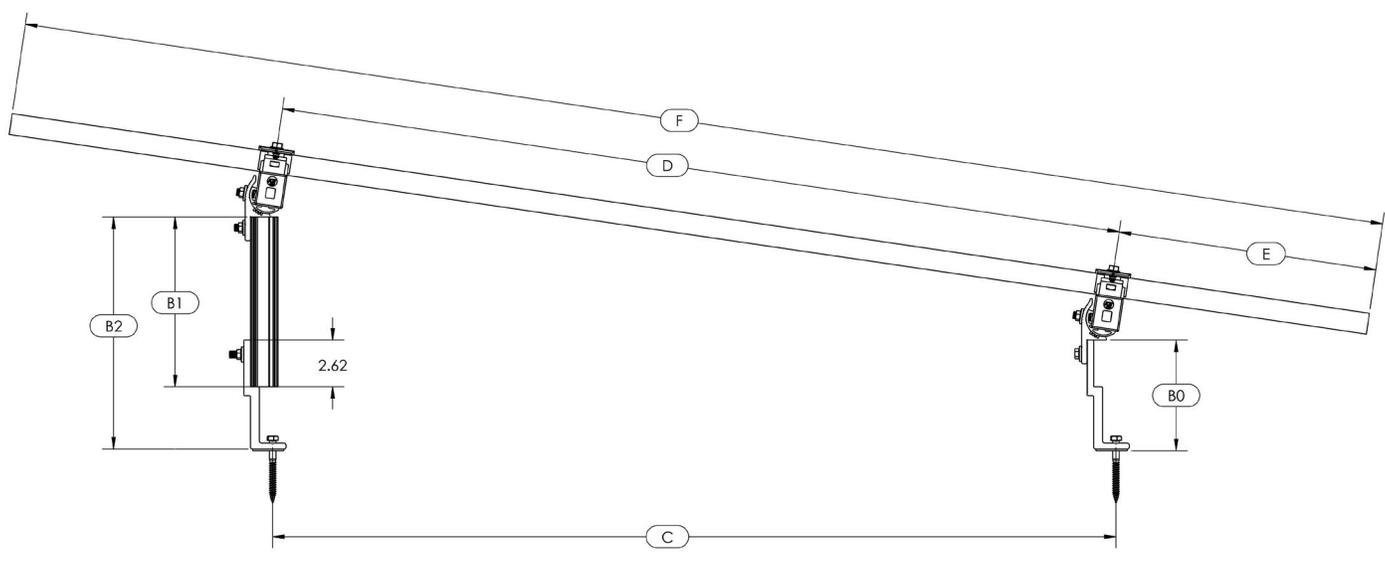

Figure 1: Assembly dimensions for the Simple Tilt System
Note: Maximum roof inclination of 7 °
Note: When the desired tilt angle is 0° the rail B1 isn't necessary.
Note: You can find B1 by using the equation B1 = C x tan(θ) +2.6
Note: For roofs with 1-2" of foam that require foam coring minus 1/2" off the back rail lengths listed below.

Dimensions	Description	Desired Tilt Angle			
		0 Degrees	10 Degrees	15 Degrees	25 Degrees
		Portrait			
		70" – 85" panels			
B0	Front Post Maximum	6.3	6.3	6.3	6.3
B1	Back Rail	0	11.06	15.46	24.98
B2	Back Post	6.3	14.76	19.16	28.68
C	Span Front to Back	48	48	48	48
D	Clamp to Clamp	48	48.74	49.69	52.96
E	Clamp to Module Edge	15.37	15	14.52	12.89
F	Module Length	78.74	78.74	78.74	78.74

Table 1: Installation dimensions for one row of the Simple Tilt with 70" - 85" panels. All dimensions are in inches.

Dimensions	Description	Desired Tilt Angle			
		0 Degrees	10 Degrees	15 Degrees	25 Degrees
		Portrait			
		Up to 70" panels			
B0	Front Post Maximum	6.3	6.3	6.3	6.3
B1	Back Rail	0	10.01	13.85	22.18
B2	Back Post	6.3	13.71	17.55	25.88
C	Span Front to Back	42	42	42	42
D	Clamp to Clamp	42	42.65	43.48	46.34
E	Clamp to Module Edge	12.47	12.14	11.72	10.29
F	Module Length	66.93	66.93	66.93	66.93

Table 2: Installation dimensions for one row of the Simple Tilt for up to 70" panels. All dimensions are in inches.

Considerations:

1. Always refer to the PV module manufacturer's installation instructions for approved fastening locations. The dimensions in Table 1 is an example that assumes a standard 70"-85" module length with fastening locations approximately 1/6 of the total length and a centered module.

2. The dimension of the front leg (B0) must measure at most 6.3" total length and a centered module.

3. Dimensions C and D are critical dimensions that must be followed, dimensions B1 and E are given in Table 1 as suggested values. The installer must verify that the dimensions are appropriate for individual site conditions, modules selected, and roof surface. With the following formula you can have an estimate of the length of the back leg:

$B1 = C \times \tan(\theta) + 2.6$

B1=Back leg (in)

θ=Permitted tilt angle: 0°, 10°, 15° or 25°

E=Long side of module (in)

D=Module clamping area. Typically between 1/4 and 1/6 of the long side of the module. Consult the technical information of the module manufacturer to know the exact clamping zones.

4. The installer is responsible for cutting the track to the "B1" lengths.

5. Refer to Simple Tilt System Engingeering Letter(s) for reaction loads at each anchor point. These calculations only consider wind loads. Seismic loads and snow loads were not taken into account.

6. The Simple Knee performs best when fully seated on top of the rail.

7. For more information please request the K2 Tool with our engineering team at infous@k2-systems.com

Components

CrossRail 44-X Max

Part Number	Description
4000819	CrossRail 44-X Max, 172", Mill
4000819-US	CrossRail 44-X Max, 172", Mill, DC
4000820	CrossRail 44-X Max, 172", Dark
4000820-US	CrossRail 44-X Max, 172", Dark, DC

CrossRail 44-X

Part Number	Description
4000719	CrossRail 44-X, 172", Mill
4000720	CrossRail 44-X, 172", Dark
4000721	CrossRail 44-X, 185", Mill
4000722	CrossRail 44-X, 185", Dark

CrossRail 48-X

Part Number	Description
4000723	CrossRail 48-X, 172", Mill
4000663	CrossRail 48-X, 166", Dark

CrossRail 48-XL

Part Number	Description
4000695	CrossRail 48-XL, 166", Mill
4000727	CrossRail 48-XL, 172", Mill
4000728	CrossRail 48-XL, 172", Dark
4000729	CrossRail 48-XL, 185", Mill
4000730	CrossRail 48-XL, 185", Dark

K2 Simple Knee

Part Number	Description
4000416	Simple Tilt Knee, Set
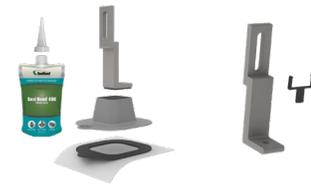
Roof Attachments

Part Number	Description
4000218	Big Foot 6" w/ 3"+ Chem Link Clip, Kit
4000559	K2 Armor w/Big Foot, Kit

K2 Cross Clamp

Part Number	Description
4000135	K2 Cross Clamp Set, Mill
4000135-US	K2 Cross Clamp Set, Mill, DC
4000145	K2 Cross Clamp Set, Dark
4000145-US	K2 Cross Clamp Set, Dark, DC

End Clamps

Part Number	Description
4000197	K2 End Clamp Set, Mill
4000050-B	Yeti Hidden 2.0, 13mm Hex Set
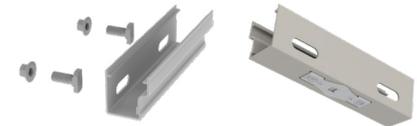
CrossRail Rail Connector

Part Number	Description
4000051-US	Rail Connector CR 44-X, Set, Mill, DC
4000051-T	Tool-less Rail Connector 44-X, Set, Mill
4000052-US	Rail Connector CR 44-X, Set, Dark, DC
4000052-T	Tool-less Rail Connector 44-X, Set, Dark
4000385	RailConn CR48-X,48-XL Struct Set, Mill
4000386	RailConn CR48-X,48-XL Struct Set, Dark

End Caps

Part Number	Description
4000176	EndCap 44-X, K2
4000431	CrossRail Flat EndCap, CR 48-X, 48-XL

Bonding & Grounding

Part Number	Description
4000629-H	CR Microinverter & Opt, 13mm Hex Kit
4000006-H	K2 Ground Lug, 13mm Hex
4000083	MLPE, Module Frame Mount, Kit

Wire Management

Part Number	Description
4000400	K2 4 Wire Dragon Clip, Set
4000069	Wire Management Clip, TC
4000382	HEYClip SunRunner Cable Slip SS, S6404
4005394	Wire Mangement Clip, Omega, Black

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Product illustrations are exemplary and may differ from the original.

CrossRail Simple Tilt Data Sheet ENV4 | 1024 • Subjeta a cambios
Las ilustraciones del producto son ejemplares y pueden diferir del original.