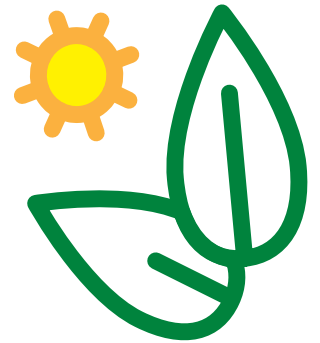


Collectors

The Energy To Meet Your Needs



In the thermal solar energy range A.O. Smith can offer you 2 kinds of installations.

Firstly the solar systems that use thermal solar energy combined with an intelligent control system that makes the installation very energy efficient. This kind of installation is controlled by a high efficiency solar gas water heater. The combination of condensing high efficiency with thermal solar energy integrated in one solution minimizes the gas consumption of the installation.

A.O. Smith also provides installations for smaller applications in the configuration of indirect solar systems. These solar systems consist of an indirect tank which is connected to an already existing central heating system or boiler.

For any system you choose, A.O. Smith can deliver the required parts and several accessories.

Collectors and Drain back system

Sustainability, efficiency and environmental friendliness are the main focus of A.O. Smith's renewable product range and especially our solar collectors. The heart of an A.O. Smith solar collector is a full-plate copper absorber with an eco-friendly vacuum coating. The guaranteed quality of the coating ensures an exceptionally long life of the collector, together with a glass seal set in the frame which prevents the ingress of moisture and dirt into these high-performance collectors. An aluminum casing makes the solar collectors suitable for use in any environment.

To increase the life of the collectors and prevent extremely high temperatures a drain back module is available as an option. By mounting the drain back module directly below the collectors the required pump capacity is reduced and thus the power consumption of the fully modulating solar pump is reduced to an absolute minimum.

The modular constructions of our collectors allow for a variety of ways to be integrated into the roof design: roof build-on, roof build-in, flat roof frames or wall mounting frames are available. The flat roof frame sets and the wall mounting frame sets are based on the angle they are positioned. Dependant on the roof and the way of mounting the flat roof frames are available with or without concrete blocks. All the sets can be equipped with a drain back system.

A.O. Smith solar collectors are supplied in sets that include all necessary tools and parts. A.O. Smith solar collectors meet the highest standards and are Solar Keymark certified to be in full compliance with all major incentive and Tax-programs.

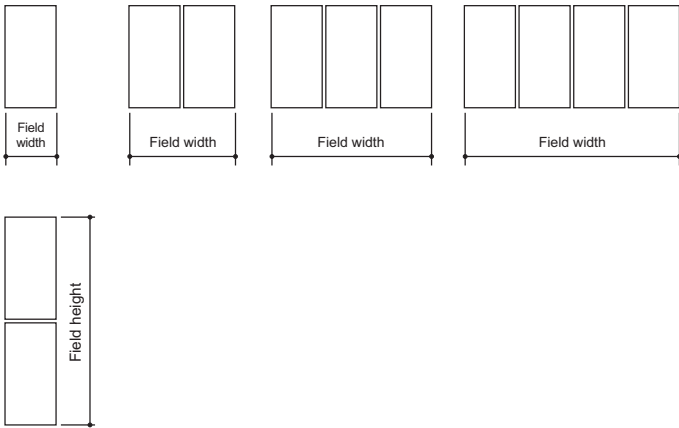


Collectors are an essential part of the solar system. Therefore A.O. Smith offers several application options. By using the A.O. Smith Smart Size program you can calculate the perfect solution, including collectors. You can find the program at www.aosmith.co.uk.



Technical specifications and dimensions (copper-copper)

Vertical collectors



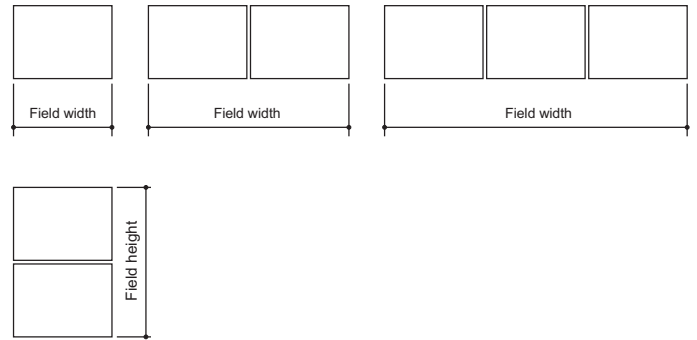
FIELD WIDTH						
	Number of collectors					For each extra collector
Vertical collector	1	2	3	4	5	+122
in cm	116.7	238.7	360.7	482.7	604.7	

FIELD HEIGHT		
	Number of collectors	
Vertical collector	1	2
in cm	206.7	418.7

TECHNICAL SPECIFICATIONS		
Net collector surface	m ²	2.20
Total collector surface	m ²	2.52
Length	mm	2100
Width	mm	1200
Height	mm	110
Frame material		Aluminium
Glass		ESG Sun glass
Insulation		60 mm Laine de roche
Heat absorber		100% Plaque en cuivre
Maximum working pressure	kPa	600
Test pressure	kPa	1000
Capacity unit of solar fluid	l	2.2
Flow of solar fluid	l/m ²	15 - 40
Maximum admissible temperature	°C	208
Collector aperture area	m ²	2.24
Zero loss efficiency	%	0.78
First order coefficient	W/(m ² K)	3.59
Second order coefficient	W/(m ² K ²)	0.01
Incident angle modifier		0.93

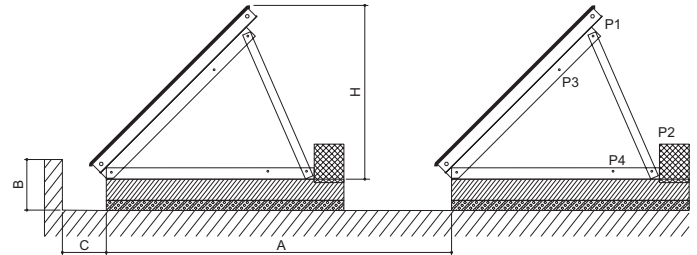
SPECIFICATIONS					
Collector type	Width	Height	Thickness	Weight	Capacity of liquid
Vertical collector	116.7 cm	206.7 cm	11 cm	44 kg	2.2 L
Horizontal collector	206.7 cm	116.7 cm	11 cm	44 kg	2.2 L

Horizontal collectors



FIELD WIDTH					
	Number of collectors				For each extra collector
Horizontal collector	1	2	3	4	+212
in cm	206.7	418.7	630.7	842.7	

FIELD HEIGHT		
	Number of collectors	
Horizontal collector	1	2
in cm	116.7	238.7



DISTANCE BETWEEN COLLECTORS				
Collector type	Distance A			
	20°	30°	45°	60°
Horizontal collector	270	310	320	330
Vertical collector	440	515	600	650

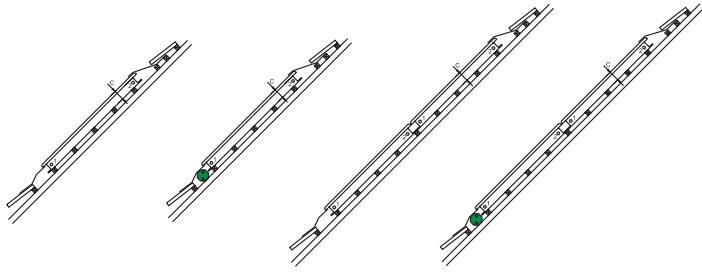
HEIGHT ASSEMBLED COLLECTORS				
Collector type	Height H			
	20°	30°	45°	60°
Horizontal collector	53	71	93	110
Vertical collector	71	104	147	180

DISTANCE TO FRAME	
Height balustrade	Distance C
30	20
40	40
50	70
60	100
70	125
80	150
90	180
100	205
110	230

POSITION STAND	
Angle	Position
SHORT TRAVERSE	
20°	P1-P2
30°	P3-P4
LONG TRAVERSE	
45°	P1-P2
60°	P3-P4



Collectors roof-build in construction (copper-copper)



ROOF MOUNTING KIT SINGLE ROW / HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 01 1 H	1	1	-	✓	-	
SPBI 02 1 H	2	1	-	✓	-	
SPBI 03 1 H	3	1	-	✓	-	
SPBI 04 1 H	4	1	-	✓	-	
SPBI 05 1 H	5	1	-	✓	-	
SPBI 06 1 H	6	1	-	✓	-	
SPBI 07 1 H	7	1	-	✓	-	
SPBI 08 1 H	8	1	-	✓	-	
SPBI 09 1 H	9	1	-	✓	-	
SPBI 10 1 H	10	1	-	✓	-	
SPBI 11 1 H	11	1	-	✓	-	
SPBI 12 1 H	12	1	-	✓	-	
SPBI 13 1 H	13	1	-	✓	-	
SPBI 14 1 H	14	1	-	✓	-	
SPBI 15 1 H	15	1	-	✓	-	

ROOF MOUNTING KIT SINGLE ROW / VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 01 1 V	1	1	-	-	✓	
SPBI 02 1 V	2	1	-	-	✓	
SPBI 03 1 V	3	1	-	-	✓	
SPBI 04 1 V	4	1	-	-	✓	
SPBI 05 1 V	5	1	-	-	✓	
SPBI 06 1 V	6	1	-	-	✓	
SPBI 07 1 V	7	1	-	-	✓	
SPBI 08 1 V	8	1	-	-	✓	
SPBI 09 1 V	9	1	-	-	✓	
SPBI 10 1 V	10	1	-	-	✓	
SPBI 11 1 V	11	1	-	-	✓	
SPBI 12 1 V	12	1	-	-	✓	
SPBI 13 1 V	13	1	-	-	✓	
SPBI 14 1 V	14	1	-	-	✓	
SPBI 15 1 V	15	1	-	-	✓	

ROOF MOUNTING KIT SINGLE ROW / HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 01 1 DB H	1	1	✓	✓	-	
SPBI 02 1 DB H	2	1	✓	✓	-	
SPBI 03 1 DB H	3	1	✓	✓	-	
SPBI 04 1 DB H	4	1	✓	✓	-	
SPBI 05 1 DB H	5	1	✓	✓	-	
SPBI 06 1 DB H	6	1	✓	✓	-	
SPBI 07 1 DB H	7	1	✓	✓	-	
SPBI 08 1 DB H	8	1	✓	✓	-	
SPBI 09 1 DB H	9	1	✓	✓	-	
SPBI 10 1 DB H	10	1	✓	✓	-	
SPBI 11 1 DB H	11	1	✓	✓	-	
SPBI 12 1 DB H	12	1	✓	✓	-	
SPBI 13 1 DB H	13	1	✓	✓	-	
SPBI 14 1 DB H	14	1	✓	✓	-	
SPBI 15 1 DB H	15	1	✓	✓	-	

ROOF MOUNTING KIT SINGLE ROW / VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 01 1 DB V	1	1	✓	-	✓	
SPBI 02 1 DB V	2	1	✓	-	✓	
SPBI 03 1 DB V	3	1	✓	-	✓	
SPBI 04 1 DB V	4	1	✓	-	✓	
SPBI 05 1 DB V	5	1	✓	-	✓	
SPBI 06 1 DB V	6	1	✓	-	✓	
SPBI 07 1 DB V	7	1	✓	-	✓	
SPBI 08 1 DB V	8	1	✓	-	✓	
SPBI 09 1 DB V	9	1	✓	-	✓	
SPBI 10 1 DB V	10	1	✓	-	✓	
SPBI 11 1 DB V	11	1	✓	-	✓	
SPBI 12 1 DB V	12	1	✓	-	✓	
SPBI 13 1 DB V	13	1	✓	-	✓	
SPBI 14 1 DB V	14	1	✓	-	✓	
SPBI 15 1 DB V	15	1	✓	-	✓	

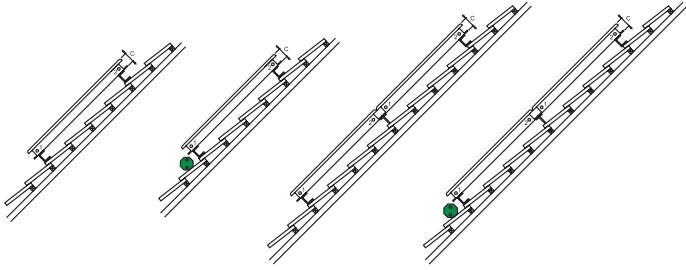
ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 02 2 H	2	2	-	✓	-	
SPBI 04 2 H	4	2	-	✓	-	
SPBI 06 2 H	6	2	-	✓	-	
SPBI 08 2 H	8	2	-	✓	-	
SPBI 10 2 H	10	2	-	✓	-	
SPBI 12 2 H	12	2	-	✓	-	
SPBI 14 2 H	14	2	-	✓	-	

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 02 2 V	2	2	-	-	✓	
SPBI 04 2 V	4	2	-	-	✓	
SPBI 06 2 V	6	2	-	-	✓	
SPBI 08 2 V	8	2	-	-	✓	
SPBI 10 2 V	10	2	-	-	✓	
SPBI 12 2 V	12	2	-	-	✓	
SPBI 14 2 V	14	2	-	-	✓	

ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 06 2 DB H	6	2	✓	✓	-	
SPBI 08 2 DB H	8	2	✓	✓	-	
SPBI 10 2 DB H	10	2	✓	✓	-	
SPBI 12 2 DB H	12	2	✓	✓	-	
SPBI 14 2 DB H	14	2	✓	✓	-	

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBI 06 2 DB V	6	2	✓	-	✓	
SPBI 08 2 DB V	8	2	✓	-	✓	
SPBI 10 2 DB V	10	2	✓	-	✓	
SPBI 12 2 DB V	12	2	✓	-	✓	
SPBI 14 2 DB V	14	2	✓	-	✓	

Collectors roof-build on construction (copper-copper)



ROOF MOUNTING KIT SINGLE ROW / HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 01 1 H	1	1	-	✓	-	
SPBO 02 1 H	2	1	-	✓	-	
SPBO 03 1 H	3	1	-	✓	-	
SPBO 04 1 H	4	1	-	✓	-	
SPBO 05 1 H	5	1	-	✓	-	
SPBO 06 1 H	6	1	-	✓	-	
SPBO 07 1 H	7	1	-	✓	-	
SPBO 08 1 H	8	1	-	✓	-	
SPBO 09 1 H	9	1	-	✓	-	
SPBO 10 1 H	10	1	-	✓	-	
SPBO 11 1 H	11	1	-	✓	-	
SPBO 12 1 H	12	1	-	✓	-	
SPBO 13 1 H	13	1	-	✓	-	
SPBO 14 1 H	14	1	-	✓	-	
SPBO 15 1 H	15	1	-	✓	-	

ROOF MOUNTING KIT SINGLE ROW / VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 01 1 V	1	1	-	-	✓	
SPBO 02 1 V	2	1	-	-	✓	
SPBO 03 1 V	3	1	-	-	✓	
SPBO 04 1 V	4	1	-	-	✓	
SPBO 05 1 V	5	1	-	-	✓	
SPBO 06 1 V	6	1	-	-	✓	
SPBO 07 1 V	7	1	-	-	✓	
SPBO 08 1 V	8	1	-	-	✓	
SPBO 09 1 V	9	1	-	-	✓	
SPBO 10 1 V	10	1	-	-	✓	
SPBO 11 1 V	11	1	-	-	✓	
SPBO 12 1 V	12	1	-	-	✓	
SPBO 13 1 V	13	1	-	-	✓	
SPBO 14 1 V	14	1	-	-	✓	
SPBO 15 1 V	15	1	-	-	✓	

ROOF MOUNTING KIT SINGLE ROW / HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 01 1 DB H	1	1	✓	✓	-	
SPBO 02 1 DB H	2	1	✓	✓	-	
SPBO 03 1 DB H	3	1	✓	✓	-	
SPBO 04 1 DB H	4	1	✓	✓	-	
SPBO 05 1 DB H	5	1	✓	✓	-	
SPBO 06 1 DB H	6	1	✓	✓	-	
SPBO 07 1 DB H	7	1	✓	✓	-	
SPBO 08 1 DB H	8	1	✓	✓	-	
SPBO 09 1 DB H	9	1	✓	✓	-	
SPBO 10 1 DB H	10	1	✓	✓	-	
SPBO 11 1 DB H	11	1	✓	✓	-	
SPBO 12 1 DB H	12	1	✓	✓	-	
SPBO 13 1 DB H	13	1	✓	✓	-	
SPBO 14 1 DB H	14	1	✓	✓	-	
SPBO 15 1 DB H	15	1	✓	✓	-	

ROOF MOUNTING KIT SINGLE ROW / VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 01 1 DB V	1	1	✓	-	✓	
SPBO 02 1 DB V	2	1	✓	-	✓	
SPBO 03 1 DB V	3	1	✓	-	✓	
SPBO 04 1 DB V	4	1	✓	-	✓	
SPBO 05 1 DB V	5	1	✓	-	✓	
SPBO 06 1 DB V	6	1	✓	-	✓	
SPBO 07 1 DB V	7	1	✓	-	✓	
SPBO 08 1 DB V	8	1	✓	-	✓	
SPBO 09 1 DB V	9	1	✓	-	✓	
SPBO 10 1 DB V	10	1	✓	-	✓	
SPBO 11 1 DB V	11	1	✓	-	✓	
SPBO 12 1 DB V	12	1	✓	-	✓	
SPBO 13 1 DB V	13	1	✓	-	✓	
SPBO 14 1 DB V	14	1	✓	-	✓	
SPBO 15 1 DB V	15	1	✓	-	✓	

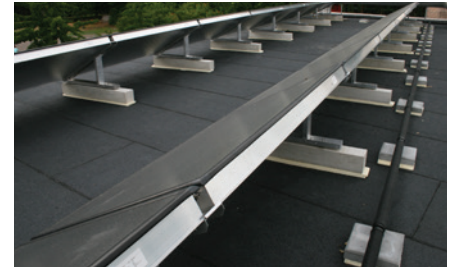
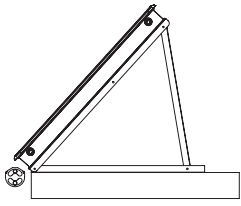
ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 02 2 H	2	2	-	✓	-	
SPBO 04 2 H	4	2	-	✓	-	
SPBO 06 2 H	6	2	-	✓	-	
SPBO 08 2 H	8	2	-	✓	-	
SPBO 10 2 H	10	2	-	✓	-	
SPBO 12 2 H	12	2	-	✓	-	
SPBO 14 2 H	14	2	-	✓	-	

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 02 2 V	2	2	-	-	✓	
SPBO 04 2 V	4	2	-	-	✓	
SPBO 06 2 V	6	2	-	-	✓	
SPBO 08 2 V	8	2	-	-	✓	
SPBO 10 2 V	10	2	-	-	✓	
SPBO 12 2 V	12	2	-	-	✓	
SPBO 14 2 V	14	2	-	-	✓	

ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 06 2 DB H	6	2	✓	✓	-	
SPBO 08 2 DB H	8	2	✓	✓	-	
SPBO 10 2 DB H	10	2	✓	✓	-	
SPBO 12 2 DB H	12	2	✓	✓	-	
SPBO 14 2 DB H	14	2	✓	✓	-	

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	DB	Direction		
				H	V	
SPBO 06 2 DB V	6	2	✓	-	✓	
SPBO 08 2 DB V	8	2	✓	-	✓	
SPBO 10 2 DB V	10	2	✓	-	✓	
SPBO 12 2 DB V	12	2	✓	-	✓	
SPBO 14 2 DB V	14	2	✓	-	✓	

Collectors frame construction with concrete blocks (copper-copper)



FRAME-SET 20/30 HORIZONTAL / WITH CONCRETE BLOCKS							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F20/30 H B	1	✓	-	-	✓	-	✓
SPFR 02 F20/30 H B	2	✓	-	-	✓	-	✓
SPFR 03 F20/30 H B	3	✓	-	-	✓	-	✓
SPFR 04 F20/30 H B	4	✓	-	-	✓	-	✓
SPFR 05 F20/30 H B	5	✓	-	-	✓	-	✓
SPFR 06 F20/30 H B	6	✓	-	-	✓	-	✓
SPFR 07 F20/30 H B	7	✓	-	-	✓	-	✓
SPFR 08 F20/30 H B	8	✓	-	-	✓	-	✓
SPFR 09 F20/30 H B	9	✓	-	-	✓	-	✓
SPFR 10 F20/30 H B	10	✓	-	-	✓	-	✓
SPFR 11 F20/30 H B	11	✓	-	-	✓	-	✓
SPFR 12 F20/30 H B	12	✓	-	-	✓	-	✓
SPFR 13 F20/30 H B	13	✓	-	-	✓	-	✓
SPFR 14 F20/30 H B	14	✓	-	-	✓	-	✓
SPFR 15 F20/30 H B	15	✓	-	-	✓	-	✓

FRAME-SET 45/60 HORIZONTAL / WITH CONCRETE BLOCKS							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F45/60 H B	1	-	✓	-	✓	-	✓
SPFR 02 F45/60 H B	2	-	✓	-	✓	-	✓
SPFR 03 F45/60 H B	3	-	✓	-	✓	-	✓
SPFR 04 F45/60 H B	4	-	✓	-	✓	-	✓
SPFR 05 F45/60 H B	5	-	✓	-	✓	-	✓
SPFR 06 F45/60 H B	6	-	✓	-	✓	-	✓
SPFR 07 F45/60 H B	7	-	✓	-	✓	-	✓
SPFR 08 F45/60 H B	8	-	✓	-	✓	-	✓
SPFR 09 F45/60 H B	9	-	✓	-	✓	-	✓
SPFR 10 F45/60 H B	10	-	✓	-	✓	-	✓
SPFR 11 F45/60 H B	11	-	✓	-	✓	-	✓
SPFR 12 F45/60 H B	12	-	✓	-	✓	-	✓
SPFR 13 F45/60 H B	13	-	✓	-	✓	-	✓
SPFR 14 F45/60 H B	14	-	✓	-	✓	-	✓
SPFR 15 F45/60 H B	15	-	✓	-	✓	-	✓

FRAME-SET 20/30 HORIZONTAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F20/30 DB H B	1	✓	-	✓	✓	-	✓
SPFR 02 F20/30 DB H B	2	✓	-	✓	✓	-	✓
SPFR 03 F20/30 DB H B	3	✓	-	✓	✓	-	✓
SPFR 04 F20/30 DB H B	4	✓	-	✓	✓	-	✓
SPFR 05 F20/30 DB H B	5	✓	-	✓	✓	-	✓
SPFR 06 F20/30 DB H B	6	✓	-	✓	✓	-	✓
SPFR 07 F20/30 DB H B	7	✓	-	✓	✓	-	✓
SPFR 08 F20/30 DB H B	8	✓	-	✓	✓	-	✓
SPFR 09 F20/30 DB H B	9	✓	-	✓	✓	-	✓
SPFR 10 F20/30 DB H B	10	✓	-	✓	✓	-	✓
SPFR 11 F20/30 DB H B	11	✓	-	✓	✓	-	✓
SPFR 12 F20/30 DB H B	12	✓	-	✓	✓	-	✓
SPFR 13 F20/30 DB H B	13	✓	-	✓	✓	-	✓
SPFR 14 F20/30 DB H B	14	✓	-	✓	✓	-	✓
SPFR 15 F20/30 DB H B	15	✓	-	✓	✓	-	✓

FRAME-SET 45/60 HORIZONTAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F45/60 DB H B	1	-	✓	✓	✓	-	✓
SPFR 02 F45/60 DB H B	2	-	✓	✓	✓	-	✓
SPFR 03 F45/60 DB H B	3	-	✓	✓	✓	-	✓
SPFR 04 F45/60 DB H B	4	-	✓	✓	✓	-	✓
SPFR 05 F45/60 DB H B	5	-	✓	✓	✓	-	✓
SPFR 06 F45/60 DB H B	6	-	✓	✓	✓	-	✓
SPFR 07 F45/60 DB H B	7	-	✓	✓	✓	-	✓
SPFR 08 F45/60 DB H B	8	-	✓	✓	✓	-	✓
SPFR 09 F45/60 DB H B	9	-	✓	✓	✓	-	✓
SPFR 10 F45/60 DB H B	10	-	✓	✓	✓	-	✓
SPFR 11 F45/60 DB H B	11	-	✓	✓	✓	-	✓
SPFR 12 F45/60 DB H B	12	-	✓	✓	✓	-	✓
SPFR 13 F45/60 DB H B	13	-	✓	✓	✓	-	✓
SPFR 14 F45/60 DB H B	14	-	✓	✓	✓	-	✓
SPFR 15 F45/60 DB H B	15	-	✓	✓	✓	-	✓

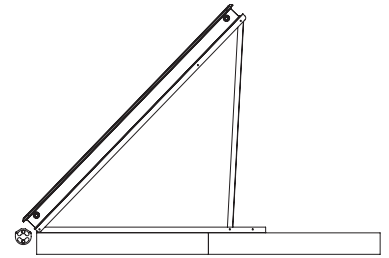
Solar collector

- Approved by EN12975-2-2006
- Solar Keymark certified
- Temperature resistant up to 200°C
- Installation options: roof build on, roof build in, frame construction for flat roof and wall mounting
- Simple installation system for multiple panels
- Complete installation is delivered in 1 package including assembly materials

Drain back system

- To prevent stagnation temperatures
- Reduces required pump capacity and energy use of pump station to a minimum
- Patented drain back system, available as accessory

Collectors frame construction with concrete blocks (copper-copper)



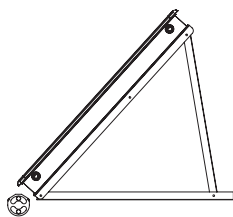
FRAME-SET 20/30 VERTICAL / WITH CONCRETE BLOCKS									
Art. No	Number of collectors	Angle		DB	Direction		Block		
		20/30°	45/60°		H	V			
SPFR 01 F20/30 V B	1	✓	-	-	-	✓	✓		
SPFR 02 F20/30 V B	2	✓	-	-	-	✓	✓		
SPFR 03 F20/30 V B	3	✓	-	-	-	✓	✓		
SPFR 04 F20/30 V B	4	✓	-	-	-	✓	✓		
SPFR 05 F20/30 V B	5	✓	-	-	-	✓	✓		
SPFR 06 F20/30 V B	6	✓	-	-	-	✓	✓		
SPFR 07 F20/30 V B	7	✓	-	-	-	✓	✓		
SPFR 08 F20/30 V B	8	✓	-	-	-	✓	✓		
SPFR 09 F20/30 V B	9	✓	-	-	-	✓	✓		
SPFR 10 F20/30 V B	10	✓	-	-	-	✓	✓		
SPFR 11 F20/30 V B	11	✓	-	-	-	✓	✓		
SPFR 12 F20/30 V B	12	✓	-	-	-	✓	✓		
SPFR 13 F20/30 V B	13	✓	-	-	-	✓	✓		
SPFR 14 F20/30 V B	14	✓	-	-	-	✓	✓		
SPFR 15 F20/30 V B	15	✓	-	-	-	✓	✓		

FRAME-SET 45/60 VERTICAL / WITH CONCRETE BLOCKS									
Art. No	Number of collectors	Angle		DB	Direction		Block		
		20/30°	45/60°		H	V			
SPFR 01 F45/60 V B	1	-	✓	-	-	✓	✓		
SPFR 02 F45/60 V B	2	-	✓	-	-	✓	✓		
SPFR 03 F45/60 V B	3	-	✓	-	-	✓	✓		
SPFR 04 F45/60 V B	4	-	✓	-	-	✓	✓		
SPFR 05 F45/60 V B	5	-	✓	-	-	✓	✓		
SPFR 06 F45/60 V B	6	-	✓	-	-	✓	✓		
SPFR 07 F45/60 V B	7	-	✓	-	-	✓	✓		
SPFR 08 F45/60 V B	8	-	✓	-	-	✓	✓		
SPFR 09 F45/60 V B	9	-	✓	-	-	✓	✓		
SPFR 10 F45/60 V B	10	-	✓	-	-	✓	✓		
SPFR 11 F45/60 V B	11	-	✓	-	-	✓	✓		
SPFR 12 F45/60 V B	12	-	✓	-	-	✓	✓		
SPFR 13 F45/60 V B	13	-	✓	-	-	✓	✓		
SPFR 14 F45/60 V B	14	-	✓	-	-	✓	✓		
SPFR 15 F45/60 V B	15	-	✓	-	-	✓	✓		

FRAME-SET 20/30 VERTICAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK									
Art. No	Number of collectors	Angle		DB	Direction		Block		
		20/30°	45/60°		H	V			
SPFR 01 F20/30 DB V B	1	✓	-	✓	-	✓	✓		
SPFR 02 F20/30 DB V B	2	✓	-	✓	-	✓	✓		
SPFR 03 F20/30 DB V B	3	✓	-	✓	-	✓	✓		
SPFR 04 F20/30 DB V B	4	✓	-	✓	-	✓	✓		
SPFR 05 F20/30 DB V B	5	✓	-	✓	-	✓	✓		
SPFR 06 F20/30 DB V B	6	✓	-	✓	-	✓	✓		
SPFR 07 F20/30 DB V B	7	✓	-	✓	-	✓	✓		
SPFR 08 F20/30 DB V B	8	✓	-	✓	-	✓	✓		
SPFR 09 F20/30 DB V B	9	✓	-	✓	-	✓	✓		
SPFR 10 F20/30 DB V B	10	✓	-	✓	-	✓	✓		
SPFR 11 F20/30 DB V B	11	✓	-	✓	-	✓	✓		
SPFR 12 F20/30 DB V B	12	✓	-	✓	-	✓	✓		
SPFR 13 F20/30 DB V B	13	✓	-	✓	-	✓	✓		
SPFR 14 F20/30 DB V B	14	✓	-	✓	-	✓	✓		
SPFR 15 F20/30 DB V B	15	✓	-	✓	-	✓	✓		

FRAME-SET 45/60 VERTICAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK									
Art. No	Number of collectors	Angle		DB	Direction		Block		
		20/30°	45/60°		H	V			
SPFR 01 F45/60 DB V B	1	-	✓	✓	-	✓	✓		
SPFR 02 F45/60 DB V B	2	-	✓	✓	-	✓	✓		
SPFR 03 F45/60 DB V B	3	-	✓	✓	-	✓	✓		
SPFR 04 F45/60 DB V B	4	-	✓	✓	-	✓	✓		
SPFR 05 F45/60 DB V B	5	-	✓	✓	-	✓	✓		
SPFR 06 F45/60 DB V B	6	-	✓	✓	-	✓	✓		
SPFR 07 F45/60 DB V B	7	-	✓	✓	-	✓	✓		
SPFR 08 F45/60 DB V B	8	-	✓	✓	-	✓	✓		
SPFR 09 F45/60 DB V B	9	-	✓	✓	-	✓	✓		
SPFR 10 F45/60 DB V B	10	-	✓	✓	-	✓	✓		
SPFR 11 F45/60 DB V B	11	-	✓	✓	-	✓	✓		
SPFR 12 F45/60 DB V B	12	-	✓	✓	-	✓	✓		
SPFR 13 F45/60 DB V B	13	-	✓	✓	-	✓	✓		
SPFR 14 F45/60 DB V B	14	-	✓	✓	-	✓	✓		
SPFR 15 F45/60 DB V B	15	-	✓	✓	-	✓	✓		

Collectors frame construction without concrete blocks (copper-copper)



FRAME-SET 20/30 HORIZONTAL / WITHOUT CONCRETE BLOCKS								
Art. No	Number of collectors	Angle		DB	Direction		Block	
		20/30°	45/60°		H	V		
SPFR 01 F20/30 H	1	✓	-	-	✓	-	-	
SPFR 02 F20/30 H	2	✓	-	-	✓	-	-	
SPFR 03 F20/30 H	3	✓	-	-	✓	-	-	
SPFR 04 F20/30 H	4	✓	-	-	✓	-	-	
SPFR 05 F20/30 H	5	✓	-	-	✓	-	-	
SPFR 06 F20/30 H	6	✓	-	-	✓	-	-	
SPFR 07 F20/30 H	7	✓	-	-	✓	-	-	
SPFR 08 F20/30 H	8	✓	-	-	✓	-	-	
SPFR 09 F20/30 H	9	✓	-	-	✓	-	-	
SPFR 10 F20/30 H	10	✓	-	-	✓	-	-	
SPFR 11 F20/30 H	11	✓	-	-	✓	-	-	
SPFR 12 F20/30 H	12	✓	-	-	✓	-	-	
SPFR 13 F20/30 H	13	✓	-	-	✓	-	-	
SPFR 14 F20/30 H	14	✓	-	-	✓	-	-	
SPFR 15 F20/30 H	15	✓	-	-	✓	-	-	

FRAME-SET 45/60 HORIZONTAL / WITHOUT CONCRETE BLOCKS								
Art. No	Number of collectors	Angle		DB	Direction		Block	
		20/30°	45/60°		H	V		
SPFR 01 F45/60 H	1	-	✓	-	✓	-	-	
SPFR 02 F45/60 H	2	-	✓	-	✓	-	-	
SPFR 03 F45/60 H	3	-	✓	-	✓	-	-	
SPFR 04 F45/60 H	4	-	✓	-	✓	-	-	
SPFR 05 F45/60 H	5	-	✓	-	✓	-	-	
SPFR 06 F45/60 H	6	-	✓	-	✓	-	-	
SPFR 07 F45/60 H	7	-	✓	-	✓	-	-	
SPFR 08 F45/60 H	8	-	✓	-	✓	-	-	
SPFR 09 F45/60 H	9	-	✓	-	✓	-	-	
SPFR 10 F45/60 H	10	-	✓	-	✓	-	-	
SPFR 11 F45/60 H	11	-	✓	-	✓	-	-	
SPFR 12 F45/60 H	12	-	✓	-	✓	-	-	
SPFR 13 F45/60 H	13	-	✓	-	✓	-	-	
SPFR 14 F45/60 H	14	-	✓	-	✓	-	-	
SPFR 15 F45/60 H	15	-	✓	-	✓	-	-	

FRAME-SET 20/30 HORIZONTAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK								
Art. No	Number of collectors	Angle		DB	Direction		Block	
		20/30°	45/60°		H	V		
SPFR 01 F20/30 DB H	1	✓	-	✓	✓	-	-	
SPFR 02 F20/30 DB H	2	✓	-	✓	✓	-	-	
SPFR 03 F20/30 DB H	3	✓	-	✓	✓	-	-	
SPFR 04 F20/30 DB H	4	✓	-	✓	✓	-	-	
SPFR 05 F20/30 DB H	5	✓	-	✓	✓	-	-	
SPFR 06 F20/30 DB H	6	✓	-	✓	✓	-	-	
SPFR 07 F20/30 DB H	7	✓	-	✓	✓	-	-	
SPFR 08 F20/30 DB H	8	✓	-	✓	✓	-	-	
SPFR 09 F20/30 DB H	9	✓	-	✓	✓	-	-	
SPFR 10 F20/30 DB H	10	✓	-	✓	✓	-	-	
SPFR 11 F20/30 DB H	11	✓	-	✓	✓	-	-	
SPFR 12 F20/30 DB H	12	✓	-	✓	✓	-	-	
SPFR 13 F20/30 DB H	13	✓	-	✓	✓	-	-	
SPFR 14 F20/30 DB H	14	✓	-	✓	✓	-	-	
SPFR 15 F20/30 DB H	15	✓	-	✓	✓	-	-	

FRAME-SET 45/60 HORIZONTAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK								
Art. No	Number of collectors	Angle		DB	Direction		Block	
		20/30°	45/60°		H	V		
SPFR 01 F45/60 DB H	1	-	✓	✓	✓	-	-	
SPFR 02 F45/60 DB H	2	-	✓	✓	✓	-	-	
SPFR 03 F45/60 DB H	3	-	✓	✓	✓	-	-	
SPFR 04 F45/60 DB H	4	-	✓	✓	✓	-	-	
SPFR 05 F45/60 DB H	5	-	✓	✓	✓	-	-	
SPFR 06 F45/60 DB H	6	-	✓	✓	✓	-	-	
SPFR 07 F45/60 DB H	7	-	✓	✓	✓	-	-	
SPFR 08 F45/60 DB H	8	-	✓	✓	✓	-	-	
SPFR 09 F45/60 DB H	9	-	✓	✓	✓	-	-	
SPFR 10 F45/60 DB H	10	-	✓	✓	✓	-	-	
SPFR 11 F45/60 DB H	11	-	✓	✓	✓	-	-	
SPFR 12 F45/60 DB H	12	-	✓	✓	✓	-	-	
SPFR 13 F45/60 DB H	13	-	✓	✓	✓	-	-	
SPFR 14 F45/60 DB H	14	-	✓	✓	✓	-	-	
SPFR 15 F45/60 DB H	15	-	✓	✓	✓	-	-	

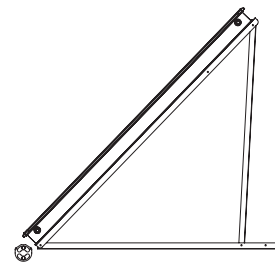
Solar collector

- Approved by EN12975-2-2006
- Solar Keymark certified
- Temperature resistant up to 200°C
- Installation options: roof build on, roof build in, frame construction for flat roof and wall mounting
- Simple installation system for multiple panels
- Complete installation is delivered in 1 package including assembly materials

Drain back system

- To prevent stagnation temperatures
- Reduces required pump capacity and energy use of pump station to a minimum
- Patented drain back system, available as accessory

Collectors frame construction without concrete blocks (copper-copper)



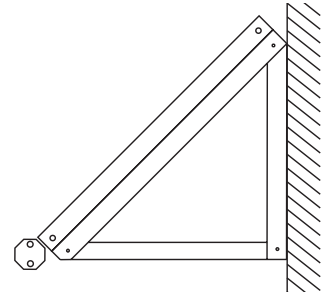
FRAME-SET 20/30 VERTICAL / WITHOUT CONCRETE BLOCKS							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F20/30 V	1	✓	-	-	-	✓	-
SPFR 02 F20/30 V	2	✓	-	-	-	✓	-
SPFR 03 F20/30 V	3	✓	-	-	-	✓	-
SPFR 04 F20/30 V	4	✓	-	-	-	✓	-
SPFR 05 F20/30 V	5	✓	-	-	-	✓	-
SPFR 06 F20/30 V	6	✓	-	-	-	✓	-
SPFR 07 F20/30 V	7	✓	-	-	-	✓	-
SPFR 08 F20/30 V	8	✓	-	-	-	✓	-
SPFR 09 F20/30 V	9	✓	-	-	-	✓	-
SPFR 10 F20/30 V	10	✓	-	-	-	✓	-
SPFR 11 F20/30 V	11	✓	-	-	-	✓	-
SPFR 12 F20/30 V	12	✓	-	-	-	✓	-
SPFR 13 F20/30 V	13	✓	-	-	-	✓	-
SPFR 14 F20/30 V	14	✓	-	-	-	✓	-
SPFR 15 F20/30 V	15	✓	-	-	-	✓	-

FRAME-SET 45/60 VERTICAL / WITHOUT CONCRETE BLOCKS							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F45/60 V	1	-	✓	-	-	✓	-
SPFR 02 F45/60 V	2	-	✓	-	-	✓	-
SPFR 03 F45/60 V	3	-	✓	-	-	✓	-
SPFR 04 F45/60 V	4	-	✓	-	-	✓	-
SPFR 05 F45/60 V	5	-	✓	-	-	✓	-
SPFR 06 F45/60 V	6	-	✓	-	-	✓	-
SPFR 07 F45/60 V	7	-	✓	-	-	✓	-
SPFR 08 F45/60 V	8	-	✓	-	-	✓	-
SPFR 09 F45/60 V	9	-	✓	-	-	✓	-
SPFR 10 F45/60 V	10	-	✓	-	-	✓	-
SPFR 11 F45/60 V	11	-	✓	-	-	✓	-
SPFR 12 F45/60 V	12	-	✓	-	-	✓	-
SPFR 13 F45/60 V	13	-	✓	-	-	✓	-
SPFR 14 F45/60 V	14	-	✓	-	-	✓	-
SPFR 15 F45/60 V	15	-	✓	-	-	✓	-

FRAME-SET 20/30 VERTICAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F20/30 DB V	1	✓	-	✓	-	✓	-
SPFR 02 F20/30 DB V	2	✓	-	✓	-	✓	-
SPFR 03 F20/30 DB V	3	✓	-	✓	-	✓	-
SPFR 04 F20/30 DB V	4	✓	-	✓	-	✓	-
SPFR 05 F20/30 DB V	5	✓	-	✓	-	✓	-
SPFR 06 F20/30 DB V	6	✓	-	✓	-	✓	-
SPFR 07 F20/30 DB V	7	✓	-	✓	-	✓	-
SPFR 08 F20/30 DB V	8	✓	-	✓	-	✓	-
SPFR 09 F20/30 DB V	9	✓	-	✓	-	✓	-
SPFR 10 F20/30 DB V	10	✓	-	✓	-	✓	-
SPFR 11 F20/30 DB V	11	✓	-	✓	-	✓	-
SPFR 12 F20/30 DB V	12	✓	-	✓	-	✓	-
SPFR 13 F20/30 DB V	13	✓	-	✓	-	✓	-
SPFR 14 F20/30 DB V	14	✓	-	✓	-	✓	-
SPFR 15 F20/30 DB V	15	✓	-	✓	-	✓	-

FRAME-SET 45/60 VERTICAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK							
Art. No	Number of collectors	Angle		DB	Direction		Block
		20/30°	45/60°		H	V	
SPFR 01 F45/60 DB V	1	-	✓	✓	-	✓	-
SPFR 02 F45/60 DB V	2	-	✓	✓	-	✓	-
SPFR 03 F45/60 DB V	3	-	✓	✓	-	✓	-
SPFR 04 F45/60 DB V	4	-	✓	✓	-	✓	-
SPFR 05 F45/60 DB V	5	-	✓	✓	-	✓	-
SPFR 06 F45/60 DB V	6	-	✓	✓	-	✓	-
SPFR 07 F45/60 DB V	7	-	✓	✓	-	✓	-
SPFR 08 F45/60 DB V	8	-	✓	✓	-	✓	-
SPFR 09 F45/60 DB V	9	-	✓	✓	-	✓	-
SPFR 10 F45/60 DB V	10	-	✓	✓	-	✓	-
SPFR 11 F45/60 DB V	11	-	✓	✓	-	✓	-
SPFR 12 F45/60 DB V	12	-	✓	✓	-	✓	-
SPFR 13 F45/60 DB V	13	-	✓	✓	-	✓	-
SPFR 14 F45/60 DB V	14	-	✓	✓	-	✓	-
SPFR 15 F45/60 DB V	15	-	✓	✓	-	✓	-

Collectors wall build in construction (copper-copper)



WALL MOUNTING FRAME-SET 45 HORIZONTAL								
Art. No	Number of collectors	Angle			DB	Direction		
		45°	60°	70°		H	V	
SPWL 01 F45 H	1	✓	-	-	-	✓	-	
SPWL 02 F45 H	2	✓	-	-	-	✓	-	
SPWL 03 F45 H	3	✓	-	-	-	✓	-	
SPWL 04 F45 H	4	✓	-	-	-	✓	-	
SPWL 05 F45 H	5	✓	-	-	-	✓	-	
SPWL 06 F45 H	6	✓	-	-	-	✓	-	
SPWL 07 F45 H	7	✓	-	-	-	✓	-	
SPWL 08 F45 H	8	✓	-	-	-	✓	-	
SPWL 09 F45 H	9	✓	-	-	-	✓	-	
SPWL 10 F45 H	10	✓	-	-	-	✓	-	
SPWL 11 F45 H	11	✓	-	-	-	✓	-	
SPWL 12 F45 H	12	✓	-	-	-	✓	-	
SPWL 13 F45 H	13	✓	-	-	-	✓	-	
SPWL 14 F45 H	14	✓	-	-	-	✓	-	
SPWL 15 F45 H	15	✓	-	-	-	✓	-	

WALL MOUNTING FRAME-SET 45 HORIZONTAL / WITH DRAIN BACK								
Art. No	Number of collectors	Angle			DB	Direction		
		45°	60°	70°		H	V	
SPWL 01 F45 DB H	1	✓	-	-	✓	✓	-	
SPWL 02 F45 DB H	2	✓	-	-	✓	✓	-	
SPWL 03 F45 DB H	3	✓	-	-	✓	✓	-	
SPWL 04 F45 DB H	4	✓	-	-	✓	✓	-	
SPWL 05 F45 DB H	5	✓	-	-	✓	✓	-	
SPWL 06 F45 DB H	6	✓	-	-	✓	✓	-	
SPWL 07 F45 DB H	7	✓	-	-	✓	✓	-	
SPWL 08 F45 DB H	8	✓	-	-	✓	✓	-	
SPWL 09 F45 DB H	9	✓	-	-	✓	✓	-	
SPWL 10 F45 DB H	10	✓	-	-	✓	✓	-	
SPWL 11 F45 DB H	11	✓	-	-	✓	✓	-	
SPWL 12 F45 DB H	12	✓	-	-	✓	✓	-	
SPWL 13 F45 DB H	13	✓	-	-	✓	✓	-	
SPWL 14 F45 DB H	14	✓	-	-	✓	✓	-	
SPWL 15 F45 DB H	15	✓	-	-	✓	✓	-	

WALL MOUNTING FRAME-SET 60 HORIZONTAL								
Art. No	Number of collectors	Angle			DB	Direction		
		45°	60°	70°		H	V	
SPWL 01 F60 H	1	-	✓	-	-	✓	-	
SPWL 02 F60 H	2	-	✓	-	-	✓	-	
SPWL 03 F60 H	3	-	✓	-	-	✓	-	
SPWL 04 F60 H	4	-	✓	-	-	✓	-	
SPWL 05 F60 H	5	-	✓	-	-	✓	-	
SPWL 06 F60 H	6	-	✓	-	-	✓	-	
SPWL 07 F60 H	7	-	✓	-	-	✓	-	
SPWL 08 F60 H	8	-	✓	-	-	✓	-	
SPWL 09 F60 H	9	-	✓	-	-	✓	-	
SPWL 10 F60 H	10	-	✓	-	-	✓	-	
SPWL 11 F60 H	11	-	✓	-	-	✓	-	
SPWL 12 F60 H	12	-	✓	-	-	✓	-	
SPWL 13 F60 H	13	-	✓	-	-	✓	-	
SPWL 14 F60 H	14	-	✓	-	-	✓	-	
SPWL 15 F60 H	15	-	✓	-	-	✓	-	

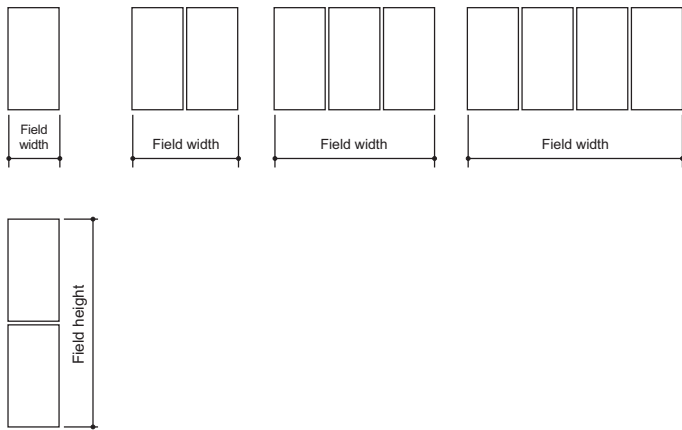
WALL MOUNTING FRAME-SET 60 HORIZONTAL / WITH DRAIN BACK								
Art. No	Number of collectors	Angle			DB	Direction		
		45°	60°	70°		H	V	
SPWL 01 F60 DB H	1	-	✓	-	✓	✓	-	
SPWL 02 F60 DB H	2	-	✓	-	✓	✓	-	
SPWL 03 F60 DB H	3	-	✓	-	✓	✓	-	
SPWL 04 F60 DB H	4	-	✓	-	✓	✓	-	
SPWL 05 F60 DB H	5	-	✓	-	✓	✓	-	
SPWL 06 F60 DB H	6	-	✓	-	✓	✓	-	
SPWL 07 F60 DB H	7	-	✓	-	✓	✓	-	
SPWL 08 F60 DB H	8	-	✓	-	✓	✓	-	
SPWL 09 F60 DB H	9	-	✓	-	✓	✓	-	
SPWL 10 F60 DB H	10	-	✓	-	✓	✓	-	
SPWL 11 F60 DB H	11	-	✓	-	✓	✓	-	
SPWL 12 F60 DB H	12	-	✓	-	✓	✓	-	
SPWL 13 F60 DB H	13	-	✓	-	✓	✓	-	
SPWL 14 F60 DB H	14	-	✓	-	✓	✓	-	
SPWL 15 F60 DB H	15	-	✓	-	✓	✓	-	

WALL MOUNTING FRAME-SET 70 HORIZONTAL								
Art. No	Number of collectors	Angle			DB	Direction		
		45°	60°	70°		H	V	
SPWL 01 F70 H	1	-	-	✓	-	✓	-	
SPWL 02 F70 H	2	-	-	✓	-	✓	-	
SPWL 03 F70 H	3	-	-	✓	-	✓	-	
SPWL 04 F70 H	4	-	-	✓	-	✓	-	
SPWL 05 F70 H	5	-	-	✓	-	✓	-	
SPWL 06 F70 H	6	-	-	✓	-	✓	-	
SPWL 07 F70 H	7	-	-	✓	-	✓	-	
SPWL 08 F70 H	8	-	-	✓	-	✓	-	
SPWL 09 F70 H	9	-	-	✓	-	✓	-	
SPWL 10 F70 H	10	-	-	✓	-	✓	-	
SPWL 11 F70 H	11	-	-	✓	-	✓	-	
SPWL 12 F70 H	12	-	-	✓	-	✓	-	
SPWL 13 F70 H	13	-	-	✓	-	✓	-	
SPWL 14 F70 H	14	-	-	✓	-	✓	-	
SPWL 15 F70 H	15	-	-	✓	-	✓	-	

WALL MOUNTING FRAME-SET 70 HORIZONTAL / WITH DRAIN BACK								
Art. No	Number of collectors	Angle			DB	Direction		
		45°	60°	70°		H	V	
SPWL 01 F70 DB H	1	-	-	✓	✓	✓	-	
SPWL 02 F70 DB H	2	-	-	✓	✓	✓	-	
SPWL 03 F70 DB H	3	-	-	✓	✓	✓	-	
SPWL 04 F70 DB H	4	-	-	✓	✓	✓	-	
SPWL 05 F70 DB H	5	-	-	✓	✓	✓	-	
SPWL 06 F70 DB H	6	-	-	✓	✓	✓	-	
SPWL 07 F70 DB H	7	-	-	✓	✓	✓	-	
SPWL 08 F70 DB H	8	-	-	✓	✓	✓	-	
SPWL 09 F70 DB H	9	-	-	✓	✓	✓	-	
SPWL 10 F70 DB H	10	-	-	✓	✓	✓	-	
SPWL 11 F70 DB H	11	-	-	✓	✓	✓	-	
SPWL 12 F70 DB H	12	-	-	✓	✓	✓	-	
SPWL 13 F70 DB H	13	-	-	✓	✓	✓	-	
SPWL 14 F70 DB H	14	-	-	✓	✓	✓	-	
SPWL 15 F70 DB H	15	-	-	✓	✓	✓	-	

Technical specifications and dimensions (aluminum-copper)

Vertical collectors



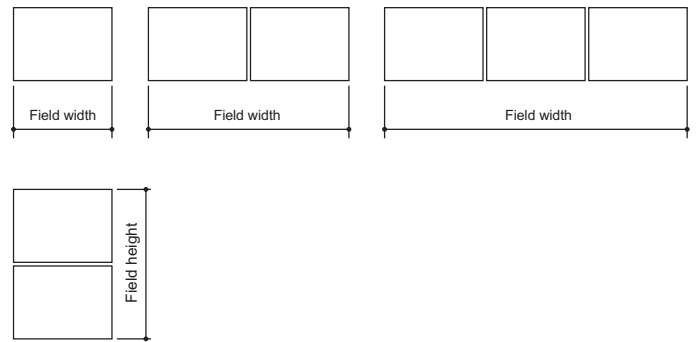
FIELD WIDTH						
	Number of collectors					For each extra collector
Vertical collector	1	2	3	4	5	+122
in cm	116.7	238.7	360.7	482.7	604.7	

FIELD HEIGHT		
	Number of collectors	
Vertical collector	1	2
in cm	206.7	418.7

TECHNICAL SPECIFICATIONS		
Net collector surface	m ²	2.20
Total collector surface	m ²	2.52
Length	mm	2100
Width	mm	1200
Height	mm	110
Frame material		Aluminium
Glass		ESG Sun glass
Insulation		60 mm Laine de roche
Meander		Cuivre
Absorber plate		Aluminium
Maximum working pressure	kPa	600
Test pressure	kPa	1000
Capacity unit of solar fluid	l	2.2
Flow of solar fluid	l/m ²	15 - 40
Maximum admissible temperature	°C	208
Collector aperture area	m ²	2.24
Zero loss efficiency	%	0.78
First order coefficient	W/(m ² K)	3.59
Second order coefficient	W/(m ² K ²)	0.01
Incident angle modifier		0.93

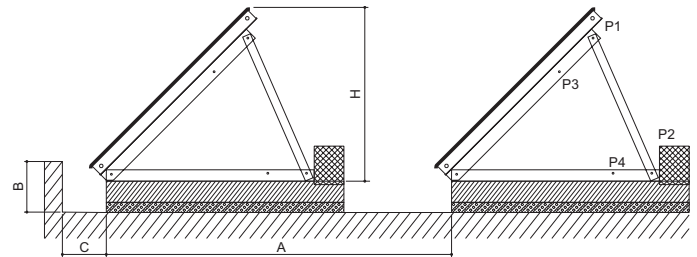
SPECIFICATIONS					
Collector type	Width	Height	Thickness	Weight	Capacity of liquid
Vertical collector	116.7 cm	206.7 cm	11 cm	43 kg	2.2 L
Horizontal collector	206.7 cm	116.7 cm	11 cm	43 kg	2.2 L

Horizontal collectors



FIELD WIDTH					
	Number of collectors				For each extra collector
Horizontal collector	1	2	3	4	+212
in cm	206.7	418.7	630.7	842.7	

FIELD HEIGHT		
	Number of collectors	
Horizontal collector	1	2
in cm	116.7	238.7



DISTANCE BETWEEN COLLECTORS				
Collector type	Distance A			
	20°	30°	45°	60°
Horizontal collector	270	310	320	330
Vertical collector	440	515	600	650

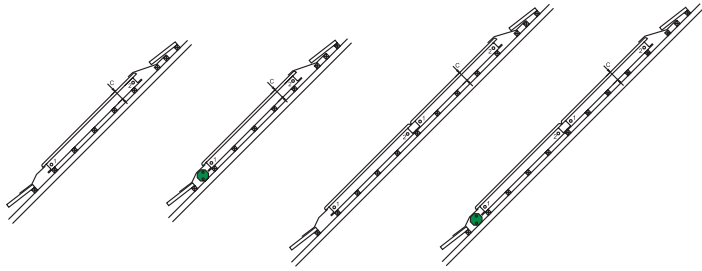
HEIGHT ASSEMBLED COLLECTORS				
Collector type	Height H			
	20°	30°	45°	60°
Horizontal collector	53	71	93	110
Vertical collector	71	104	147	180

DISTANCE TO FRAME	
Height balustrade	Distance C
30	20
40	40
50	70
60	100
70	125
80	150
90	180
100	205
110	230

POSITION STAND	
Angle	Position
SHORT TRAVERSE	
20°	P1-P2
30°	P3-P4
LONG TRAVERSE	
45°	P1-P2
60°	P3-P4



Collectors roof-build in construction (aluminum-copper)



ROOF MOUNTING KIT SINGLE ROW/ HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 01 1 AC H	1	1	✓	-	✓	-
SPBI 02 1 AC H	2	1	✓	-	✓	-
SPBI 03 1 AC H	3	1	✓	-	✓	-
SPBI 04 1 AC H	4	1	✓	-	✓	-
SPBI 05 1 AC H	5	1	✓	-	✓	-
SPBI 06 1 AC H	6	1	✓	-	✓	-
SPBI 07 1 AC H	7	1	✓	-	✓	-
SPBI 08 1 AC H	8	1	✓	-	✓	-
SPBI 09 1 AC H	9	1	✓	-	✓	-
SPBI 10 1 AC H	10	1	✓	-	✓	-
SPBI 11 1 AC H	11	1	✓	-	✓	-
SPBI 12 1 AC H	12	1	✓	-	✓	-
SPBI 13 1 AC H	13	1	✓	-	✓	-
SPBI 14 1 AC H	14	1	✓	-	✓	-
SPBI 15 1 AC H	15	1	✓	-	✓	-

ROOF MOUNTING KIT SINGLE ROW/ VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 01 1 AC V	1	1	✓	-	-	✓
SPBI 02 1 AC V	2	1	✓	-	-	✓
SPBI 03 1 AC V	3	1	✓	-	-	✓
SPBI 04 1 AC V	4	1	✓	-	-	✓
SPBI 05 1 AC V	5	1	✓	-	-	✓
SPBI 06 1 AC V	6	1	✓	-	-	✓
SPBI 07 1 AC V	7	1	✓	-	-	✓
SPBI 08 1 AC V	8	1	✓	-	-	✓
SPBI 09 1 AC V	9	1	✓	-	-	✓
SPBI 10 1 AC V	10	1	✓	-	-	✓
SPBI 11 1 AC V	11	1	✓	-	-	✓
SPBI 12 1 AC V	12	1	✓	-	-	✓
SPBI 13 1 AC V	13	1	✓	-	-	✓
SPBI 14 1 AC V	14	1	✓	-	-	✓
SPBI 15 1 AC V	15	1	✓	-	-	✓

ROOF MOUNTING KIT SINGLE ROW/ HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 01 1 AC DB H	1	1	✓	✓	✓	-
SPBI 02 1 AC DB H	2	1	✓	✓	✓	-
SPBI 03 1 AC DB H	3	1	✓	✓	✓	-
SPBI 04 1 AC DB H	4	1	✓	✓	✓	-
SPBI 05 1 AC DB H	5	1	✓	✓	✓	-
SPBI 06 1 AC DB H	6	1	✓	✓	✓	-
SPBI 07 1 AC DB H	7	1	✓	✓	✓	-
SPBI 08 1 AC DB H	8	1	✓	✓	✓	-
SPBI 09 1 AC DB H	9	1	✓	✓	✓	-
SPBI 10 1 AC DB H	10	1	✓	✓	✓	-
SPBI 11 1 AC DB H	11	1	✓	✓	✓	-
SPBI 12 1 AC DB H	12	1	✓	✓	✓	-
SPBI 13 1 AC DB H	13	1	✓	✓	✓	-
SPBI 14 1 AC DB H	14	1	✓	✓	✓	-
SPBI 15 1 AC DB H	15	1	✓	✓	✓	-

ROOF MOUNTING KIT SINGLE ROW/ VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 01 1 AC DB V	1	1	✓	✓	-	✓
SPBI 02 1 AC DB V	2	1	✓	✓	-	✓
SPBI 03 1 AC DB V	3	1	✓	✓	-	✓
SPBI 04 1 AC DB V	4	1	✓	✓	-	✓
SPBI 05 1 AC DB V	5	1	✓	✓	-	✓
SPBI 06 1 AC DB V	6	1	✓	✓	-	✓
SPBI 07 1 AC DB V	7	1	✓	✓	-	✓
SPBI 08 1 AC DB V	8	1	✓	✓	-	✓
SPBI 09 1 AC DB V	9	1	✓	✓	-	✓
SPBI 10 1 AC DB V	10	1	✓	✓	-	✓
SPBI 11 1 AC DB V	11	1	✓	✓	-	✓
SPBI 12 1 AC DB V	12	1	✓	✓	-	✓
SPBI 13 1 AC DB V	13	1	✓	✓	-	✓
SPBI 14 1 AC DB V	14	1	✓	✓	-	✓
SPBI 15 1 AC DB V	15	1	✓	✓	-	✓

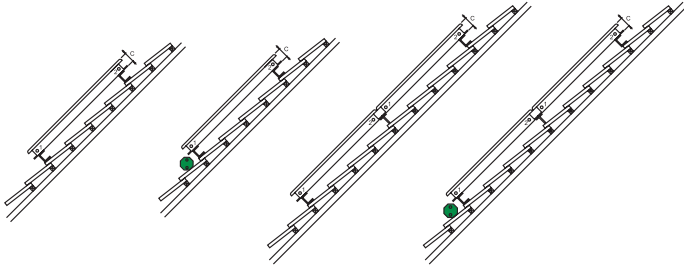
ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 02 2 AC H	2	2	✓	-	✓	-
SPBI 04 2 AC H	4	2	✓	-	✓	-
SPBI 06 2 AC H	6	2	✓	-	✓	-
SPBI 08 2 AC H	8	2	✓	-	✓	-
SPBI 10 2 AC H	10	2	✓	-	✓	-
SPBI 12 2 AC H	12	2	✓	-	✓	-
SPBI 14 2 AC H	14	2	✓	-	✓	-

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 02 2 AC V	2	2	✓	-	-	✓
SPBI 04 2 AC V	4	2	✓	-	-	✓
SPBI 06 2 AC V	6	2	✓	-	-	✓
SPBI 08 2 AC V	8	2	✓	-	-	✓
SPBI 10 2 AC V	10	2	✓	-	-	✓
SPBI 12 2 AC V	12	2	✓	-	-	✓
SPBI 14 2 AC V	14	2	✓	-	-	✓

ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 06 2 AC DB H	6	2	✓	✓	✓	-
SPBI 08 2 AC DB H	8	2	✓	✓	✓	-
SPBI 10 2 AC DB H	10	2	✓	✓	✓	-
SPBI 12 2 AC DB H	12	2	✓	✓	✓	-
SPBI 14 2 AC DB H	14	2	✓	✓	✓	-

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBI 06 2 AC DB V	6	2	✓	✓	-	✓
SPBI 08 2 AC DB V	8	2	✓	✓	-	✓
SPBI 10 2 AC DB V	10	2	✓	✓	-	✓
SPBI 12 2 AC DB V	12	2	✓	✓	-	✓
SPBI 14 2 AC DB V	14	2	✓	✓	-	✓

Collectors roof-build on construction (aluminum-copper)



ROOF MOUNTING KIT SINGLE ROW/ HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 01 1 AC H	1	1	✓	-	✓	-
SPBO 02 1 AC H	2	1	✓	-	✓	-
SPBO 03 1 AC H	3	1	✓	-	✓	-
SPBO 04 1 AC H	4	1	✓	-	✓	-
SPBO 05 1 AC H	5	1	✓	-	✓	-
SPBO 06 1 AC H	6	1	✓	-	✓	-
SPBO 07 1 AC H	7	1	✓	-	✓	-
SPBO 08 1 AC H	8	1	✓	-	✓	-
SPBO 09 1 AC H	9	1	✓	-	✓	-
SPBO 10 1 AC H	10	1	✓	-	✓	-
SPBO 11 1 AC H	11	1	✓	-	✓	-
SPBO 12 1 AC H	12	1	✓	-	✓	-
SPBO 13 1 AC H	13	1	✓	-	✓	-
SPBO 14 1 AC H	14	1	✓	-	✓	-
SPBO 15 1 AC H	15	1	✓	-	✓	-

ROOF MOUNTING KIT SINGLE ROW/ VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 01 1 AC V	1	1	✓	-	-	✓
SPBO 02 1 AC V	2	1	✓	-	-	✓
SPBO 03 1 AC V	3	1	✓	-	-	✓
SPBO 04 1 AC V	4	1	✓	-	-	✓
SPBO 05 1 AC V	5	1	✓	-	-	✓
SPBO 06 1 AC V	6	1	✓	-	-	✓
SPBO 07 1 AC V	7	1	✓	-	-	✓
SPBO 08 1 AC V	8	1	✓	-	-	✓
SPBO 09 1 AC V	9	1	✓	-	-	✓
SPBO 10 1 AC V	10	1	✓	-	-	✓
SPBO 11 1 AC V	11	1	✓	-	-	✓
SPBO 12 1 AC V	12	1	✓	-	-	✓
SPBO 13 1 AC V	13	1	✓	-	-	✓
SPBO 14 1 AC V	14	1	✓	-	-	✓
SPBO 15 1 AC V	15	1	✓	-	-	✓

ROOF MOUNTING KIT SINGLE ROW/ HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 01 1 AC DB H	1	1	✓	✓	✓	-
SPBO 02 1 AC DB H	2	1	✓	✓	✓	-
SPBO 03 1 AC DB H	3	1	✓	✓	✓	-
SPBO 04 1 AC DB H	4	1	✓	✓	✓	-
SPBO 05 1 AC DB H	5	1	✓	✓	✓	-
SPBO 06 1 AC DB H	6	1	✓	✓	✓	-
SPBO 07 1 AC DB H	7	1	✓	✓	✓	-
SPBO 08 1 AC DB H	8	1	✓	✓	✓	-
SPBO 09 1 AC DB H	9	1	✓	✓	✓	-
SPBO 10 1 AC DB H	10	1	✓	✓	✓	-
SPBO 11 1 AC DB H	11	1	✓	✓	✓	-
SPBO 12 1 AC DB H	12	1	✓	✓	✓	-
SPBO 13 1 AC DB H	13	1	✓	✓	✓	-
SPBO 14 1 AC DB H	14	1	✓	✓	✓	-
SPBO 15 1 AC DB H	15	1	✓	✓	✓	-

ROOF MOUNTING KIT SINGLE ROW/ VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 01 1 AC DB V	1	1	✓	✓	-	✓
SPBO 02 1 AC DB V	2	1	✓	✓	-	✓
SPBO 03 1 AC DB V	3	1	✓	✓	-	✓
SPBO 04 1 AC DB V	4	1	✓	✓	-	✓
SPBO 05 1 AC DB V	5	1	✓	✓	-	✓
SPBO 06 1 AC DB V	6	1	✓	✓	-	✓
SPBO 07 1 AC DB V	7	1	✓	✓	-	✓
SPBO 08 1 AC DB V	8	1	✓	✓	-	✓
SPBO 09 1 AC DB V	9	1	✓	✓	-	✓
SPBO 10 1 AC DB V	10	1	✓	✓	-	✓
SPBO 11 1 AC DB V	11	1	✓	✓	-	✓
SPBO 12 1 AC DB V	12	1	✓	✓	-	✓
SPBO 13 1 AC DB V	13	1	✓	✓	-	✓
SPBO 14 1 AC DB V	14	1	✓	✓	-	✓
SPBO 15 1 AC DB V	15	1	✓	✓	-	✓

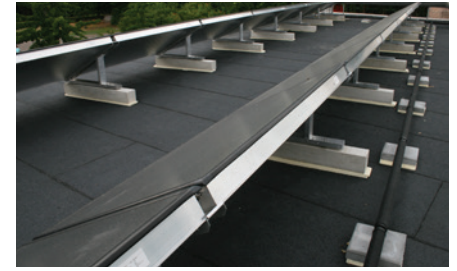
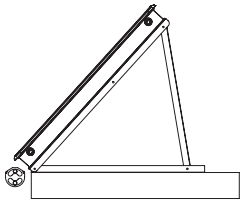
ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 02 2 AC H	2	2	✓	-	✓	-
SPBO 04 2 AC H	4	2	✓	-	✓	-
SPBO 06 2 AC H	6	2	✓	-	✓	-
SPBO 08 2 AC H	8	2	✓	-	✓	-
SPBO 10 2 AC H	10	2	✓	-	✓	-
SPBO 12 2 AC H	12	2	✓	-	✓	-
SPBO 14 2 AC H	14	2	✓	-	✓	-

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITHOUT DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 02 2 AC V	2	2	✓	-	-	✓
SPBO 04 2 AC V	4	2	✓	-	-	✓
SPBO 06 2 AC V	6	2	✓	-	-	✓
SPBO 08 2 AC V	8	2	✓	-	-	✓
SPBO 10 2 AC V	10	2	✓	-	-	✓
SPBO 12 2 AC V	12	2	✓	-	-	✓
SPBO 14 2 AC V	14	2	✓	-	-	✓

ROOF MOUNTING KIT DOUBLE ROW / HORIZONTAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 06 2 AC DB H	6	2	✓	✓	✓	-
SPBO 08 2 AC DB H	8	2	✓	✓	✓	-
SPBO 10 2 AC DB H	10	2	✓	✓	✓	-
SPBO 12 2 AC DB H	12	2	✓	✓	✓	-
SPBO 14 2 AC DB H	14	2	✓	✓	✓	-

ROOF MOUNTING KIT DOUBLE ROW / VERTICAL / WITH DRAIN BACK						
Art. No	Number of collectors	Number of rows	Aluminum /copper	DB	Direction	
					H	V
SPBO 06 2 AC DB V	6	2	✓	✓	-	✓
SPBO 08 2 AC DB V	8	2	✓	✓	-	✓
SPBO 10 2 AC DB V	10	2	✓	✓	-	✓
SPBO 12 2 AC DB V	12	2	✓	✓	-	✓
SPBO 14 2 AC DB V	14	2	✓	✓	-	✓

Collectors frame construction with concrete blocks (aluminum-copper)



FRAME-SET 20/30 HORIZONTAL / WITH CONCRETE BLOCKS								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F20/30 AC H B	1	✓	-	✓	-	✓	-	✓
SPFR 02 F20/30 AC H B	2	✓	-	✓	-	✓	-	✓
SPFR 03 F20/30 AC H B	3	✓	-	✓	-	✓	-	✓
SPFR 04 F20/30 AC H B	4	✓	-	✓	-	✓	-	✓
SPFR 05 F20/30 AC H B	5	✓	-	✓	-	✓	-	✓
SPFR 06 F20/30 AC H B	6	✓	-	✓	-	✓	-	✓
SPFR 07 F20/30 AC H B	7	✓	-	✓	-	✓	-	✓
SPFR 08 F20/30 AC H B	8	✓	-	✓	-	✓	-	✓
SPFR 09 F20/30 AC H B	9	✓	-	✓	-	✓	-	✓
SPFR 10 F20/30 AC H B	10	✓	-	✓	-	✓	-	✓
SPFR 11 F20/30 AC H B	11	✓	-	✓	-	✓	-	✓
SPFR 12 F20/30 AC H B	12	✓	-	✓	-	✓	-	✓
SPFR 13 F20/30 AC H B	13	✓	-	✓	-	✓	-	✓
SPFR 14 F20/30 AC H B	14	✓	-	✓	-	✓	-	✓
SPFR 15 F20/30 AC H B	15	✓	-	✓	-	✓	-	✓

FRAME-SET 45/60 HORIZONTAL / WITH CONCRETE BLOCKS								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F45/60 AC H B	1	-	✓	✓	-	✓	-	✓
SPFR 02 F45/60 AC H B	2	-	✓	✓	-	✓	-	✓
SPFR 03 F45/60 AC H B	3	-	✓	✓	-	✓	-	✓
SPFR 04 F45/60 AC H B	4	-	✓	✓	-	✓	-	✓
SPFR 05 F45/60 AC H B	5	-	✓	✓	-	✓	-	✓
SPFR 06 F45/60 AC H B	6	-	✓	✓	-	✓	-	✓
SPFR 07 F45/60 AC H B	7	-	✓	✓	-	✓	-	✓
SPFR 08 F45/60 AC H B	8	-	✓	✓	-	✓	-	✓
SPFR 09 F45/60 AC H B	9	-	✓	✓	-	✓	-	✓
SPFR 10 F45/60 AC H B	10	-	✓	✓	-	✓	-	✓
SPFR 11 F45/60 AC H B	11	-	✓	✓	-	✓	-	✓
SPFR 12 F45/60 AC H B	12	-	✓	✓	-	✓	-	✓
SPFR 13 F45/60 AC H B	13	-	✓	✓	-	✓	-	✓
SPFR 14 F45/60 AC H B	14	-	✓	✓	-	✓	-	✓
SPFR 15 F45/60 AC H B	15	-	✓	✓	-	✓	-	✓

FRAME-SET 20/30 HORIZONTAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F20/30 AC DB H B	1	✓	-	✓	✓	✓	-	✓
SPFR 02 F20/30 AC DB H B	2	✓	-	✓	✓	✓	-	✓
SPFR 03 F20/30 AC DB H B	3	✓	-	✓	✓	✓	-	✓
SPFR 04 F20/30 AC DB H B	4	✓	-	✓	✓	✓	-	✓
SPFR 05 F20/30 AC DB H B	5	✓	-	✓	✓	✓	-	✓
SPFR 06 F20/30 AC DB H B	6	✓	-	✓	✓	✓	-	✓
SPFR 07 F20/30 AC DB H B	7	✓	-	✓	✓	✓	-	✓
SPFR 08 F20/30 AC DB H B	8	✓	-	✓	✓	✓	-	✓
SPFR 09 F20/30 AC DB H B	9	✓	-	✓	✓	✓	-	✓
SPFR 10 F20/30 AC DB H B	10	✓	-	✓	✓	✓	-	✓
SPFR 11 F20/30 AC DB H B	11	✓	-	✓	✓	✓	-	✓
SPFR 12 F20/30 AC DB H B	12	✓	-	✓	✓	✓	-	✓
SPFR 13 F20/30 AC DB H B	13	✓	-	✓	✓	✓	-	✓
SPFR 14 F20/30 AC DB H B	14	✓	-	✓	✓	✓	-	✓
SPFR 15 F20/30 AC DB H B	15	✓	-	✓	✓	✓	-	✓

FRAME-SET 45/60 HORIZONTAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F45/60 AC DB H B	1	-	✓	✓	✓	✓	-	✓
SPFR 02 F45/60 AC DB H B	2	-	✓	✓	✓	✓	-	✓
SPFR 03 F45/60 AC DB H B	3	-	✓	✓	✓	✓	-	✓
SPFR 04 F45/60 AC DB H B	4	-	✓	✓	✓	✓	-	✓
SPFR 05 F45/60 AC DB H B	5	-	✓	✓	✓	✓	-	✓
SPFR 06 F45/60 AC DB H B	6	-	✓	✓	✓	✓	-	✓
SPFR 07 F45/60 AC DB H B	7	-	✓	✓	✓	✓	-	✓
SPFR 08 F45/60 AC DB H B	8	-	✓	✓	✓	✓	-	✓
SPFR 09 F45/60 AC DB H B	9	-	✓	✓	✓	✓	-	✓
SPFR 10 F45/60 AC DB H B	10	-	✓	✓	✓	✓	-	✓
SPFR 11 F45/60 AC DB H B	11	-	✓	✓	✓	✓	-	✓
SPFR 12 F45/60 AC DB H B	12	-	✓	✓	✓	✓	-	✓
SPFR 13 F45/60 AC DB H B	13	-	✓	✓	✓	✓	-	✓
SPFR 14 F45/60 AC DB H B	14	-	✓	✓	✓	✓	-	✓
SPFR 15 F45/60 AC DB H B	15	-	✓	✓	✓	✓	-	✓

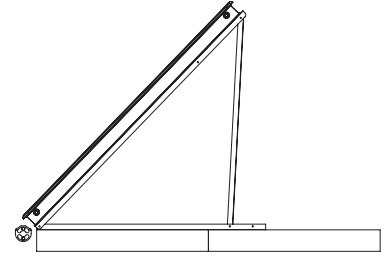
Solar collector

- Approved by EN12975-2-2006
- Solar Keymark certified
- Temperature resistant up to 200°C
- Installation options: roof build on, roof build in, frame construction for flat roof and wall mounting
- Simple installation system for multiple panels
- Complete installation is delivered in 1 package including assembly materials

Drain back system

- To prevent stagnation temperatures
- Reduces required pump capacity and energy use of pump station to a minimum
- Patented drain back system, available as accessory

Collectors frame construction with concrete blocks (aluminum-copper)



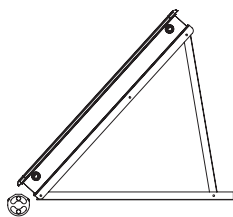
FRAME-SET 20/30 VERTICAL / WITH CONCRETE BLOCKS									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F20/30 AC V B	1	✓	-	✓	-	-	✓	✓	
SPFR 02 F20/30 AC V B	2	✓	-	✓	-	-	✓	✓	
SPFR 03 F20/30 AC V B	3	✓	-	✓	-	-	✓	✓	
SPFR 04 F20/30 AC V B	4	✓	-	✓	-	-	✓	✓	
SPFR 05 F20/30 AC V B	5	✓	-	✓	-	-	✓	✓	
SPFR 06 F20/30 AC V B	6	✓	-	✓	-	-	✓	✓	
SPFR 07 F20/30 AC V B	7	✓	-	✓	-	-	✓	✓	
SPFR 08 F20/30 AC V B	8	✓	-	✓	-	-	✓	✓	
SPFR 09 F20/30 AC V B	9	✓	-	✓	-	-	✓	✓	
SPFR 10 F20/30 AC V B	10	✓	-	✓	-	-	✓	✓	
SPFR 11 F20/30 AC V B	11	✓	-	✓	-	-	✓	✓	
SPFR 12 F20/30 AC V B	12	✓	-	✓	-	-	✓	✓	
SPFR 13 F20/30 AC V B	13	✓	-	✓	-	-	✓	✓	
SPFR 14 F20/30 AC V B	14	✓	-	✓	-	-	✓	✓	
SPFR 15 F20/30 AC V B	15	✓	-	✓	-	-	✓	✓	

FRAME-SET 45/60 VERTICAL / WITH CONCRETE BLOCKS									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F45/60 AC V B	1	-	✓	✓	-	-	✓	✓	
SPFR 02 F45/60 AC V B	2	-	✓	✓	-	-	✓	✓	
SPFR 03 F45/60 AC V B	3	-	✓	✓	-	-	✓	✓	
SPFR 04 F45/60 AC V B	4	-	✓	✓	-	-	✓	✓	
SPFR 05 F45/60 AC V B	5	-	✓	✓	-	-	✓	✓	
SPFR 06 F45/60 AC V B	6	-	✓	✓	-	-	✓	✓	
SPFR 07 F45/60 AC V B	7	-	✓	✓	-	-	✓	✓	
SPFR 08 F45/60 AC V B	8	-	✓	✓	-	-	✓	✓	
SPFR 09 F45/60 AC V B	9	-	✓	✓	-	-	✓	✓	
SPFR 10 F45/60 AC V B	10	-	✓	✓	-	-	✓	✓	
SPFR 11 F45/60 AC V B	11	-	✓	✓	-	-	✓	✓	
SPFR 12 F45/60 AC V B	12	-	✓	✓	-	-	✓	✓	
SPFR 13 F45/60 AC V B	13	-	✓	✓	-	-	✓	✓	
SPFR 14 F45/60 AC V B	14	-	✓	✓	-	-	✓	✓	
SPFR 15 F45/60 AC V B	15	-	✓	✓	-	-	✓	✓	

FRAME-SET 20/30 VERTICAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F20/30 AC DB V B	1	✓	-	✓	✓	-	✓	✓	
SPFR 02 F20/30 AC DB V B	2	✓	-	✓	✓	-	✓	✓	
SPFR 03 F20/30 AC DB V B	3	✓	-	✓	✓	-	✓	✓	
SPFR 04 F20/30 AC DB V B	4	✓	-	✓	✓	-	✓	✓	
SPFR 05 F20/30 AC DB V B	5	✓	-	✓	✓	-	✓	✓	
SPFR 06 F20/30 AC DB V B	6	✓	-	✓	✓	-	✓	✓	
SPFR 07 F20/30 AC DB V B	7	✓	-	✓	✓	-	✓	✓	
SPFR 08 F20/30 AC DB V B	8	✓	-	✓	✓	-	✓	✓	
SPFR 09 F20/30 AC DB V B	9	✓	-	✓	✓	-	✓	✓	
SPFR 10 F20/30 AC DB V B	10	✓	-	✓	✓	-	✓	✓	
SPFR 11 F20/30 AC DB V B	11	✓	-	✓	✓	-	✓	✓	
SPFR 12 F20/30 AC DB V B	12	✓	-	✓	✓	-	✓	✓	
SPFR 13 F20/30 AC DB V B	13	✓	-	✓	✓	-	✓	✓	
SPFR 14 F20/30 AC DB V B	14	✓	-	✓	✓	-	✓	✓	
SPFR 15 F20/30 AC DB V B	15	✓	-	✓	✓	-	✓	✓	

FRAME-SET 45/60 VERTICAL / WITH CONCRETE BLOCKS / WITH DRAIN BACK									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F45/60 AC DB V B	1	-	✓	✓	✓	-	✓	✓	
SPFR 02 F45/60 AC DB V B	2	-	✓	✓	✓	-	✓	✓	
SPFR 03 F45/60 AC DB V B	3	-	✓	✓	✓	-	✓	✓	
SPFR 04 F45/60 AC DB V B	4	-	✓	✓	✓	-	✓	✓	
SPFR 05 F45/60 AC DB V B	5	-	✓	✓	✓	-	✓	✓	
SPFR 06 F45/60 AC DB V B	6	-	✓	✓	✓	-	✓	✓	
SPFR 07 F45/60 AC DB V B	7	-	✓	✓	✓	-	✓	✓	
SPFR 08 F45/60 AC DB V B	8	-	✓	✓	✓	-	✓	✓	
SPFR 09 F45/60 AC DB V B	9	-	✓	✓	✓	-	✓	✓	
SPFR 10 F45/60 AC DB V B	10	-	✓	✓	✓	-	✓	✓	
SPFR 11 F45/60 AC DB V B	11	-	✓	✓	✓	-	✓	✓	
SPFR 12 F45/60 AC DB V B	12	-	✓	✓	✓	-	✓	✓	
SPFR 13 F45/60 AC DB V B	13	-	✓	✓	✓	-	✓	✓	
SPFR 14 F45/60 AC DB V B	14	-	✓	✓	✓	-	✓	✓	
SPFR 15 F45/60 AC DB V B	15	-	✓	✓	✓	-	✓	✓	

Collectors frame construction without concrete blocks (aluminum-copper)



FRAME-SET 20/30 HORIZONTAL / WITHOUT CONCRETE BLOCKS									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F20/30 AC H	1	✓	-	✓	-	✓	-	-	-
SPFR 02 F20/30 AC H	2	✓	-	✓	-	✓	-	-	-
SPFR 03 F20/30 AC H	3	✓	-	✓	-	✓	-	-	-
SPFR 04 F20/30 AC H	4	✓	-	✓	-	✓	-	-	-
SPFR 05 F20/30 AC H	5	✓	-	✓	-	✓	-	-	-
SPFR 06 F20/30 AC H	6	✓	-	✓	-	✓	-	-	-
SPFR 07 F20/30 AC H	7	✓	-	✓	-	✓	-	-	-
SPFR 08 F20/30 AC H	8	✓	-	✓	-	✓	-	-	-
SPFR 09 F20/30 AC H	9	✓	-	✓	-	✓	-	-	-
SPFR 10 F20/30 AC H	10	✓	-	✓	-	✓	-	-	-
SPFR 11 F20/30 AC H	11	✓	-	✓	-	✓	-	-	-
SPFR 12 F20/30 AC H	12	✓	-	✓	-	✓	-	-	-
SPFR 13 F20/30 AC H	13	✓	-	✓	-	✓	-	-	-
SPFR 14 F20/30 AC H	14	✓	-	✓	-	✓	-	-	-
SPFR 15 F20/30 AC H	15	✓	-	✓	-	✓	-	-	-

FRAME-SET 45/60 HORIZONTAL / WITHOUT CONCRETE BLOCKS									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F45/60 AC H	1	-	✓	✓	-	✓	-	-	-
SPFR 02 F45/60 AC H	2	-	✓	✓	-	✓	-	-	-
SPFR 03 F45/60 AC H	3	-	✓	✓	-	✓	-	-	-
SPFR 04 F45/60 AC H	4	-	✓	✓	-	✓	-	-	-
SPFR 05 F45/60 AC H	5	-	✓	✓	-	✓	-	-	-
SPFR 06 F45/60 AC H	6	-	✓	✓	-	✓	-	-	-
SPFR 07 F45/60 AC H	7	-	✓	✓	-	✓	-	-	-
SPFR 08 F45/60 AC H	8	-	✓	✓	-	✓	-	-	-
SPFR 09 F45/60 AC H	9	-	✓	✓	-	✓	-	-	-
SPFR 10 F45/60 AC H	10	-	✓	✓	-	✓	-	-	-
SPFR 11 F45/60 AC H	11	-	✓	✓	-	✓	-	-	-
SPFR 12 F45/60 AC H	12	-	✓	✓	-	✓	-	-	-
SPFR 13 F45/60 AC H	13	-	✓	✓	-	✓	-	-	-
SPFR 14 F45/60 AC H	14	-	✓	✓	-	✓	-	-	-
SPFR 15 F45/60 AC H	15	-	✓	✓	-	✓	-	-	-

FRAME-SET 20/30 HORIZONTAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F20/30 AC DB H	1	✓	-	✓	✓	✓	-	-	-
SPFR 02 F20/30 AC DB H	2	✓	-	✓	✓	✓	-	-	-
SPFR 03 F20/30 AC DB H	3	✓	-	✓	✓	✓	-	-	-
SPFR 04 F20/30 AC DB H	4	✓	-	✓	✓	✓	-	-	-
SPFR 05 F20/30 AC DB H	5	✓	-	✓	✓	✓	-	-	-
SPFR 06 F20/30 AC DB H	6	✓	-	✓	✓	✓	-	-	-
SPFR 07 F20/30 AC DB H	7	✓	-	✓	✓	✓	-	-	-
SPFR 08 F20/30 AC DB H	8	✓	-	✓	✓	✓	-	-	-
SPFR 09 F20/30 AC DB H	9	✓	-	✓	✓	✓	-	-	-
SPFR 10 F20/30 AC DB H	10	✓	-	✓	✓	✓	-	-	-
SPFR 11 F20/30 AC DB H	11	✓	-	✓	✓	✓	-	-	-
SPFR 12 F20/30 AC DB H	12	✓	-	✓	✓	✓	-	-	-
SPFR 13 F20/30 AC DB H	13	✓	-	✓	✓	✓	-	-	-
SPFR 14 F20/30 AC DB H	14	✓	-	✓	✓	✓	-	-	-
SPFR 15 F20/30 AC DB H	15	✓	-	✓	✓	✓	-	-	-

FRAME-SET 45/60 HORIZONTAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK									
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction			Block
		20/30°	45/60°			H	V		
SPFR 01 F45/60 AC DB H	1	-	✓	✓	✓	✓	-	-	-
SPFR 02 F45/60 AC DB H	2	-	✓	✓	✓	✓	-	-	-
SPFR 03 F45/60 AC DB H	3	-	✓	✓	✓	✓	-	-	-
SPFR 04 F45/60 AC DB H	4	-	✓	✓	✓	✓	-	-	-
SPFR 05 F45/60 AC DB H	5	-	✓	✓	✓	✓	-	-	-
SPFR 06 F45/60 AC DB H	6	-	✓	✓	✓	✓	-	-	-
SPFR 07 F45/60 AC DB H	7	-	✓	✓	✓	✓	-	-	-
SPFR 08 F45/60 AC DB H	8	-	✓	✓	✓	✓	-	-	-
SPFR 09 F45/60 AC DB H	9	-	✓	✓	✓	✓	-	-	-
SPFR 10 F45/60 AC DB H	10	-	✓	✓	✓	✓	-	-	-
SPFR 11 F45/60 AC DB H	11	-	✓	✓	✓	✓	-	-	-
SPFR 12 F45/60 AC DB H	12	-	✓	✓	✓	✓	-	-	-
SPFR 13 F45/60 AC DB H	13	-	✓	✓	✓	✓	-	-	-
SPFR 14 F45/60 AC DB H	14	-	✓	✓	✓	✓	-	-	-
SPFR 15 F45/60 AC DB H	15	-	✓	✓	✓	✓	-	-	-

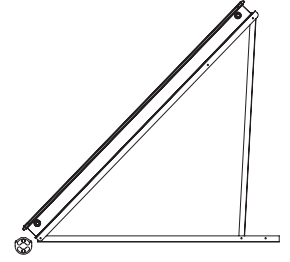
Solar collector

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Drain back system

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Collectors frame construction without concrete blocks (aluminum-copper)



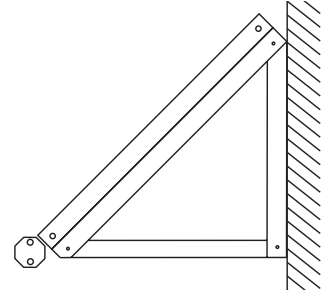
FRAME-SET 20/30 VERTICAL / WITHOUT CONCRETE BLOCKS								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F20/30 AC V	1	✓	-	✓	-	-	✓	-
SPFR 02 F20/30 AC V	2	✓	-	✓	-	-	✓	-
SPFR 03 F20/30 AC V	3	✓	-	✓	-	-	✓	-
SPFR 04 F20/30 AC V	4	✓	-	✓	-	-	✓	-
SPFR 05 F20/30 AC V	5	✓	-	✓	-	-	✓	-
SPFR 06 F20/30 AC V	6	✓	-	✓	-	-	✓	-
SPFR 07 F20/30 AC V	7	✓	-	✓	-	-	✓	-
SPFR 08 F20/30 AC V	8	✓	-	✓	-	-	✓	-
SPFR 09 F20/30 AC V	9	✓	-	✓	-	-	✓	-
SPFR 10 F20/30 AC V	10	✓	-	✓	-	-	✓	-
SPFR 11 F20/30 AC V	11	✓	-	✓	-	-	✓	-
SPFR 12 F20/30 AC V	12	✓	-	✓	-	-	✓	-
SPFR 13 F20/30 AC V	13	✓	-	✓	-	-	✓	-
SPFR 14 F20/30 AC V	14	✓	-	✓	-	-	✓	-
SPFR 15 F20/30 AC V	15	✓	-	✓	-	-	✓	-

FRAME-SET 45/60 VERTICAL / WITHOUT CONCRETE BLOCKS								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F45/60 AC V	1	-	✓	✓	-	-	✓	-
SPFR 02 F45/60 AC V	2	-	✓	✓	-	-	✓	-
SPFR 03 F45/60 AC V	3	-	✓	✓	-	-	✓	-
SPFR 04 F45/60 AC V	4	-	✓	✓	-	-	✓	-
SPFR 05 F45/60 AC V	5	-	✓	✓	-	-	✓	-
SPFR 06 F45/60 AC V	6	-	✓	✓	-	-	✓	-
SPFR 07 F45/60 AC V	7	-	✓	✓	-	-	✓	-
SPFR 08 F45/60 AC V	8	-	✓	✓	-	-	✓	-
SPFR 09 F45/60 AC V	9	-	✓	✓	-	-	✓	-
SPFR 10 F45/60 AC V	10	-	✓	✓	-	-	✓	-
SPFR 11 F45/60 AC V	11	-	✓	✓	-	-	✓	-
SPFR 12 F45/60 AC V	12	-	✓	✓	-	-	✓	-
SPFR 13 F45/60 AC V	13	-	✓	✓	-	-	✓	-
SPFR 14 F45/60 AC V	14	-	✓	✓	-	-	✓	-
SPFR 15 F45/60 AC V	15	-	✓	✓	-	-	✓	-

FRAME-SET 20/30 VERTICAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F20/30 AC DB V	1	✓	-	✓	✓	-	✓	-
SPFR 02 F20/30 AC DB V	2	✓	-	✓	✓	-	✓	-
SPFR 03 F20/30 AC DB V	3	✓	-	✓	✓	-	✓	-
SPFR 04 F20/30 AC DB V	4	✓	-	✓	✓	-	✓	-
SPFR 05 F20/30 AC DB V	5	✓	-	✓	✓	-	✓	-
SPFR 06 F20/30 AC DB V	6	✓	-	✓	✓	-	✓	-
SPFR 07 F20/30 AC DB V	7	✓	-	✓	✓	-	✓	-
SPFR 08 F20/30 AC DB V	8	✓	-	✓	✓	-	✓	-
SPFR 09 F20/30 AC DB V	9	✓	-	✓	✓	-	✓	-
SPFR 10 F20/30 AC DB V	10	✓	-	✓	✓	-	✓	-
SPFR 11 F20/30 AC DB V	11	✓	-	✓	✓	-	✓	-
SPFR 12 F20/30 AC DB V	12	✓	-	✓	✓	-	✓	-
SPFR 13 F20/30 AC DB V	13	✓	-	✓	✓	-	✓	-
SPFR 14 F20/30 AC DB V	14	✓	-	✓	✓	-	✓	-
SPFR 15 F20/30 AC DB V	15	✓	-	✓	✓	-	✓	-

FRAME-SET 45/60 VERTICAL / WITHOUT CONCRETE BLOCKS / WITH DRAIN BACK								
Art. No	Number of collectors	Angle		Aluminum / copper	DB	Direction		Block
		20/30°	45/60°			H	V	
SPFR 01 F45/60 AC DB V	1	-	✓	✓	✓	-	✓	-
SPFR 02 F45/60 AC DB V	2	-	✓	✓	✓	-	✓	-
SPFR 03 F45/60 AC DB V	3	-	✓	✓	✓	-	✓	-
SPFR 04 F45/60 AC DB V	4	-	✓	✓	✓	-	✓	-
SPFR 05 F45/60 AC DB V	5	-	✓	✓	✓	-	✓	-
SPFR 06 F45/60 AC DB V	6	-	✓	✓	✓	-	✓	-
SPFR 07 F45/60 AC DB V	7	-	✓	✓	✓	-	✓	-
SPFR 08 F45/60 AC DB V	8	-	✓	✓	✓	-	✓	-
SPFR 09 F45/60 AC DB V	9	-	✓	✓	✓	-	✓	-
SPFR 10 F45/60 AC DB V	10	-	✓	✓	✓	-	✓	-
SPFR 11 F45/60 AC DB V	11	-	✓	✓	✓	-	✓	-
SPFR 12 F45/60 AC DB V	12	-	✓	✓	✓	-	✓	-
SPFR 13 F45/60 AC DB V	13	-	✓	✓	✓	-	✓	-
SPFR 14 F45/60 AC DB V	14	-	✓	✓	✓	-	✓	-
SPFR 15 F45/60 AC DB V	15	-	✓	✓	✓	-	✓	-

Collectors wall build in construction (aluminum-copper)



WAND FRAME-SET 45 HORIZONTAL									
Art. No	Number of collectors	Angle			Aluminum /copper	DB	Direction		
		45°	60°	70°			H	V	
SPWL 01 F45 AC H	1	✓	-	-	✓	-	✓	-	-
SPWL 02 F45 AC H	2	✓	-	-	✓	-	✓	-	-
SPWL 03 F45 AC H	3	✓	-	-	✓	-	✓	-	-
SPWL 04 F45 AC H	4	✓	-	-	✓	-	✓	-	-
SPWL 05 F45 AC H	5	✓	-	-	✓	-	✓	-	-
SPWL 06 F45 AC H	6	✓	-	-	✓	-	✓	-	-
SPWL 07 F45 AC H	7	✓	-	-	✓	-	✓	-	-
SPWL 08 F45 AC H	8	✓	-	-	✓	-	✓	-	-
SPWL 09 F45 AC H	9	✓	-	-	✓	-	✓	-	-
SPWL 10 F45 AC H	10	✓	-	-	✓	-	✓	-	-
SPWL 11 F45 AC H	11	✓	-	-	✓	-	✓	-	-
SPWL 12 F45 AC H	12	✓	-	-	✓	-	✓	-	-
SPWL 13 F45 AC H	13	✓	-	-	✓	-	✓	-	-
SPWL 14 F45 AC H	14	✓	-	-	✓	-	✓	-	-
SPWL 15 F45 AC H	15	✓	-	-	✓	-	✓	-	-

WAND FRAME-SET 45 HORIZONTAL / WITH DRAIN BACK									
Art. No	Number of collectors	Angle			Aluminum /copper	DB	Direction		
		45°	60°	70°			H	V	
SPWL 01 F45 AC DB H	1	✓	-	-	✓	✓	✓	-	-
SPWL 02 F45 AC DB H	2	✓	-	-	✓	✓	✓	-	-
SPWL 03 F45 AC DB H	3	✓	-	-	✓	✓	✓	-	-
SPWL 04 F45 AC DB H	4	✓	-	-	✓	✓	✓	-	-
SPWL 05 F45 AC DB H	5	✓	-	-	✓	✓	✓	-	-
SPWL 06 F45 AC DB H	6	✓	-	-	✓	✓	✓	-	-
SPWL 07 F45 AC DB H	7	✓	-	-	✓	✓	✓	-	-
SPWL 08 F45 AC DB H	8	✓	-	-	✓	✓	✓	-	-
SPWL 09 F45 AC DB H	9	✓	-	-	✓	✓	✓	-	-
SPWL 10 F45 AC DB H	10	✓	-	-	✓	✓	✓	-	-
SPWL 11 F45 AC DB H	11	✓	-	-	✓	✓	✓	-	-
SPWL 12 F45 AC DB H	12	✓	-	-	✓	✓	✓	-	-
SPWL 13 F45 AC DB H	13	✓	-	-	✓	✓	✓	-	-
SPWL 14 F45 AC DB H	14	✓	-	-	✓	✓	✓	-	-
SPWL 15 F45 AC DB H	15	✓	-	-	✓	✓	✓	-	-

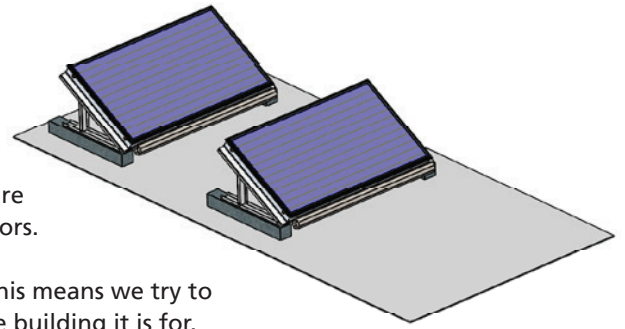
WAND FRAME-SET 60 HORIZONTAL									
Art. No	Number of collectors	Angle			Aluminum /copper	DB	Direction		
		45°	60°	70°			H	V	
SPWL 01 F60 AC H	1	-	✓	-	✓	-	✓	-	-
SPWL 02 F60 AC H	2	-	✓	-	✓	-	✓	-	-
SPWL 03 F60 AC H	3	-	✓	-	✓	-	✓	-	-
SPWL 04 F60 AC H	4	-	✓	-	✓	-	✓	-	-
SPWL 05 F60 AC H	5	-	✓	-	✓	-	✓	-	-
SPWL 06 F60 AC H	6	-	✓	-	✓	-	✓	-	-
SPWL 07 F60 AC H	7	-	✓	-	✓	-	✓	-	-
SPWL 08 F60 AC H	8	-	✓	-	✓	-	✓	-	-
SPWL 09 F60 AC H	9	-	✓	-	✓	-	✓	-	-
SPWL 10 F60 AC H	10	-	✓	-	✓	-	✓	-	-
SPWL 11 F60 AC H	11	-	✓	-	✓	-	✓	-	-
SPWL 12 F60 AC H	12	-	✓	-	✓	-	✓	-	-
SPWL 13 F60 AC H	13	-	✓	-	✓	-	✓	-	-
SPWL 14 F60 AC H	14	-	✓	-	✓	-	✓	-	-
SPWL 15 F60 AC H	15	-	✓	-	✓	-	✓	-	-

WAND FRAME-SET 60 HORIZONTAL / WITH DRAIN BACK									
Art. No	Number of collectors	Angle			Aluminum /copper	DB	Direction		
		45°	60°	70°			H	V	
SPWL 01 F60 AC DB H	1	-	✓	-	✓	✓	✓	-	-
SPWL 02 F60 AC DB H	2	-	✓	-	✓	✓	✓	-	-
SPWL 03 F60 AC DB H	3	-	✓	-	✓	✓	✓	-	-
SPWL 04 F60 AC DB H	4	-	✓	-	✓	✓	✓	-	-
SPWL 05 F60 AC DB H	5	-	✓	-	✓	✓	✓	-	-
SPWL 06 F60 AC DB H	6	-	✓	-	✓	✓	✓	-	-
SPWL 07 F60 AC DB H	7	-	✓	-	✓	✓	✓	-	-
SPWL 08 F60 AC DB H	8	-	✓	-	✓	✓	✓	-	-
SPWL 09 F60 AC DB H	9	-	✓	-	✓	✓	✓	-	-
SPWL 10 F60 AC DB H	10	-	✓	-	✓	✓	✓	-	-
SPWL 11 F60 AC DB H	11	-	✓	-	✓	✓	✓	-	-
SPWL 12 F60 AC DB H	12	-	✓	-	✓	✓	✓	-	-
SPWL 13 F60 AC DB H	13	-	✓	-	✓	✓	✓	-	-
SPWL 14 F60 AC DB H	14	-	✓	-	✓	✓	✓	-	-
SPWL 15 F60 AC DB H	15	-	✓	-	✓	✓	✓	-	-

WAND FRAME-SET 70 HORIZONTAL									
Art. No	Number of collectors	Angle			Aluminum /copper	DB	Direction		
		45°	60°	70°			H	V	
SPWL 01 F70 AC H	1	-	-	✓	✓	-	✓	-	-
SPWL 02 F70 AC H	2	-	-	✓	✓	-	✓	-	-
SPWL 03 F70 AC H	3	-	-	✓	✓	-	✓	-	-
SPWL 04 F70 AC H	4	-	-	✓	✓	-	✓	-	-
SPWL 05 F70 AC H	5	-	-	✓	✓	-	✓	-	-
SPWL 06 F70 AC H	6	-	-	✓	✓	-	✓	-	-
SPWL 07 F70 AC H	7	-	-	✓	✓	-	✓	-	-
SPWL 08 F70 AC H	8	-	-	✓	✓	-	✓	-	-
SPWL 09 F70 AC H	9	-	-	✓	✓	-	✓	-	-
SPWL 10 F70 AC H	10	-	-	✓	✓	-	✓	-	-
SPWL 11 F70 AC H	11	-	-	✓	✓	-	✓	-	-
SPWL 12 F70 AC H	12	-	-	✓	✓	-	✓	-	-
SPWL 13 F70 AC H	13	-	-	✓	✓	-	✓	-	-
SPWL 14 F70 AC H	14	-	-	✓	✓	-	✓	-	-
SPWL 15 F70 AC H	15	-	-	✓	✓	-	✓	-	-

WAND FRAME-SET 70 HORIZONTAL / WITH DRAIN BACK									
Art. No	Number of collectors	Angle			Aluminum /copper	DB	Direction		
		45°	60°	70°			H	V	
SPWL 01 F70 AC DB H	1	-	-	✓	✓	✓	✓	-	-
SPWL 02 F70 AC DB H	2	-	-	✓	✓	✓	✓	-	-
SPWL 03 F70 AC DB H	3	-	-	✓	✓	✓	✓	-	-
SPWL 04 F70 AC DB H	4	-	-	✓	✓	✓	✓	-	-
SPWL 05 F70 AC DB H	5	-	-	✓	✓	✓	✓	-	-
SPWL 06 F70 AC DB H	6	-	-	✓	✓	✓	✓	-	-
SPWL 07 F70 AC DB H	7	-	-	✓	✓	✓	✓	-	-
SPWL 08 F70 AC DB H	8	-	-	✓	✓	✓	✓	-	-
SPWL 09 F70 AC DB H	9	-	-	✓	✓	✓	✓	-	-
SPWL 10 F70 AC DB H	10	-	-	✓	✓	✓	✓	-	-
SPWL 11 F70 AC DB H	11	-	-	✓	✓	✓	✓	-	-
SPWL 12 F70 AC DB H	12	-	-	✓	✓	✓	✓	-	-
SPWL 13 F70 AC DB H	13	-	-	✓	✓	✓	✓	-	-
SPWL 14 F70 AC DB H	14	-	-	✓	✓	✓	✓	-	-
SPWL 15 F70 AC DB H	15	-	-	✓	✓	✓	✓	-	-

Custom solutions



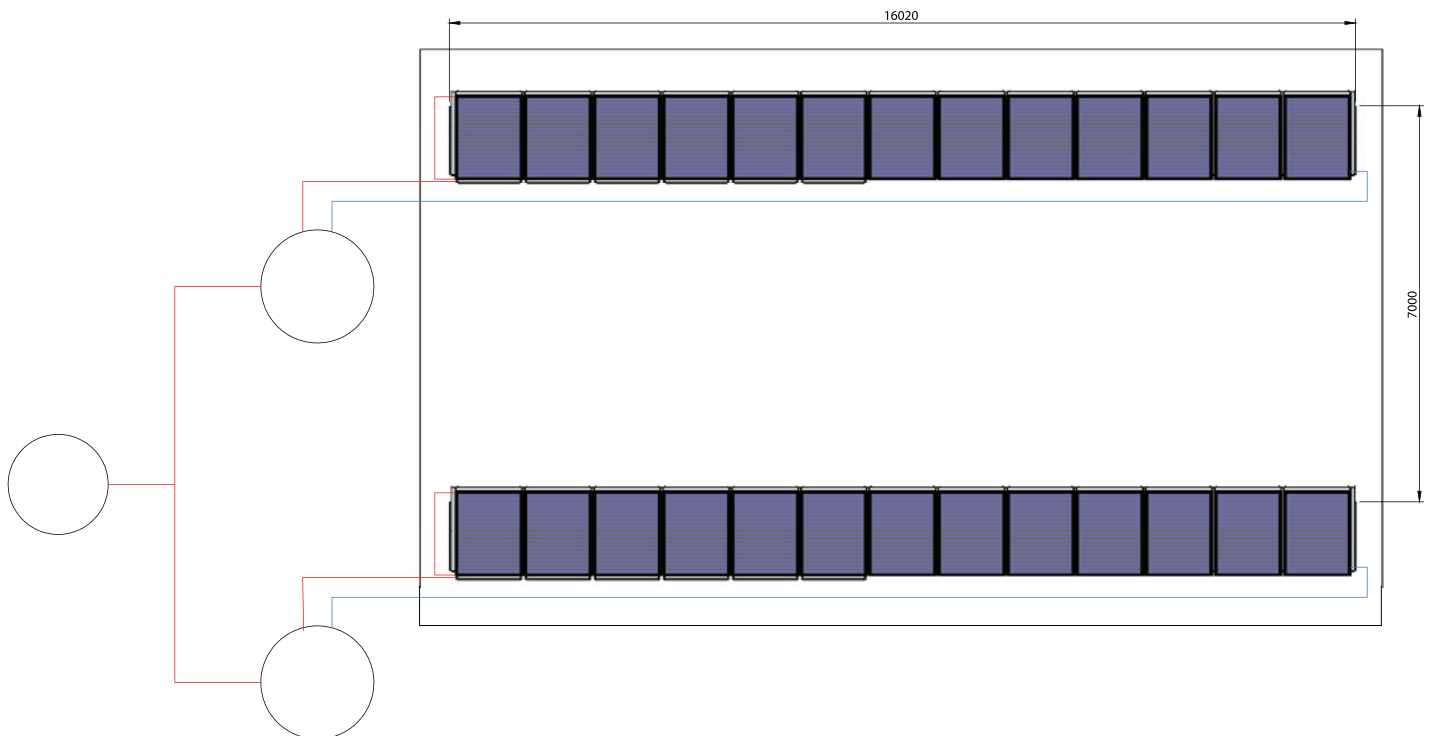
A.O. Smith has an extensive assortment collector sets. But we are also aware of the unique situation that arises when placing a solar system and collectors.

Our goal is to optimise the benefit the user gains from the solar system. This means we try to create an installation which meets the hot water requirements and fits the building it is for.

This means we try to fit our products in the best possible solution. Our Sales Engineers can help you to create this. Besides that we can provide you with (building) drawings or special applications.

We can provide drawings for the positioning of the collectors on the roof. Or provide you with a principle – scheme of the application of the installation. And we can help you create the best possible frame construction for the collectors on the roof.

A.O. Smith is your partner in creating the best solar installation for every application.



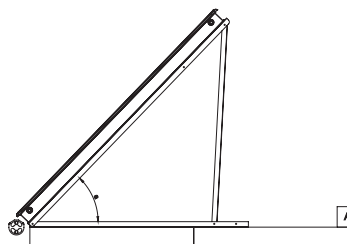
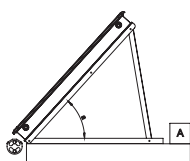
Wind load on flat roof frame constructed collectors

The A.O. Smith flat roof frame construction collector sets are equipped with all the parts withstand a maximum of Gale wind force 7, measured at the collector. In case you want to ensure safety for higher wind load, we advice to add extra concrete blocks (C) at the frames of the collectors.

The tables below show the required weight that is needed to withstand several wind forces. The first table is regarding horizontal collectors, the second regarding vertically installed collectors. Please consider the maximum load the roof can handle, when adding weight to the collector array.

No rights or claims can be derived from the information in the tables below. We strongly advise to consult a local specifier before installing the extra weight on a roof.

A.O. Smith can deliver an extra concrete block, this block weighs 45 kg. The article number for this extra block is 0308762.



HORIZONTAL COLLECTORS INCLUDING A SAFETY FACTOR OF 35%

Setup	Gale Force	Description	Wind speed (m/s)	(A) Weight extra block (kg)
Horizontal collector at 30° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	0
	8	gale	17,2-20,7	33
	9	strong gale	20,8-24,4	78
	10	storm	24,5-28,4	131
Horizontal collector at 45° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	5
	8	gale	17,2-20,7	36
	9	strong gale	20,8-24,4	79
	10	storm	24,5-28,4	130
Horizontal collector at 60° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	11
	8	gale	17,2-20,7	42
	9	strong gale	20,8-24,4	83
	10	storm	24,5-28,4	132
	11	violent storm	28,5-32,6	192
	12	hurricane force	>32,6	222

VERTICAL COLLECTORS INCLUDING A SAFETY FACTOR OF 35%

Setup	Gale Force	Description	Wind speed (m/s)	(A) Weight extra block (kg)
Vertical collector at 20° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	0
	8	gale	17,2-20,7	6
	9	strong gale	20,8-24,4	46
	10	storm	24,5-28,4	93
Vertical collector at 30° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	6
	8	gale	17,2-20,7	46
	9	strong gale	20,8-24,4	101
	10	storm	24,5-28,4	166
Vertical collector at 45° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	0
	8	gale	17,2-20,7	32
	9	strong gale	20,8-24,4	75
	10	storm	24,5-28,4	127
Vertical collector at 60° frame	4	moderate breeze	5,5-7,9	0
	5	fresh breeze	8,0-10,7	0
	6	strong breeze	10,8-13,8	0
	7	high wind	13,9-17,1	1
	8	gale	17,2-20,7	30
	9	strong gale	20,8-24,4	70
	10	storm	24,5-28,4	116
	11	violent storm	28,5-32,6	174
	12	hurricane force	>32,6	203

Data subject to change