

# SOLAR WATER HEATERS

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## A BRIEF INTRODUCTION

A Global American Brand



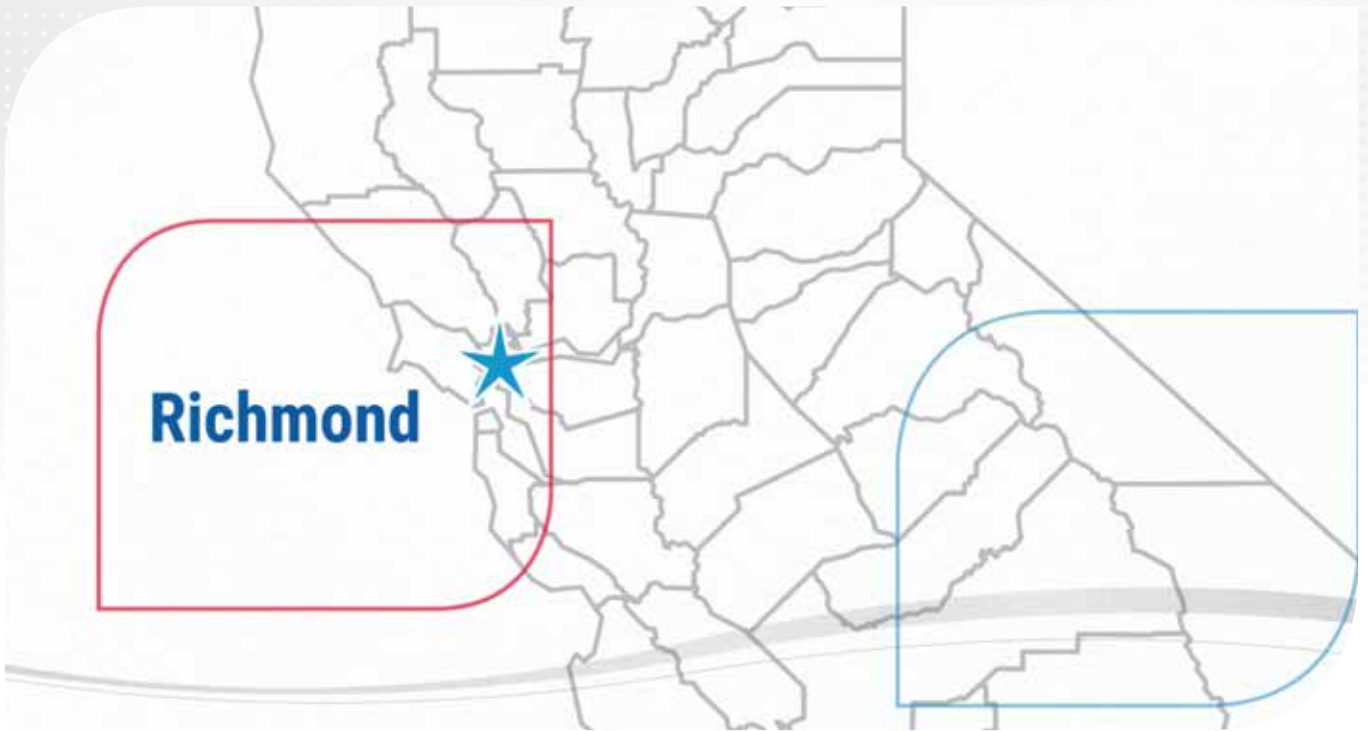
# About **Richmond**® ?

### Exceptional Performance And Value From The Water

Heater Experts Richmond Water Heaters are manufactured by Rheem®, the company which invented water heaters.

Richmond was named in honor of Rheem's first company headquarters in Richmond California. The Richmond brand was established in 1983 to offer exceptional performance water heaters. We put the best materials and workmanship into our Richmond brand to produce water heaters that are exceptional values.





# RICHMOND COMMITMENT & DESIGN PHILOSOPHY

## Our commitment to **SUSTAINABILITY**

Adoption of R410A Refrigerant

### **A GREATER DEGREE OF GOOD**

As a member of the Rheem® family of brands, Richmond® is a big part of Rheem Manufacturing's commitment to taking a greater degree of responsibility for future generations.

### **NEXT-GENERATION THINKING**

We're focused on innovating Richmond products with intent, designing solutions with lifetime sustainability in mind—from material selection to smart features to responsible recycling. And, our products are made to meet our customers' needs—giving them greater control over their energy and water consumption, lowering their environmental impact. We are transforming the industry by introducing ground-breaking, intelligent air and water products to homes and businesses around the globe.

## DESIGNED FOR ZERO WASTE



DEGREES OF  
**LEADERSHIP**



DEGREES OF  
**INNOVATION**



DEGREES OF  
**EFFICIENCY**



# THE EXPERTS IN SOLAR WATER HEATING SOLUTIONS



SOLAR  
WATER  
HEATERS

## Features & benefits

• **POWER SAVINGS**  
WITH EVERY USE

• **SUPERIOR THERMAL**  
PERFORMANCE

• **ENJOY HOT WATER**  
ALL ALONG

• **LONG LASTING EVEN**  
IN HARSH WEATHER

• **PROTECTION FROM**  
HIGH-SALINITY

• **STURDY**  
INSTALLATION

# Technical Specifications: System

**Standard Configuration: A (Clear Tempered, Mineral R 10/11 : GA 1.88m<sup>2</sup>)**

S. No	Model Size	Weight	"Cylinder Dimensions (LXWXD) mm"	Collector	Surface Gross Area	"Weigh kg (per collector)"	Pressure Test (bar)	Support Base Weight kg	Total Equipment Weight Empty kg
1	RMS150LC1-A20F21T11	58	1285x400	1	1.88	37	15	21.62	116.62
2	RMS200LC1-A20F21T11	68	1285x480	1	1.88	37	15	21.62	126.62
3	RMS200LC2-A20F21T11	68	1285x480	2	3.76	37	15	24.88	166.88
4	RMS250LC2-A20F21T11	82	1551x480	2	3.76	37	15	24.88	180.88
5	RMS300LC2-A20F21T11	100	1785x480	2	3.76	37	15	24.88	198.88

**Optional Configuration: B ( Mat Prismatic clear Mineral, R 10/11 : GA 1.88m<sup>2</sup> )**

S. No	Model Size	Weight	"Cylinder Dimensions (LXWXD) mm"	Collector	Surface Gross Area	"Weigh kg (per collector)"	Pressure Test (bar)	Support Base Weight kg	Total Equipment Weight Empty kg
1	RMO150LC1-B20F21T11	58	1285x400	1	1.88	37	15	21.62	116.62
2	RMO200LC1-B20F21T11	68	1285x480	1	1.88	37	15	21.62	126.62
3	RMO200LC2-B20F21T11	68	1285x480	2	3.76	37	15	24.88	166.88
4	RMO250LC2-B20F21T11	82	1551x480	2	3.76	37	15	24.88	180.88
5	RMO300LC2-B20F21T11	100	1785x480	2	3.76	37	15	24.88	198.88

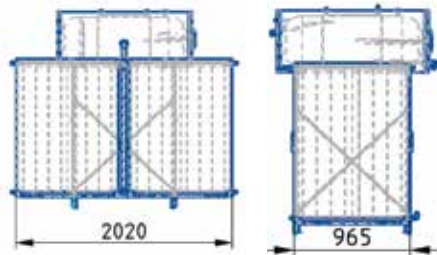
**Optional Configuration:C ( Mat Prismatic clear double antireflective, R 13/16 : GA 1.88m<sup>2</sup>)**

S. No	Model Size	Weight	"Cylinder Dimensions (LXWXD) mm"	Collector	Surface Gross Area	"Weigh kg (per collector)"	Pressure Test (bar)	Support Base Weight kg	Total Equipment Weight Empty kg
1	RMO150LC1-C20F21T11	58	1285x400	1	1.88	37	15	21.62	116.62
2	RMO200LC1-C20F21T11	68	1285x480	1	1.88	37	15	21.62	126.62
3	RMO200LC2-C20F21T11	68	1285x480	2	3.76	37	15	24.88	166.88
4	RMO250LC2-C20F21T11	82	1551x480	2	3.76	37	15	24.88	180.88
5	RMO300LC2-C20F21T11	100	1785x480	2	3.76	37	15	24.88	198.88

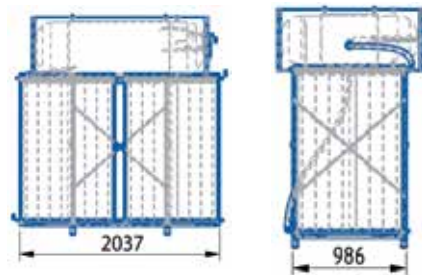
**Optional Configuration:D ( Mat Prismatic clear double antireflective, Rigid PU, R 13/16 : GA 2.0 m<sup>2</sup> Tall, or Short)**

S. No	Model Size	Weight	"Cylinder Dimensions (LXWXD) mm"	Collector	Surface Gross Area	"Weigh kg (per collector)"	Pressure Test (bar)	Support Base Weight kg	Total Equipment Weight Empty kg
1	RMO150LC1-D20F21T11	58	1285x400	1	2.00	38	15	21.62	117.62
2	RMU0200LC1-D20F21T11	68	1285x480	1	2.00	38	15	21.62	127.62
3	RMO200LC2-D20F21T11	68	1285x480	2	4.00	38	15	24.88	168.88
4	RMO250LC2-D20F21T11	82	1551x480	2	4.00	38	15	24.88	182.88
5	RMO300LC2-D20F21T11	100	1785x480	2	4.00	38	15	24.88	200.88

For Configuration: A, B & C



For Configuration: D



# STORAGE TANKS

## RMST11 Tank: Standard

### TECHNICAL SPECIFICATIONS

RMST11 model	150 lt	200 lt	250 lt	300 lt
Gross Capacity (lt)	144	199	242	295
A Tank's Length (mm)	1285	1285	1551	1785
B External Diameter (mm)	Ø 500	Ø 580	Ø 580	Ø 580
C Main Tank's Diameter (mm)	Ø 400	Ø 480	Ø 480	Ø 480
Jacket's Capacity (lt)	8	9	12	19
D Flange Diameter (mm)	Ø 140	Ø 140	Ø 140	Ø 140
Weight (kg)	58	68	82	100

**Main Tank's Material:** DC Sheet (EN 10130/2006)

**Internal Anti-corrosion Protection:** a) LIQUID enamel (DIN 4753-3), totally safe for public health (DIN 51032 & EN 1388-2) and b) magnesium anode (EN 12438)

**Welding:** MIG

**Insulation:** Hard polyurethane foam 48kg/m3 (DIN 53420), self-extinguishing (DIN 4102)

**Maximum Working Pressure for the Main Tank :**10 bar

**Test pressure for the Main Tank:** 15 bar (EN 12976-1, 4.1.6)

**Maximum Working Pressure for the Jacket (exchanger):**3,2 bar

**Test Pressure for the Jacket (Exchanger):**5 bar (EN 12976-1/2006, 4.1.6)

**Maximum Working Temperature of the Main Tank:** 95°C

**Heating Element:** Optional, upon request

**External Cover:** Pre-painted galvanized steel sheet 0,5mm (EN 10204 / 2.2)



## STANDARD

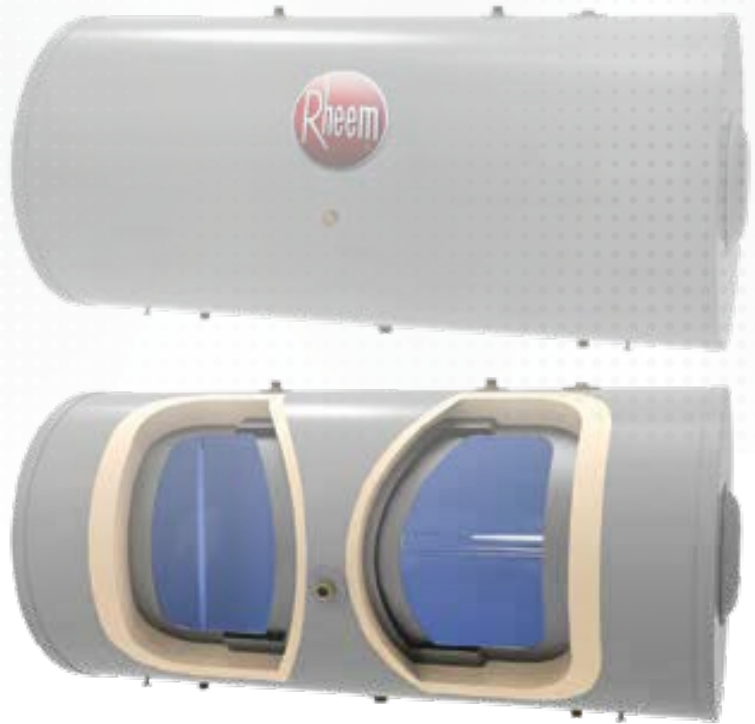
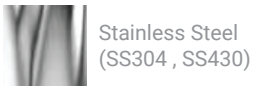
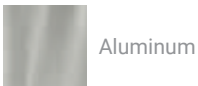
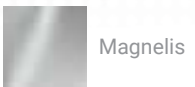


AVAILABLE  
IN DIFFERENT  
COLOURS  
(PRE-PAINTED  
GALVANIZED  
STEEL SHEET)

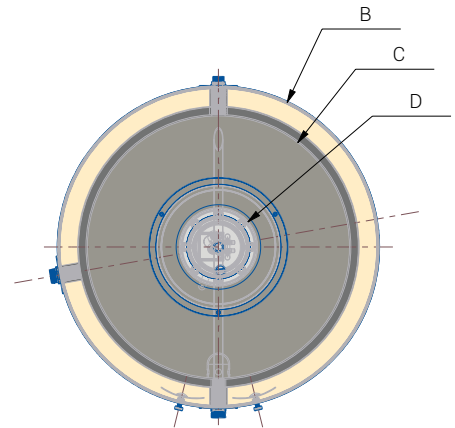
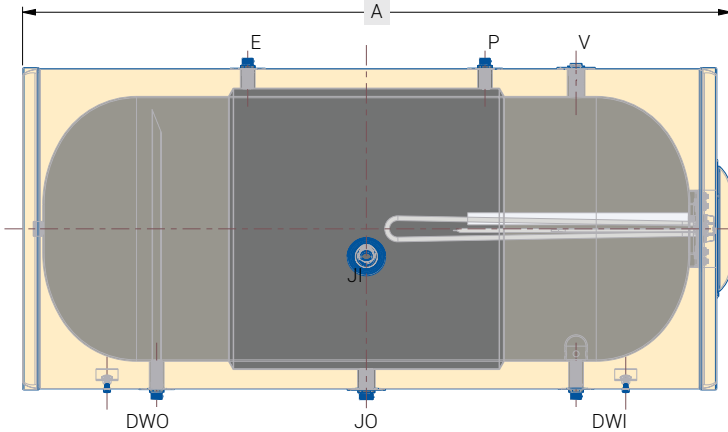
## OPTIONAL



## OPTIONAL EXTERNAL MATERIAL



**i** "For optional colors, please check with your sales representative for more details"



<b>E</b>	Pressure valve position protecting closed circuit
<b>P</b>	Inlet to fill exchanger's solution and (optional) expansion vessel position
<b>V</b>	Pressure and temperature valve position protecting main tank
<b>DWO</b>	Domestic hot Water Outlet
<b>DWI</b>	Domestic cold Water Inlet
<b>JO</b>	Closed circuit cold water outlet
<b>JI</b>	Closed circuit hot water inlet

Standard Element KW are:  
For 150L to 200L: 2KW,  
For 250L to 300L: 3.5KW,

For other optional KW within the  
available range of  
1.5 to 3.5 KW

Please check with your sales  
representatives for more details.



# RMOT21 Tank: Optional

(SIDE CONNECTION FOR CLOSED CIRCUIT , DOMESTIC HOT-COLD WATER INLET & OUTLET)

## STANDARD



AVAILABLE  
IN DIFFERENT  
COLOURS  
(PRE-PAINTED  
GALVANIZED  
STEEL SHEET)

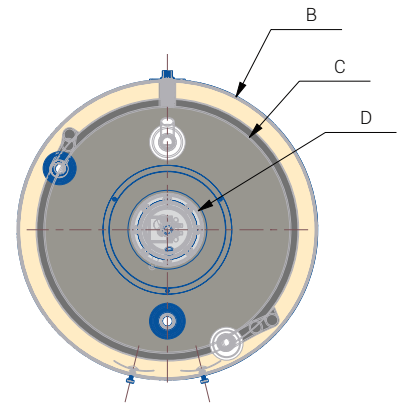
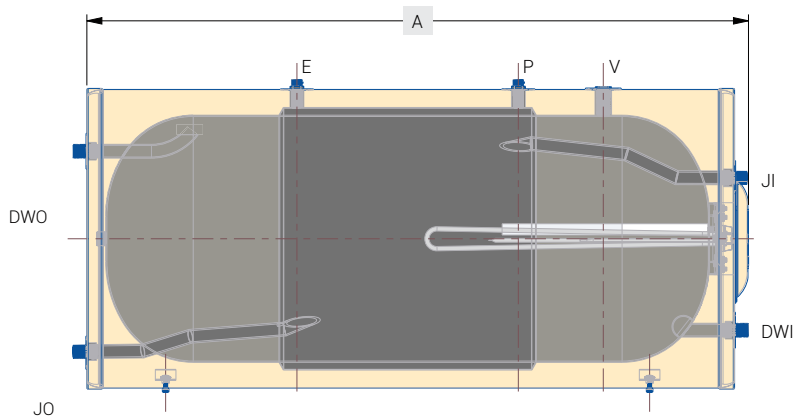
## OPTIONAL



## OPTIONAL EXTERNAL MATERIAL



**i** "For optional colors, please check with your sales representative for more details"



<b>E</b>	Pressure valve position protecting closed circuit
<b>P</b>	Inlet to fill exchanger's solution and (optional) expansion vessel position
<b>V</b>	Pressure and temperature valve position protecting main tank
<b>DWO</b>	Domestic hot Water Outlet
<b>DWI</b>	Domestic cold Water Inlet
<b>JO</b>	Closed circuit cold water outlet
<b>JI</b>	Closed circuit hot water inlet

Standard Element KW are:  
For 150L to 200L: 2KW ,  
For 250L to 300L: 3.5KW ,

For other optional KW within the  
available range of  
1.5 to 3.5 KW

Please check with your sales  
representatives for more details.

# RMOT31 Tank: Optional

( DESIGNED FOR HEAT PUMPS )

## STANDARD

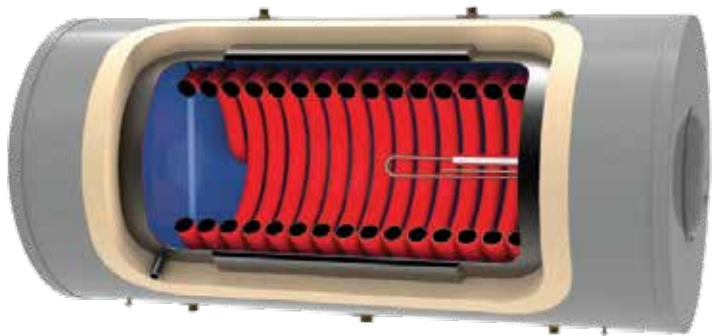
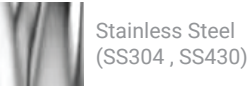
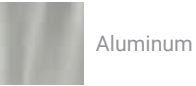
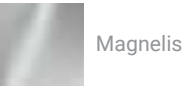


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COLOURS  
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GALVANIZED  
STEEL SHEET)

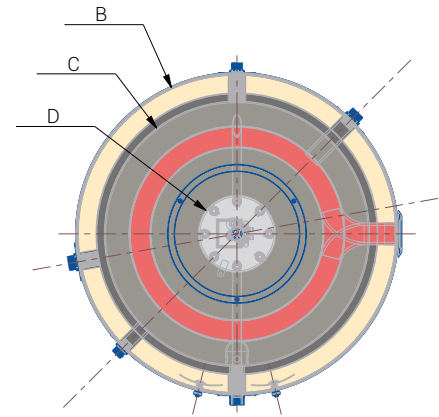
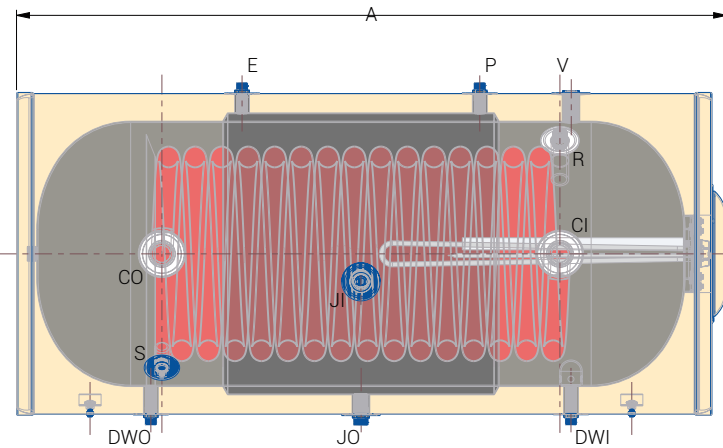
## OPTIONAL



## OPTIONAL EXTERNAL MATERIAL



**i** "For optional colors, please check with your sales representative for more details"



<b>E</b>	Pressure valve position protecting closed circuit
<b>P</b>	Inlet to fill exchanger's solution and (optional) expansion vessel position
<b>V</b>	Pressure and temperature valve position protecting main tank
<b>DWO</b>	Domestic hot Water Outlet
<b>DWI</b>	Domestic cold Water Inlet
<b>JO</b>	Closed circuit cold water outlet
<b>JI</b>	Closed circuit hot water inlet

Standard Element KW are:  
For 150L to 200L: 2KW ,  
For 250L to 300L: 3.5KW ,

For other optional KW within the  
available range of  
1.5 to 3.5 KW

Please check with your sales representatives for more details.

# Solar thermal Collectors

## RMA Collector: Standard

### TECHNICAL SPECIFICATIONS

TECHNICAL DATA	MEASUREMENT UNIT(SI)	COLLECTOR'S CHARACTERISTICS RMA20 - FULL FACE		
		RMA15	RMA20	RMA25
TYPE				
Extrenal dimensions (height x width x thickness)	mm	1460x960x80	1960x960x80	1960x1260x80
Gross area	m <sup>2</sup>	1,40	1,88	2,37
Aperture area	m <sup>2</sup>	1,32	1,79	2,27
Absorber area	m <sup>2</sup>	1,35	1,83	2,33
Absorber capacity	L	1,45	1,63	1,81
Compact Tray / thickness	mm	Pre-painted galvanized metal sheet / 0,5		
Glass		Clear tempered		
Insulation (Back and side) thickness / density	mm /Kg/m <sup>3</sup>	Mineral glass wool 30mm / density 24 kg/m3. Product specifically designed for collectors, with very low conductivity to avoid losses. It is certified that it prevents glass fogging of the collector.		
Absorber		Copper harp-type, Full Face Aluminum Selective Surface. Laser welding.		
Absorbtion	%	95		
Emission	%	5		
Header copper tube Ø / thickness	mm	Ø 22 / 0,70		
Riserer copper tube Ø / thickness	mm	Ø 8 / 0,40		
Number of vertical risers	No.	10	10	11
Maximum operating pressure	Bar	10		
Heat transfer mean		Antifreeze and water solution (monopropylene glycol)		
Layout		Vertical		
Weight (empty & packed)	Kg	30	37	41



AVAILABLE  
IN DIFFERENT  
COLOURS  
(PRE-PAINTED  
GALVANIZED  
STEEL SHEET)

### STANDARD



RAL 9006

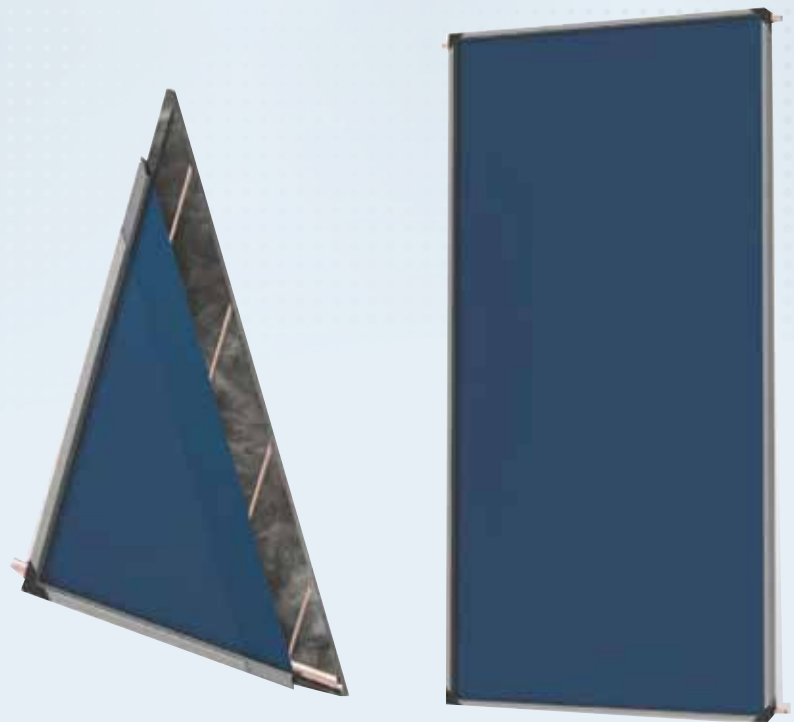
### OPTIONAL EXTERNAL MATERIAL



Magnelis



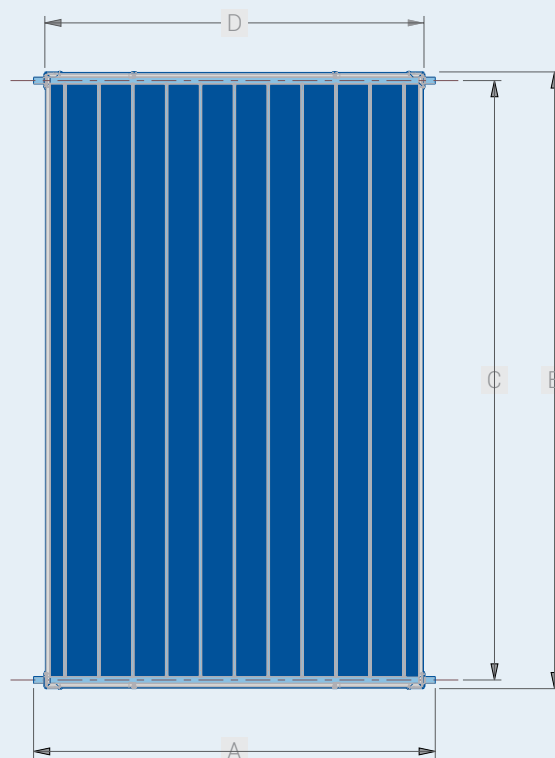
Aluminum



RMA15	
A	1030 mm
B	1460 mm
C	1405 mm
D	960 mm

RMA20	
A	1030 mm
B	1960 mm
C	1910 mm
D	960 mm

RMA25	
A	1280 mm
B	1960 mm
C	1910 mm
D	1210 mm



# RME Horizontal Collector: Optional

(with frame)

## TECHNICAL SPECIFICATIONS

TECHNICAL DATA	MEASUREMENT UNIT(SI)	COLLECTOR'S CHARACTERISTICS RME20 - FULL FACE	
		RME20	RME25
TYPE			
Extrenal dimensions (height × width × thickness)	mm	960×1965×80	1210×1965×80
Gross area	m <sup>2</sup>	1,88	2,38
Aperture area	m <sup>2</sup>	1,79	2,28
Absorber area	m <sup>2</sup>	1,85	2,34
Absorber capacity	L	1,94	2,15
Frame / thickness	mm	Pre-painted galvanized metal sheet / 0,5	
Glass		Clear tempered	
Insulation (Back and side) thickness / density	mm /Kg/m <sup>3</sup>	Mineral glass wool thickness 30mm / density 50 kg/m <sup>3</sup> . Product specifically designed for collectors, with very low conductivity to avoid losses. Its properties remain unchanged over time. Parasites are prevented.	
Absorber		Copper harp-type, Full Face Aluminum Selective Surface. Laser welding.	
Absorbtion	%	95	
Emission	%	5	
Header copper tube Ø / thickness	mm	Ø 22 / 0,70	
Riserer copper tube Ø / thickness	mm	Ø 8 / 0,40	
Number of vertical risers	No.	16	17
Maximum operating pressure	Bar	10	
Heat transfer mean		Antifreeze and water solution (monopropylene glycol)	
Layout		Horizontal	
Weight (empty & packed)	Kg	34	42

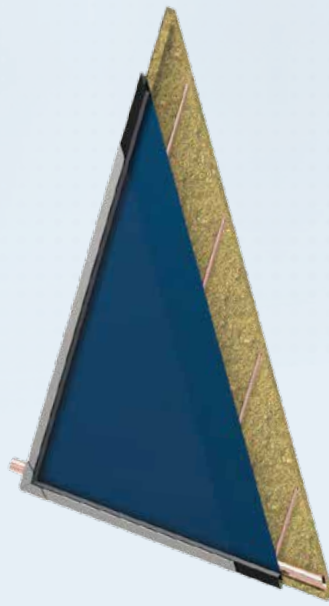
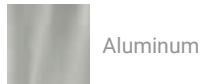
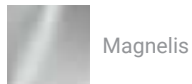


AVAILABLE  
IN DIFFERENT  
COLOURS  
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STEEL SHEET)

**STANDARD**



**OPTIONAL**  
EXTERNAL MATERIAL

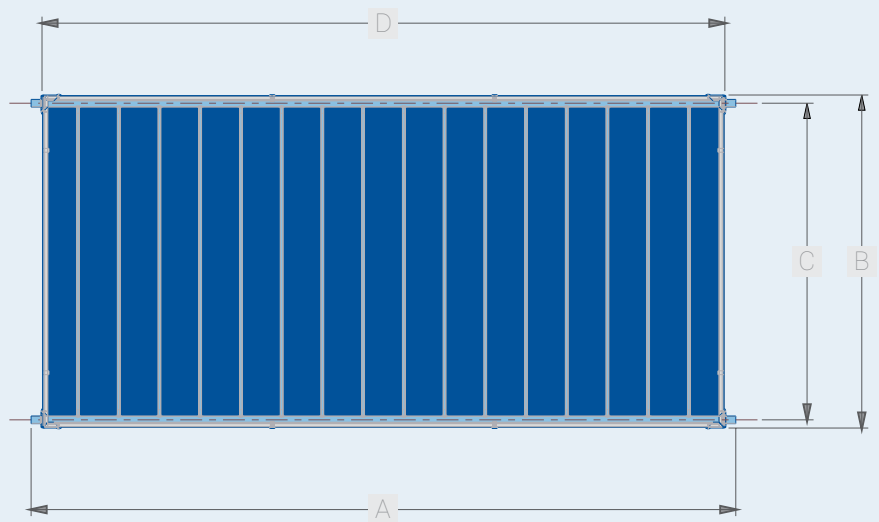


**RME20**

A	2028 mm
B	960 mm
C	911 mm
D	1965 mm

**RME25**

A	2028 mm
B	1210 mm
C	1161 mm
D	1965 mm



# RMB Vertical Collector: Optional

(with frame)

## TECHNICAL SPECIFICATIONS

TECHNICAL DATA	MEASUREMENT UNIT(SI)	COLLECTOR'S CHARACTERISTICS RMB20 - FULL FACE	
		RMB20	RMB25
TYPE			
Extrenal dimensions (height × width × thickness)	mm	1970×965×80	1970×1220×80
Gross area	m <sup>2</sup>	1,90	2,40
Aperture area	m <sup>2</sup>	1,79	2,27
Absorber area	m <sup>2</sup>	1,83	2,33
Absorber capacity	L	1,63	1,81
Compact Tray / thickness	mm	Pre-painted galvanized metal sheet / 0,5	
Glass		Mat prismatic, extra clear, tempered	
Insulation (Back and side) thickness / density	mm /Kg/m <sup>3</sup>	Mineral glass wool 30mm / density 24 kg/m <sup>3</sup> . Product specifically designed for collectors, with very low conductivity to avoid losses. It is certified that it prevents glass fogging of the collector.	
Absorber		Copper harp-type, Full Face Aluminum Selective Surface. Laser welding.	
Absorbtion	%	95	
Emission	%	5	
Header copper tube Ø / thickness	mm	Ø 22 / 0,70	
Riserer copper tube Ø / thickness	mm	Ø 8 / 0,40	
Number of vertical risers	No.	10	11
Maximum operating pressure	Bar	10	
Heat transfer mean		Antifreeze and water solution (monopropylene glycol)	
Layout		Vertical	
Weight (empty & packed)	Kg	33	41

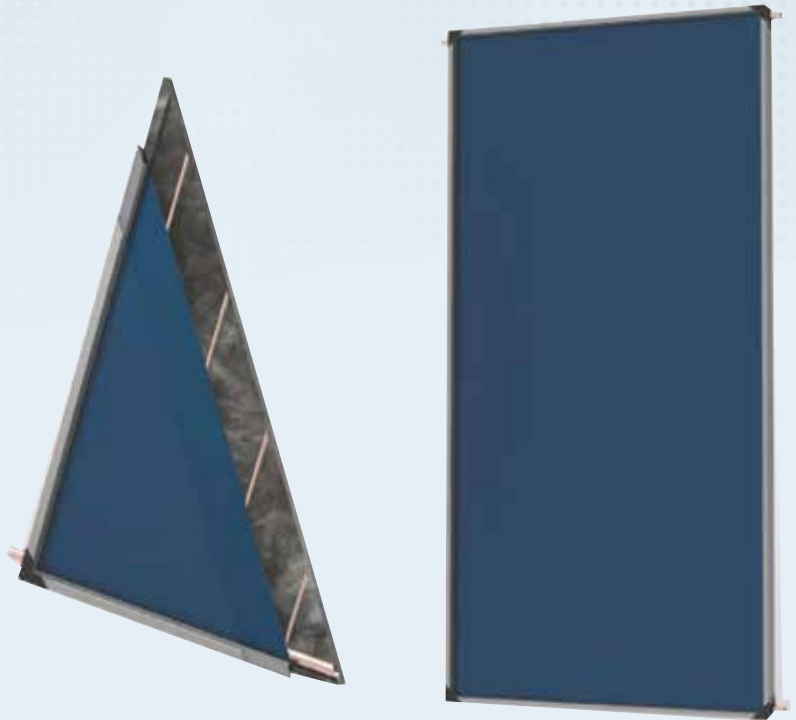
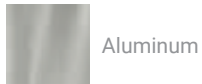
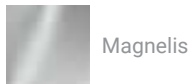


AVAILABLE  
IN DIFFERENT  
COLOURS  
(PRE-PAINTED  
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STEEL SHEET)

**STANDARD**

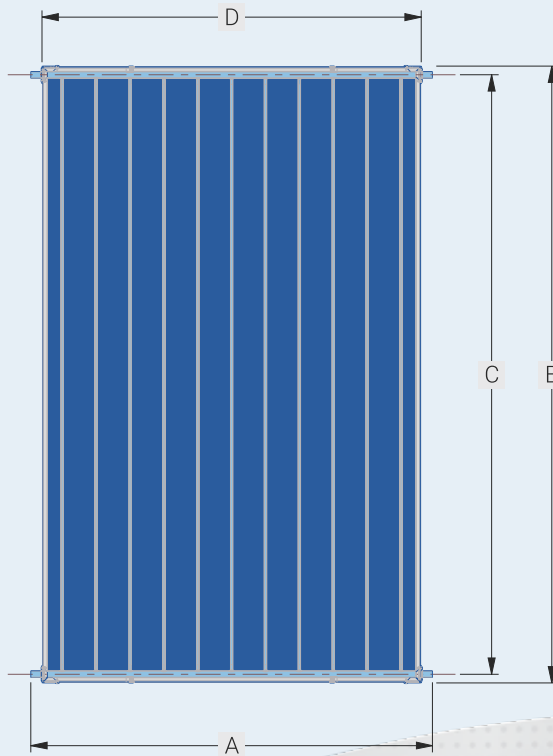


**OPTIONAL  
EXTERNAL MATERIAL**



RMB20	
A	1030 mm
B	1960 mm
C	1910 mm
D	960 mm

RMB25	
A	1280 mm
B	1960 mm
C	1910 mm
D	1210 mm





# RMC Collector: Optional

## TECHNICAL SPECIFICATIONS

TECHNICAL DATA	MEASUREMENT UNIT(SI)	COLLECTOR'S CHARACTERISTICS RMC20 - FULL FACE	
		RMC20	RMC25
TYPE			
Extrenal dimensions (height x width x thickness)	mm	1960x960x80	1960x1210x80
Gross area	m <sup>2</sup>	1,88	2,38
Aperture area	m <sup>2</sup>	1,79	2,28
Absorber area	m <sup>2</sup>	1,85	2,34
Absorber capacity	L	1,64	2,09
Compact / thickness	mm	Pre-painted galvanized metal sheet / 0,5	
Glass		Mat prismatic, extra clear, double antireflective, tempered.	
Insulation (Back and side) thickness / density	mm /Kg/m <sup>3</sup>	Mineral glass wool 30mm / density 24 kg/m <sup>3</sup> . Product specifically designed for collectors, with very low conductivity to avoid losses. It is certified that it prevents glass fogging of the collector.	
Absorber		Copper harp-type, Full Face Aluminum Selective Surface. Laser welding.	
Absorbtion	%	96	
Emission	%	4	
Header copper tube Ø / thickness	mm	Ø 22 / 0,70	
Riserer copper tube Ø / thickness	mm	Ø 8 / 0,4	
Number of vertical risers	No.	13	16
Maximum operating pressure	Bar	10	
Heat transfer mean		Antifreeze and water solution (monopropylene glycol)	
Layout		Vertical	



AVAILABLE  
IN DIFFERENT  
COLOURS  
(PRE-PAINTED  
GALVANIZED  
STEEL SHEET)

**STANDARD**



RAL 9006

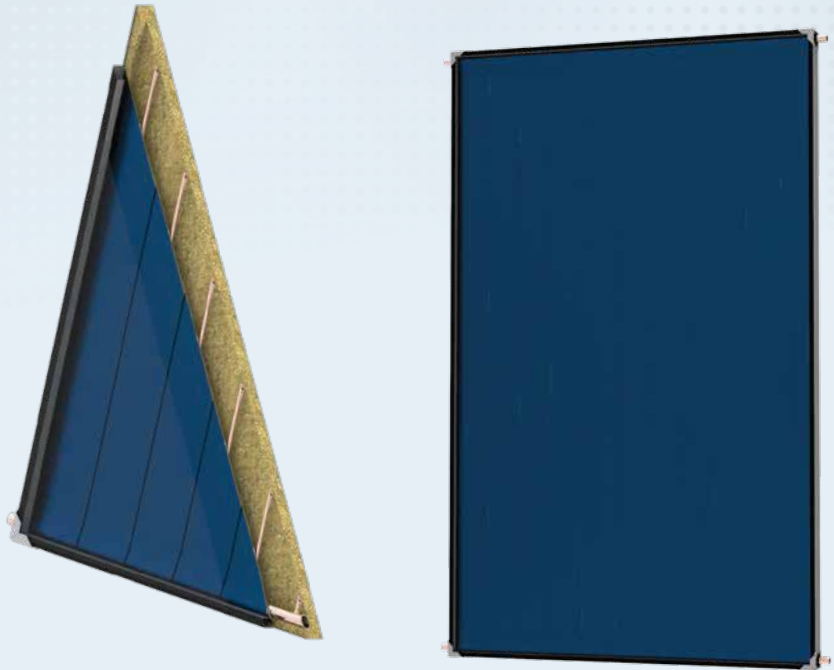
**OPTIONAL  
EXTERNAL MATERIAL**



Magnelis



Aluminum

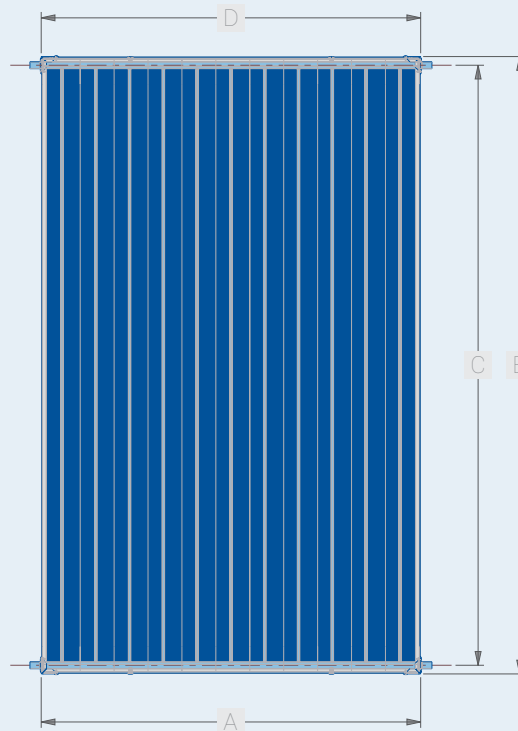


**RMC20**

A	1030 mm
B	1960 mm
C	1910 mm
D	960 mm

**RMC25**

A	1280 mm
B	1960 mm
C	1910 mm
D	1210 mm



# RMD Collector: Optional

## TECHNICAL SPECIFICATIONS

TECHNICAL DATA	MEASUREMENT UNIT(SI)	COLLECTOR'S CHARACTERISTICS RMD20 - FULL FACE		
		RMD20 (T)	RMD20 (S)	RMD25
TYPE				
Extrenal dimensions (height x width x thickness)	mm	2020x990x103	1594x1254x103	2020x1254x103
Gross area	m <sup>2</sup>	2	2	2,53
Aperture area	m <sup>2</sup>	1,85	1,85	2,38
Absorber area	m <sup>2</sup>	1,83	1,83	2,35
Absorber capacity	L	1,48	1,67	1,89
Frame / thickness	mm	Pre- painted aluminum (frame) / 1 Pre- painted steel sheet (back) / 0,5		
Glass		Mat prismatic, extra clear,double antireflective, tempered.		
Insulation (Back and side) thickness / density	mm /Kg/m <sup>3</sup>	Rigid polyurethane thickness 25mm / density 40kg/m <sup>3</sup> & rockwool thickness 30mm / density 50kg/m <sup>3</sup> . A material specifically designed for collectors, with very low contactivity preventing energy loss. Its properties remain unchanged throughout its life cycle. Prevents parasites growth.		
Absorber		Placed on the sides and the back of polyurethane insulation to reflect heat on the absorber.		
Absorbtion	%	95		
Emission	%	5		
Header copper tube Ø / thickness	mm	Ø 22 / 0,70		
Riserer copper tube Ø / thickness	mm	Ø 8 / 0,40		
Number of vertical risers	No.	10	13	13
Maximum operating pressure	Bar	10		
Heat transfer mean		Antifreeze and water solution (monopropylene glycol)		
Layout		Vertical		
Weight (empty & packed)	g K	38	38	43

AVAILABLE  
IN DIFFERENT  
COLOURS  
(PRE-PAINTED  
GALVANIZED  
STEEL SHEET)

### STANDARD



RAL 9006

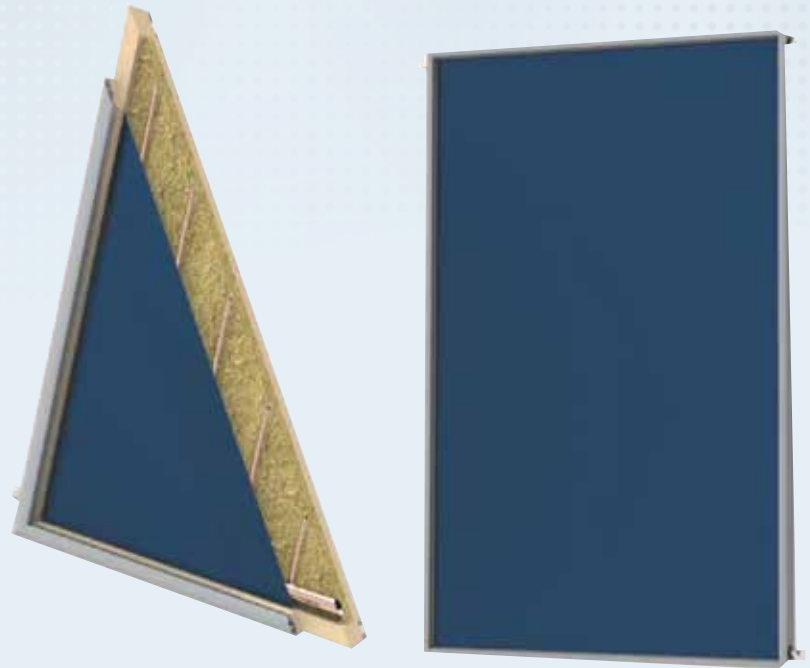
### OPTIONAL EXTERNAL MATERIAL



Magnelis



Aluminum



#### RMD20 (T)

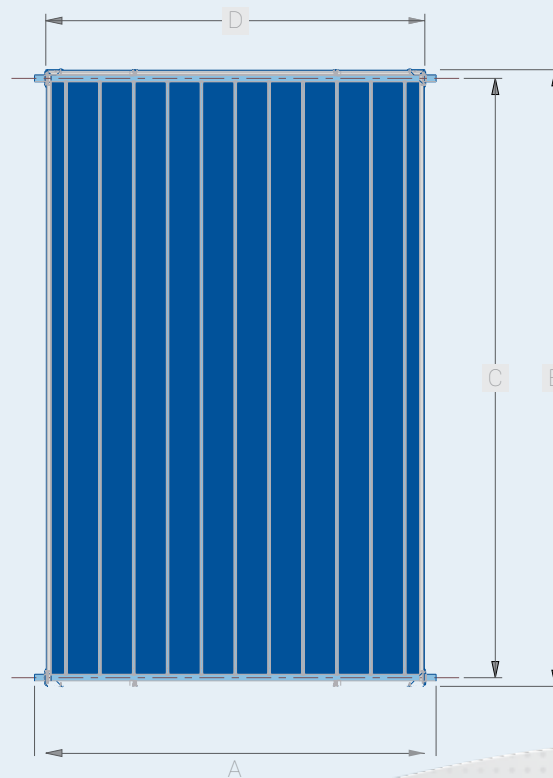
A	1046 mm
B	2020 mm
C	1923 mm
D	990 mm

#### RMD20 (S)

A	1310 mm
B	1594 mm
C	1497 mm
D	1254 mm

#### RMD25

A	1310 mm
B	2020 mm
C	1923 mm
D	1254 mm



# SUPPORT BASES

## RMSF21 Base: Standard ( 21° )

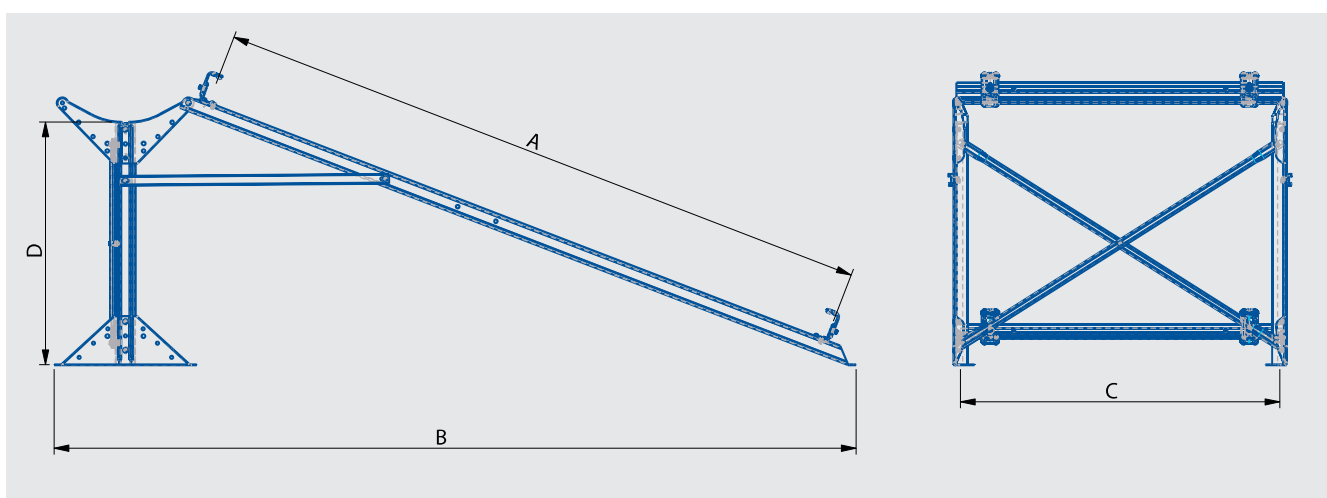
### DIMENSIONS (MM)

A	1875 to 2005
B	2383
C	940
D	720
Kg (one collector)	17,44
Kg (two collectors)	21,98

collector	Collectors Quantity	
2 m <sup>2</sup>	1	2
2,5 m <sup>2</sup>	1	2



MAXIMUM  
SYSTEM  
CAPACITY  
TO SUPPORT  
300L



# RMOF35 Base: Optional ( 25° -35° )

## DIMENSIONS (MM)

A	1885 to 2020
B	2120 (35) to 2135 (25)
C	940
D	1082 (35) to 1175 (25)
Kg (one collector)	18,5
Kg (two collectors)	22,5

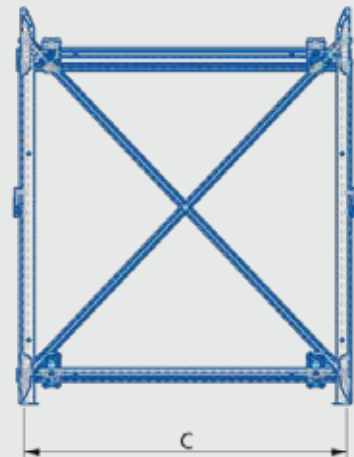
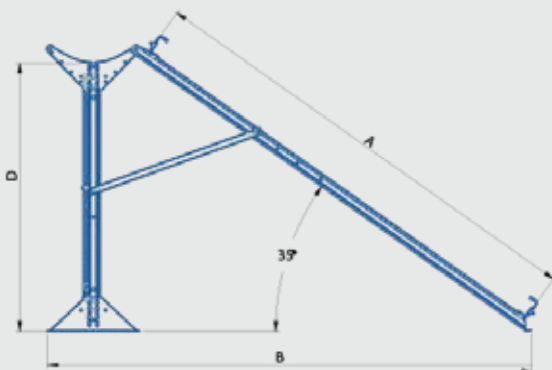
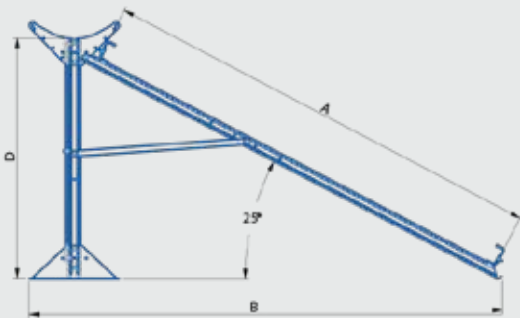
## m<sup>2</sup> collector

## Collectors Quantity

2 m <sup>2</sup>	1	2
2,5 m <sup>2</sup>	1	2



MAXIMUM  
SYSTEM  
CAPACITY  
TO SUPPORT  
300L



# RMOF45 Base: Optional ( 45° )

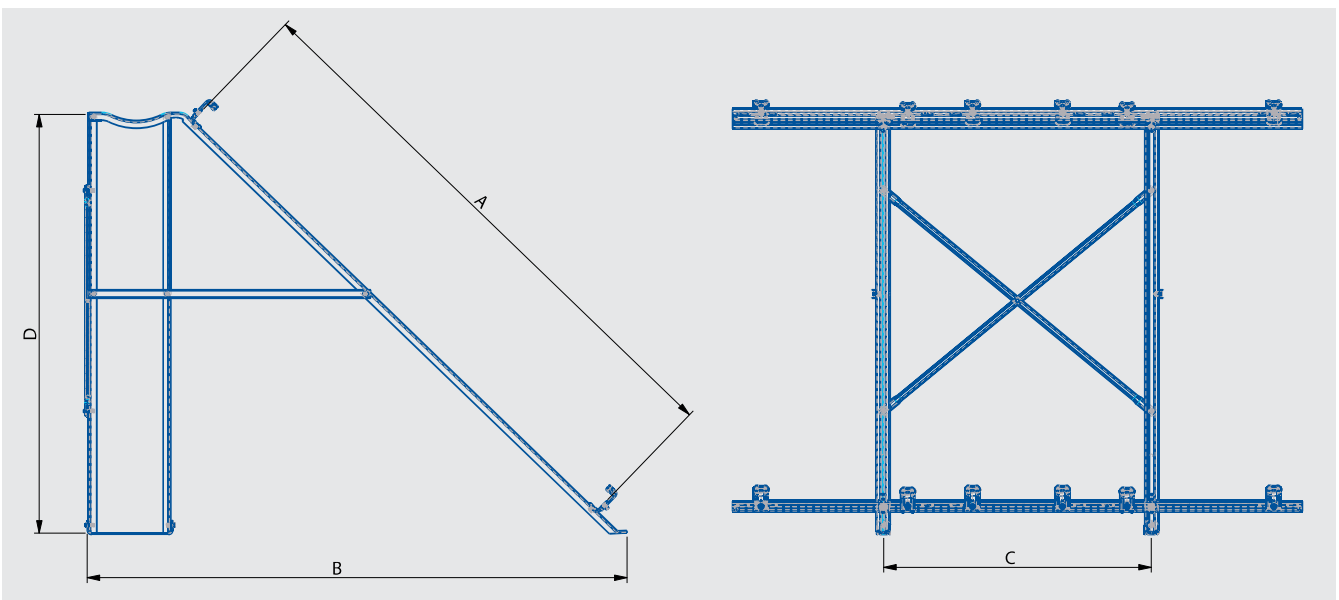
## DIMENSIONS (MM)

<b>A</b>	1405 to 1545	1880 to 2020
<b>B</b>	1561	1895
<b>C</b>	780 / 940	780 / 940
<b>D</b>	1125	1470
<b>Kg (one collector)</b>	18,2	21,62
<b>Kg (two collectors)</b>	21,14	24,88



MAXIMUM  
SYSTEM  
CAPACITY  
TO SUPPORT  
300L

m <sup>2</sup> collector	Collectors Quantity	
1.5 / 2 m <sup>2</sup>	1	2
2,5 m <sup>2</sup>	1	2



# QUALITY CONTROL

FOR MATERIALS AND PRODUCTS





Control  
and development  
of products





### **Exceptional Performance And Value From The Water Heater Experts**

Richmond Water Heaters are manufactured by Rheem®, the company which invented water heaters.

Richmond was named in honor of Rheem's first company headquarters in Richmond California.

The Richmond brand was established in 1983 to offer exceptional performance water heaters.

We put the best materials and workmanship into our Richmond brand to produce water heaters that are exceptional values.

