



Richmond[®]
The Water Heater Experts[™]

THE RICHMOND SOLAR THERMOSYPHON WATER HEATER LINE IS ENGINEERED FOR LONGER LIFE WITH QUALITY STORAGE TANK CASING

Performance

- High quality inner cylinder made of DKP metal sheet 2,5 mm for the entire body and 1,5mm for the jacket. Hydrostatic tested at 15 bar Pressure for 15 minutes as per EN 12976-1:2006, for much greater resistance to high pressure. Suitable for enameling, and totally safe for public health (DIN 51032 & EN 1388-2)
- Single Absorber sheet with selective titanium treatment coating and aluminum substrate for maximum efficiency and operational reliability even at high outside temperatures or by low hot water demand. Copper pipes are laser welded to the absorber, for enhanced resilience and high endurance to contractions-expansions.
- High Transmission low-iron clear tempered glass with anti-reflective coating to maximize the use of available sunlight and special "AR Coating" surface to repel water drops and enhance the self-cleaning ability of the product.
- Insulation from mineral wool with 30mm tick / density 50kg/m³, for high performance and minimum heat losses from the collector, with extra attributes against humidity, preventing the appearance of blurs-water drops inside the glass of the collector, at high temperature.

Longer Life

- Solar thermosyphon storage tank has an exterior casing made from pre-painted galvanized steel, durable to rough climate conditions, long-lasting and with anti-corrosion attributes. Optional material of external casing from stainless steel for extreme humid climates and coastal areas and Magnelis with self-healing attributes.

- The sealed jacket around the cylinder of the storage tank is designed to offer better recirculation of the system, securing the collectors against corrosion and interior clogging, and combined with special anti-freeze liquid it can sustain freeze conditions up to -37 °C.
- Interior protection with new direct type liquid enamel technology, cured at 850°C. Measurement of the thickness of the enamel coating is carried out using a coating thickness calibrated Ultrasonic measuring instrument, to ensure the perfect enamel application inside the tanks, the long-life span of the tank and resilience to waters with high salinity content. Certified by WRAS (DIN 4753-3).

Features

- Optional Trivalent tanks with heat exchanger fixed inside the tank, with large surface coil produced from the same material as the inner cylinder and enameled, avoiding electrolysis phenomenon. The coil heat exchanger can be connected with the central heating system achieving more energy saving.
- Collector has a special tempered glass (3.2mm thick) and tested for maximum load pressure without damage, against wind and other weather conditions of up to 3.000 Pa.
- Solar units with special mounting structures design from reinforced single-piece metal for enhanced strength to withstand bad weather conditions (winds up to 130km/h). Ergonomic design with a wide range of inclination and material, with easy and quick installation to enrich the stability and reduce the weight of the overall system. Rubber clips connecting the collector to the



Solar Thermosyphon
150 to 200-Liter Capacities
with one collector
200 to 300-Liter Capacities with
two collectors
15 BAR Pressure Tested
Closed Circuit Natural Circulation



support base, allows easy installation for various types and sizes of collectors.

- Connection pipes protected with special cover to withstand ultraviolet rays and hard weather conditions.
- Magnesium Anode with high-capacity HP A263, with enhanced anti-corrosion attributes, lightweight and easily removable. Comes in two sizes.
- Quality controls in all stages of production, including ultra-sound technics, metal quality measurements (sclerometers, fasmatograph, etc.), performance tests, high pressure test blasts to the tank and various other technics inspected through certifications and in-house testing.

ADDITIONAL INFORMATION:

EXTRA SPECIFICATIONS TANKS:

- Manufactured in accordance with European specification EN 12976
- Double or triple energy – Connection with boiler
- Manufactured from sheets complying with EN 10130, AI 1998 DCP
- Insulation from environmentally friendly polyurethane 48kg/m³ with a thickness of 50mm
- Anticorrosion protection using liquid enamel in accordance with DIN4753 and magnesium anode in accor-



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- dance with DIN12438-2.2
- Metal surface external coating in a color of your choice
- Available in 150 to 300L
- Special design for high performance even in areas with high water hardness and high salt creep

EXTRA ADVANTAGES TANKS:

- Antibacterial design for heating drinking water
- Consistent and immediate hot water supply
- Functional design
- Easy and fast installation
- Small footprint
- 5 year warranty
- Can be connected with central heating system and electricity
- Long life

BRIEF PRESENTATION OF THE RMA20 COLLECTOR:

The flat collectors RMA20 have the Full-face selective coating. The cover of the collector is constructed by special undivided pre-painted (UV protected color) metal sheet, which has a test certificate for endurance in near-coastal areas. It is specially designed to be attuned with the rest of the parts by giving solidity and contributing to the preservation of its efficiency. There is a safety glass panel with low iron content (Low Iron). The RMA20 has a high permeability Clear Tempered glass panel that increases the amount of solar radiation on the collector's coating and as a result its efficiency. In conclusion, the collectors have a powerful mineral wool insulation designed not to create sprays at high temperatures and avoid humidity. These sprays form a scale on the glass panel and decrease its permeability.

NEW OPTIONAL COLLECTORS:

RMB20 – upgraded product with Mat prismatic, extra clear, tempered glass, and higher certified performance of the collector, certified with Solar Keymark

RMC20 – Collector with Mat prismatic, extra clear, double antireflective, tempered glass and also absorber with

increased vertical copper risers for even higher performance, certified with Solar Keymark

SUPPORT BASE BRIEF PRESENTATION:

RICHMOND metal fixation supports are manufactured taking into consideration the resistance, stability and ergonomics, providing solutions in many installation and transportation problems of the past. The metal fixation structures are supplied with screws and bolts, needless to have any welding done for the completion of the installation. This way the whole installation becomes less time consuming. They are manufactured of galvanized hot rolled metal sheet of 2mm thickness in contemporary sheet metal manufacturing machinery that provide accuracy and flexibility to the final structure, while they are designed to resist against time and under adverse weather conditions. In addition the whole system, thanks to its design, covers less space when packed, making the transportation and storage easier. And finally thanks to their ergonomic design their installation can be effected even by no certified person, simply by following the manual instructions.

With this system we achieve the following:

- Easy installation
- Less storage space
- Logistics cost reduction
- Easy transportation
- Lower installation cost

TANKS:

- Flanges are automatically pressured on the tank and sealed together with silicon component, ensuring waterproof attributes and easy removal for maintenance.
- Standard extra pipe connection on all tanks, that can be used for more functional flexibility, such as pressure and temperature valve, recirculation, sensor, ventilation, etc.

- Double provisions for closed circuit, which can be used either for ventilation, filling or connection to the metal expansion tank.

COLLECTORS:

- Back side of the collector is made from one piece compact tray, with neither side profiles, connections nor epdm, for even better insulation. available in 3 different materials – pre-painted galvanised steel, aluminum and magnelis
- Absorber design with up to 16 risers for great performance and absorption of utmost thermal energy.
- Special ventilation system through grides to avoid internal condensations and allow the air flow from inside the collector.
- Packaging of the collectors with expandable polystyrene components are placed ergonomically on the pallet, for safe transportation and maximum loading capacity

SUPPORT BASE:

- Mounting structure, with the supply of detailed installation manual, are easy and quick to install. manual video instructions is also available.
- Mounting structures are produced of reinforced single-piece metal, without any welding, for enhanced strength.
- Produced with ergonomic design to enrich the strength & stability and reduce the weight, preventing from adding extra burden on the system's overall weight.
- Strong metal, certified for complete solar water heater installation to withstand cyclonic weather conditions and winds up to 130 km/h
- Innovative rubber clips on top and bottom of the support base to embrace the collector, cutting thermal bridge and improving steadiness. compatible with any type and size of collector

SOLAR THERMOSYPHON

- 120 to 200-Liter Capacities with one collector
- 200 to 300-Liter Capacities with two collectors
- 15 BAR Pressure Tested (EN 12976-1, 4.1.6)



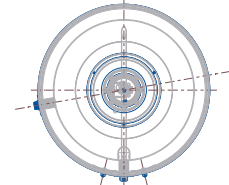
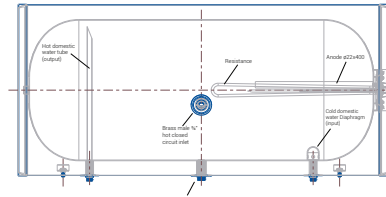
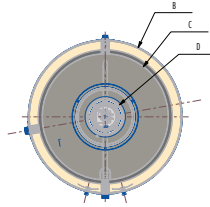
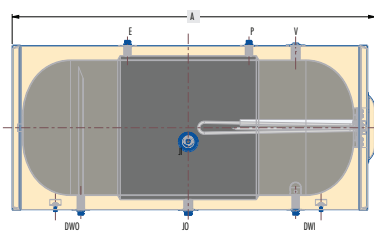


CLOSED LOOP TANK (INDIRECT)

- **External Casing:** Pre painted galvanized steel (Optional : Stainless-Steel, Magnelis)
- **Tank's Insulation:** Hard polyurethane foam 48kg/m3 (DIN 53420), self-extinguishing (DIN 4102)
- **Cylinder's Material:** DKP metal steel 2.5 mm
- **Jacket's Material:** DKP metal steel 1.5 mm
- **Cylinder Internal Protection:** Liquid glass enameling
- **Additional Protection:** Magnesium rod
- **Electric Resistance:** SS316 Stainless Steel
- **Thermostat:** Bipolar of four contacts
- **Power Rate:** Available from 1.5kw – 3.5kw

OPEN LOOP TANK (DIRECT)

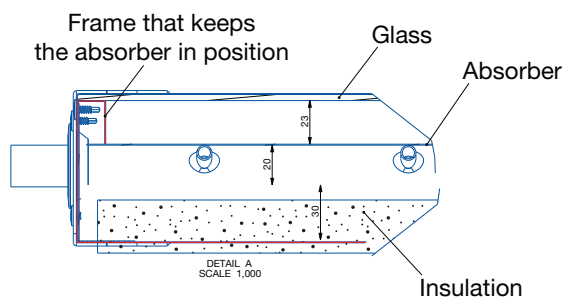
- **External Casing:** Pre painted galvanized steel (Optional : Stainless-Steel, Magnelis)
- **Tank's Insulation:** Hard polyurethane foam 48kg/m3 (DIN 53420), self-extinguishing (DIN 4102)
- **Cylinder's Material:** DKP metal steel 2.5 mm
- **Cylinder Internal Protection:** Liquid glass enameling
- **Additional Protection:** Magnesium rod
- **Electric Resistance:** SS316 Stainless Steel
- **Thermostat:** Bipolar of four contacts
- **Power Rate:** Available from 1.5kw – 3.5kw



TECHNICAL SPECIFICATIONS OF THE COLLECTOR

- Pre-painted galvanized steel (optional Aluminum, Magnelis)
- Pre-painted galvanized steel - 0,5 mm
- Mineral Wool thickness 30mm / density 50 kg/m3
- One piece plate sheet with selective titanium anti-reflective treatment
- Risers Ø8 & Headers Ø22
- Clear-tempered glass (optional Mat prismatic extra clear tempered and mat prismatic extra clear double anti-reflective)
- Elastomeric silicon sealant and metal frames
- Collector with titanium selective anti-reflective absorber

Collector with titanium selective absorber





Technical Specifications: System

Standard Configuration: A (Clear Tempered, Mineral R 10/11 : GA 1.88m2)									
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 1.88m2)									
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 1.88m2)									
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 m2 Tall									
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	RMUO200LC1-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

