



ENGLISH

**Solar Water Heaters**  
**WITH UNIVERSAL MOUNTING STRUCTURE**

*Technical Data Sheet*

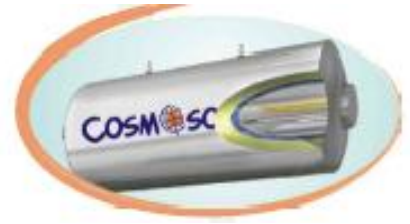


AVAILABLE IN 0 - 45° ANGLE

*A solution made from* **COSMOSOLAR**

## 1. technical specifications of the cylinders

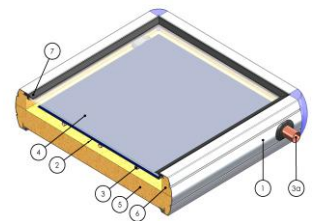
- Interior: low carbon steel 2.5 mm thick, double enameled at 860 °C (DIN 4753/T3) double coating of 1.5 micro.
- Heat exchanger: jacket (mantel) type of the above material, 1,5 mm thick, with wide exchange surface. The mantel surrounds the inner tank offering a better distribution of the thermal fluid and thus a better exchange.
- Heat exchanger outlets: bronze F ¾".
- Cylinder's outlets: bronze M ½".
- Safety valves outlet: bronze F ½".
- Patented diffusers ENERGON®:
  - one in the inlet of the jacket (mantel) forcing the thermal fluid coming from the collectors to be distributed in the mantel,
  - another one in the cold water inlet of the inner tank, distributing the water coming from the water supply of the house throughout the tank, offering this way a better stratification. Practically, we have a slow reduction of the temperature of the water when used.
- Insulation: expanded P.U. (52 kgr/m³) 50 mm thick, CFC free.
- P.U. thermal conductivity: 0,0180 W/mK
- Outer cover: steel, oven painting treatment, Seaside Class.
- Side covers: steel, oven painting treatment, Seaside Class.
- Protection against electrolysis (cathodic protection): replaceable magnesium rod Ø 22 mm, L = 500 mm.
- Inspection flange / electrical back up: Ø 140mm.
- Electrical back up included, with safety thermostat (overheating) of power according place of destination (1.5 – 4.0Kw).



| Tank model                   | BL GL 120  | BL GL 160  | BL GL 200  | BL GL 250  | BL GL 300  |
|------------------------------|------------|------------|------------|------------|------------|
| Dimensions (mm)              | 1120 x 530 | 1150 x 540 | 1180 x 580 | 2050 x 580 | 2050 x 580 |
| Weight empty (kg)            | 54         | 64         | 70         | 98         | 120        |
| Heat exchanger capacity (lt) | 8,5        | 11,2       | 12,1       | 15,3       | 18         |

## 2. technical specifications of the collectors

- Profile: anodized aluminum type Al Mg Si 0,5. (1)
- Absorber of black paint collectors: unique aluminum foil 5mm thick, treatment: "black solvent paint" (2)
- Absorption coefficient of black paint absorbers:  $\alpha = 0,90$
- Emission coefficient of black paint absorbers:  $\varepsilon = 0,83$
- Absorber of collectors: aluminum 5mm thick, treatment: titanium selective / black solvent paint (2)
- Absorption coefficient of selective absorbers:  $\alpha = 0,95$
- Emission coefficient of selective absorbers:  $\varepsilon = 0,05 \pm 0.02$
- Copper headers and collector outlets: Ø = 22 mm (3)
- Copper risers: Ø = 10 mm (4)
- Glass cover : tempered low iron, 4 mm thick (5)
- Glass trasmissivity:  $\tau = 0,93$
- Insulation : rock wool 30 mm thick (6)
- Rear part material: aluminum type Al Mg Si 0,5
- Sealing materials: PU, black silicone & EPDM rubber (8)



Limitations:

Stagnation temperature: 184 °C

Max. Working pressure: 10 bars / 1000kpa

## COLLECTORS TECHNICAL SPECIFICATIONS

| MODEL  | DIMENSIONS (mm) | ABSORBER  | GROSS AREA (m <sup>2</sup> ) | NET AREA (m <sup>2</sup> ) | CAPACITY (lt) | WEIGHT EMPTY (kg) | STAGNATION TEMPERATURE |
|--------|-----------------|-----------|------------------------------|----------------------------|---------------|-------------------|------------------------|
| EPI 54 | 1277x2017       | Selective | 2,58                         | 2,26                       | 1,70          | 47,0              | 184 °c                 |
| EPI 25 | 1180x1900       | Selective | 2,00                         | 1.768                      | 1,62          | 41,0              |                        |
| EPI 16 | 1000x2000       | Selective | 2,30                         | 1,995                      | 1,50          | 37,5              |                        |

### Anex I: list of accessories

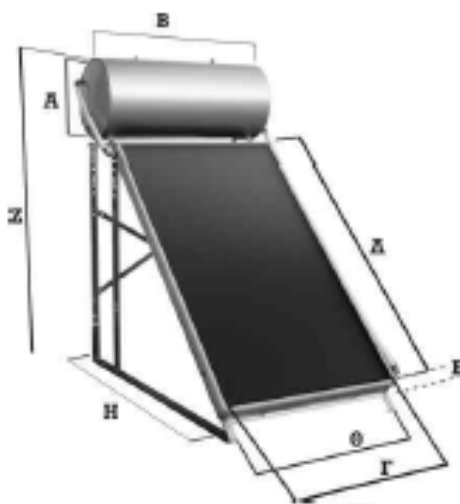
| No  | ACCESORY                                             | Ø,<br>UNIT,<br>mt            | QUANTITY<br>120 - 200lt<br>(300lt) |
|-----|------------------------------------------------------|------------------------------|------------------------------------|
| 1.  | Closed loop safety valve                             | ½' 2,5 bar                   | 2                                  |
| 2.  | Water supply safety valve                            | ½ ' 10.5 bar                 | 1                                  |
| 3.  | Hose's insulation                                    | 9-22 (mt)                    | 4,00                               |
| 4.  | Brackets/ cylinder screws                            | M10 x 20                     | 15                                 |
| 5.  | Brackets screws                                      | M10 x 60                     | 6                                  |
| 6.  | Bold nuts                                            | M10                          | 21                                 |
| 7.  | Collector/ brackets screws                           | M8 x 20                      | 6 (10)                             |
| 8.  | Cylinder's fixing metal washers                      | M10 x 30                     | 4                                  |
| 9.  | Collector's fixing metal washers                     | M8 x 24                      | 6 (10)                             |
| 10. | Reducer (safety valve's outlet)                      | From ¾ to ½                  | 1                                  |
| 11. | Fitting ½ (reducer x safety valve)                   | ½ M x ½ M                    | 1                                  |
| 12. | Elbow fitting (pipe x collector outlers)             | 90° Ø 22 copper x Ø 22 clamp | 2                                  |
| 13. | Elbow fitting (jacket's cold outlet)                 | 90° ¾ M x Ø 22 clamp         | 1                                  |
| 14. | Fitting clamp (jcket's hot inlet)                    | H3/4 x Ø22 clamp             | 1                                  |
| 15. | Antifreeze liquid                                    | (lt)                         | 2 (3)                              |
| 16. | Copper pipe joints (collector connexion in parallel) | Ø 22                         | (2)                                |

## ANEX II

## weight of available systems

| model    | No of collectors<br>m <sup>2</sup> | Weight empty |
|----------|------------------------------------|--------------|
| 120/2.05 | 1 x 2,05                           | 116.40       |
| 160/2.05 | 1 x 2,05                           | 126.40       |
| 160/2.30 | 1 x 2,30                           | 131.90       |
| 200/2.30 | 1 x 2,30                           | 137.90       |
| 200/2.58 | 1 x 2,58                           | 147.90       |
| 200/3.00 | 1 x 3,00                           | 158.30       |
| 250/4.10 | 2 x 2.05                           | 202.30       |
| 300/4.10 | 2 x 2.05                           | 224.30       |

## Dimensions of solar water heaters



| MODEL    | No OF COLLECTORS | GROSS AREA (m <sup>2</sup> ) | CYLINDER'S DIMENSIONS (mm) |      | COLLECTOR'S DIMENSIONS (mm) |      |    | (mm)  | (mm) | (mm)  | (mm) | (mm) |
|----------|------------------|------------------------------|----------------------------|------|-----------------------------|------|----|-------|------|-------|------|------|
|          |                  |                              | A                          | B    | Γ                           | Δ    | E  | Z 45° | Z 0° | Z 26° | H    | Θ    |
| 120/2,05 | 1                | 1x2,05                       | 530                        | 1120 | 1000                        | 2000 | 80 | 2030  | 560  | 1514  | 1795 | 860  |
| 160/2,05 | 1                | 1x2,05                       | 540                        | 1150 | 1000                        | 2000 | 80 | 2040  | 570  | 1524  | 1795 | 860  |
| 160/2,30 | 1                | 1x2,30                       | 540                        | 1150 | 1180                        | 1900 | 80 | 2030  | 570  | 1524  | 1795 | 860  |
| 200/2,30 | 1                | 1x2,30                       | 580                        | 1180 | 1180                        | 1900 | 80 | 2070  | 580  | 1564  | 1795 | 860  |
| 200/2,58 | 1                | 1x2,57                       | 580                        | 1180 | 1250                        | 2000 | 80 | 2080  | 610  | 1574  | 1795 | 860  |
| 200/3,00 | 1                | 1x3,00                       | 580                        | 1180 | 1500                        | 2000 | 80 | 2080  | 610  | 1574  | 1795 | 1040 |
| 250/4,10 | 2                | 2x2,05                       | 580                        | 2050 | 2400                        | 2000 | 80 | 2080  | 610  | 1574  | 1795 | 1040 |
| 300/4,10 | 2                | 2x2,05                       | 580                        | 2050 | 2400                        | 2000 | 80 | 2080  | 610  | 1574  | 1795 | 1040 |

Other available models: 80 and 500 ltrs

### BRACKETS LIMITATIONS:

Maximum snow load: 56kg/m<sup>2</sup>

Maximum wind load: 1.04kN/m<sup>2</sup>