



GROUND-MOUNTED DIRECT SYSTEMS

MDV SERIES - OPEN CIRCUIT SPLIT SYSTEM

Solahart MDV series is an open circuit split system solar water heater with roof mounted slimline collectors and a tank that can be installed discreetly on the ground.

MDV solar storage tank systems provide an increase in solar energy savings. Solar energy is transferred directly to the water as it is moved through the collectors by a circulator and the heated water is stored in the ground-mounted tank.

This system is available with two types of solar collectors: The L collector with its polyester powder coated aluminium absorber plate which provides economical service in medium to high solar gain areas, and the higher efficiency CSA2007 Envelope collector with its sputtered selective surface copper absorber plate which is suitable for use in lower solar gain areas.

These direct systems have limited frost protection and are not suitable for harsh water regions.[^]



L Collector



ELECTRIC OR GAS BOOSTING FOR HOT WATER REGARDLESS OF THE WEATHER

HOW YOU BENEFIT



OPTIMAL PERFORMANCE

L Collector
Provides optimal performance in **medium to high** solar gain areas.



HIGH PERFORMANCE

CSA2007 Collector
Provides higher performance in **low to medium** solar gain areas.



LOW VISUAL IMPACT

Slim roof-mounted collectors with a tank installed discreetly on the ground.



REDUCE ENERGY USE

Water heating energy use may be reduced by up to **65% to 75%** and could save up to 1.7 to 2.9 tonnes of CO₂ emissions per annum when replacing an electric water heater.[#]

Technical Data

| MODELS | MLV - DIRECT SYSTEMS | | | | | | | MCSV - DIRECT SYSTEMS | | | |
|--------------------|----------------------|--------|--------|--------|--------|--------|--------|-----------------------|---------|---------|---------|
| Systems | 272MLV | 273MLV | 322MLV | 323MLV | 412MLV | 413MLV | 414MLV | 272MCSV | 322MCSV | 412MCSV | 413MCSV |
| Tank model | 270MDV | 270MDV | 320MDV | 320MDV | 410MDV | 410MDV | 410MDV | 270MDV | 320MDV | 410MDV | 410MDV |
| Collector model | L | L | L | L | L | L | L | CSA2007 | CSA2007 | CSA2007 | CSA2007 |
| Collector number | 2 | 3 | 2 | 3 | 2 | 3 | 4 | 2 | 2 | 2 | 3 |
| Solahart Warranty* | 5/3/2 | | | | | | | 5/3/2 | | | |

| Solar Storage Tank Model | 270MDV | 320MDV | 410MDV | |
|--------------------------|------------------|--------|--------|-------|
| Installation | Indoor / Outdoor | | | |
| Nominal storage capacity | litres | 270 | 320 | 410 |
| | US gal | 71.3 | 84.5 | 108.3 |
| Boost capacity | litres | 140 | 170 | 220 |
| | US gal | 37 | 44.9 | 58.10 |
| Weight empty | kg | 76 | 91 | 113 |
| | lbs | 168 | 201 | 249 |
| Weight full | kg | 346 | 417 | 529 |
| | lbs | 763 | 920 | 1167 |
| Height | m | 1.395 | 1.640 | 1.840 |
| | in | 54.9 | 64.6 | 72.5 |
| Width | m | 0.640 | 0.640 | 0.690 |
| | in | 25.2 | 25.2 | 27.2 |
| Depth | m | 0.680 | 0.680 | 0.730 |
| | in | 26.8 | 26.8 | 28.7 |
| Solar controller kit | PN 299284 | 1 | 1 | 1 |

| Collectors | L Collectors | CSA2007 Collectors | |
|----------------------------|----------------------------------|-----------------------------|---------------------------|
| Aperture (heating) area | m ² / ft ² | 1.87 / 20 | 1.87 / 20 |
| Dimensions | length - mm / in | 1943 / 76.5 | 1996 / 78.6 |
| | width - mm / in | 1027 / 40.5 | 1043 / 41.1 |
| | height - mm / in | 83 / 3.3 | 82 / 3.2 |
| Working pressure | kPa / psi | 1000 / 145 | 1000 / 145 |
| Capacity | litres / US gal | 1.5 / 0.4 | 1.5 / 0.4 |
| Weight empty | kg / lbs | 32 / 71 | 36 / 80 |
| Weight full incl. fittings | kg / lbs | 34 / 75 | 38 / 84 |
| Absorber surface | | Black polyester powder coat | Tinox sputtered selective |
| Absorber material | | Aluminium | Copper |
| Riser material | | Copper tube | Copper tube |
| Tray material | | 0.7 mm aluminium | N/A |
| Frame material | | N/A | Extruded aluminium |
| Insulation material | Base | 38 mm polyester blanket | 38 mm glass wool blanket |
| Glass | | 3.2 mm tempered low iron | 3.2 mm tempered low iron |

| Collector Installation | 2 | 3 | 4 | |
|--------------------------------|-------------|------|-------|-------|
| Roof area dimensions | | | | |
| Length ⁽¹⁾ | m | 2.0 | 2.0 | 2.0 |
| | in | 78.8 | 78.8 | 78.8 |
| Width ⁽¹⁾ | m | 2.3 | 3.4 | 4.5 |
| | in | 90.6 | 133.9 | 177.2 |
| Solar kits - L collector | | | | |
| Collector kit | PN 12104297 | 1 | 1 | 1 |
| Collector add on kit | PN 12104405 | 0 | 1 | 2 |
| Solar kits - CSA2007 collector | | | | |
| Collector kit | PN 12103016 | 1 | 1 | N/A |
| Collector add on kit | PN 12103017 | 0 | 1 | N/A |

⁽¹⁾ An additional 0.9m (35.4in) should be left on all four sides of the installation for safe access and servicing.

⁽²⁾ Expansion Control Valve (ECV) is not supplied.

The Streamline MLV and MCSV systems can be installed as a solar preheater with an inline Solahart gas booster water heater. Refer to the Solahart gas booster specification sheet for further details on the gas booster.

| Electric Boost Specifications | | | | |
|--|---------------------------------|------------------|------------------|------------------|
| Heating unit type | Copper sheath immersion element | | | |
| Supply voltage | 240 V 50 Hz | | | |
| Recovery rate @ 240 V temperature rise of: | | | | |
| Rating kW | Current Amps | 30°C litres/hour | 40°C litres/hour | 50°C litres/hour |
| 3.6 | 15 | 103 | 77 | 62 |

| Water Supply | | |
|----------------------------------|----------------------|--|
| TPR valve setting | kPa / psi 1000 / 145 | |
| ECV ⁽²⁾ setting | kPa / psi 850 / 125 | |
| Max. supply pressure with ECV | kPa / psi 680 / 100 | |
| Max. supply pressure without ECV | kPa / psi 800 / 115 | |
| Min. supply pressure | kPa / psi 200 / 29 | |
| Water connections | cold | Rp 3/4 |
| | hot | Rp 3/4 |
| | solar | DN15 compression fittings (solar hot and solar cold inlets to tank Rp 3/4) |

Energy savings of up to 65% to 75% shown are based on Australian Government approved TRNSYS simulation modelling of a Solahart 322MLV and 322MCSV and using a medium load in Zone 3 and apply when replacing an electric water heater. Any savings will vary depending upon your location, type of Solahart system installed, orientation and inclination of the solar collectors, type of water heater being replaced, hot water consumption and fuel tariff. Maximum financial savings off your hot water bill are achievable when replacing an electric water heater on continuous tariff. Refer to solahart.com.au for more information.

* Solahart Warranty Details: 5/3/2 warranty; 5 year cylinder and collector supply, 3 year cylinder and collector labour, 2 year parts supply including labour; applies to a single family domestic dwelling only. All other applications have a 3/1/1/1 warranty; 3 year cylinder supply, 1 year collector supply, 1 year parts supply, 1 year labour.

^ Limited Frost Protection – these systems have a level of freeze protection designed to guard against freeze conditions. These systems have a Solahart warranty for freeze damage (Australia only – conditions apply) when the water heater is installed at an altitude not exceeding 400 m above sea level. Harsh water regions – the Solahart warranty may not apply if the water heater is connected to a water supply which: is scaling with a saturation index >0.8, or; is corrosive with a saturation index <-1.0, or; has a Total Dissolved Solids content >2500mg/L.

Specifications and designs included in this data sheet are subject to change without notice.

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