



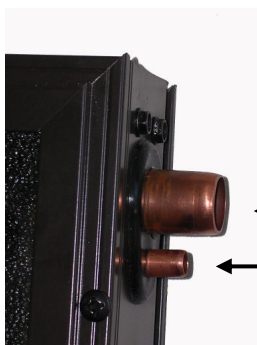
## Flat Plate Solar Collector



**Product Description** Trimline Design Centre Inc. flat plate liquid collectors are single glazed with low-iron tempered glass. The absorber is an arrangement of parallel riser fins connected to top and bottom headers. The copper riser tubes are soldered to internal manifolds (headers), which are available in either 3/4" or 1" diameter copper pipe. The headers are available in closed loop (parallel) or drain back design; in drain back the internal header design is such that it facilitates the draining of fluid when the pump stops. The back and sides are insulated with a 25 mm (1") layer of compressed fiberglass. The collector frame is extruded aluminum with a baked-enamel finish, (dark brown). Collector mounting is by way of a sliding bolt-track. Flush and racked collector mounting formats are easily accommodated.

**Glazing System** Glazing is a 3.2 mm (1/8") single sheet of low-iron tempered glass with an Iron oxide content of 0.03%. All glazing is tempered with swiped edges and has a shallow stipple pattern to reduce specular reflectance. Design Pressure is 2.87 kPa (.416 psi) for 1/8 inch glass with a design factor of 2.5. Tensile strength is 152 MPa (22,000 psi) with a 2.5 safety factor. Glazing can withstand 542 J (400 ft-lb) soft-body impact, 3 to 5 times stronger than annealed glass.

**Absorber System** The absorber consists of parallel absorber fins. Aluminum absorber fins with integral copper riser tubes, or copper absorber fins with integral copper riser tubes are available. The aluminum absorber coating is Anodic-Cobalt selective surface or black paint selective surface. The copper absorber coating is only available with a black paint selective surface.



### Features

- Absorbers: aluminum absorbers with copper riser; or copper absorbers with copper riser.
- Absorber coatings: selective Anodic-Cobalt™ surface; or black paint selective surface.
- Header manifolds: 3/4" or 1" manifolds.
- Factory installed temperature sensor ports provide quick and simple access.
- System design: closed loop system with parallel headers; or drainback system with bottom header set at an angle to facilitate fluid draining.

**Operation** Collectors can be used in open or closed loop systems with most common heat transfer fluids, with the exception of untreated water.

- **Recommended Flow Rate:** 0.8 to 2.5 L/min (0.18 to 0.55 IGPM)
- **Maximum Operating Pressure:** Factory tested to 1724 kPa (250 psi).
- **Recommended Operating Pressure:** Below 200 kPa (30 psi) for drainback systems and 135-270 kPa (20-40 psi) for closed loop systems.
- **Maximum Operating Temperature:** 300°C (570°F).
- **Stagnation Temperature:** Collector stagnation temperature is approximately 170°C (338°F).
- **Recommended Heat Transfer Fluids:** Propylene glycol USP, food grade antifreeze solution for closed loop systems, and distilled water for drainback systems. The use of inhibited glycols is not recommended. DO NOT use ethylene glycol.



**Closed Loop System Design**



**Drainback System Design**

**Dimensions:** 1.20 m x 2.47 m x 0.086 m; 47-3/8 in x 97-3/8 in x 3-3/8 in

**Orientation:** Available in vertical and horizontal formats

**Area:** Gross - 2.96 m<sup>2</sup> (31.9 ft<sup>2</sup>); Aperture - 2.78 m<sup>2</sup> (30.0 ft<sup>2</sup>); Absorber - 2.87 m<sup>2</sup> (30.9 ft<sup>2</sup>)

**Volume:** 19 mm (3/4") header - 1.84 liter (0.40 IG) 25 mm (1") header - 2.40 liter (0.53 IG)

**Weight:** Net: 45 kg (99 lb); Shipping: 47 kg (104 lb)



**MADE IN EDMONTON ALBERTA CANADA**

