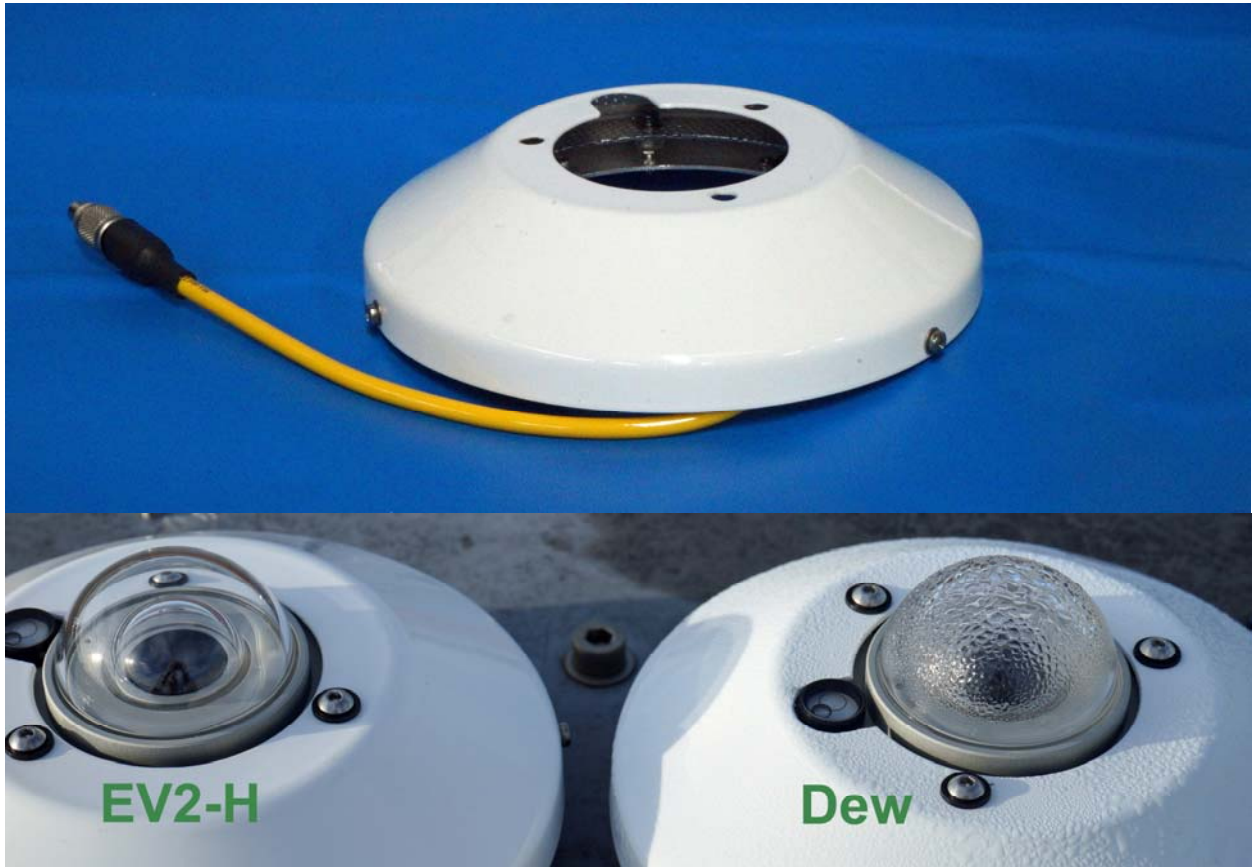




MIDDLETON SOLAR
EV2-H VENTILATOR / HEATER UNIT
APPLICATION NOTE



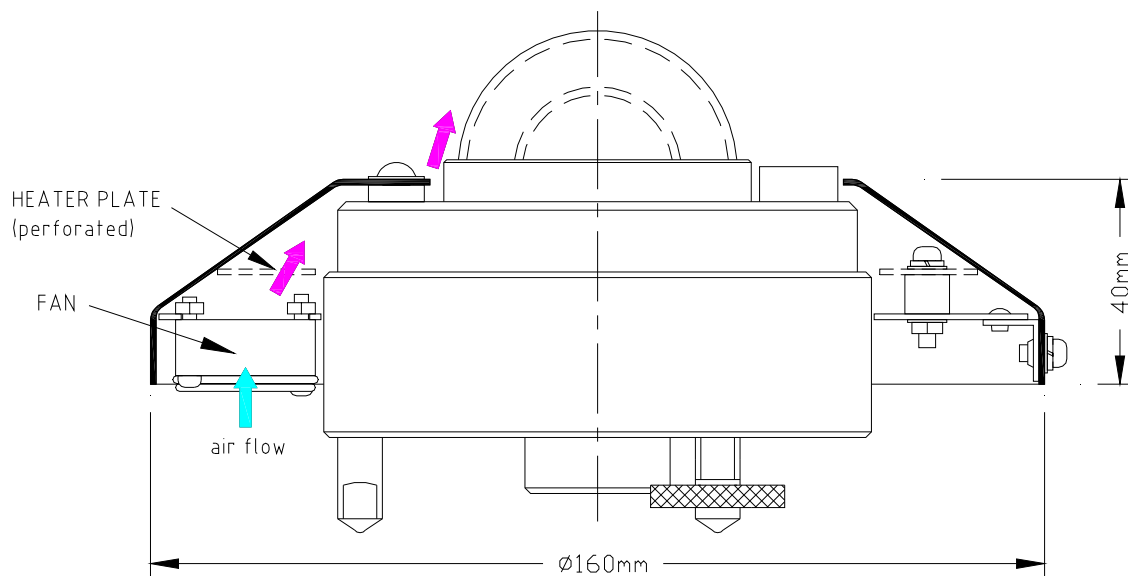
The EV2-H Ventilator / Heater Unit improves measurement dependability. It reduces the formation of dew and frost on the window of a Middleton Solar pyranometer or pyrgeometer. The compact EV2-H Unit is fully integrated into a regular Shade Disk. Turbulent air exits around the window perimeter to keep the window dry and clear. A heater is included to warm the air to further assist with drying.

- **fits directly to instrument, no modifications required**
- **exactly the same size as a standard Shade Disk**
- **dual high-efficiency dust-resistant micro fans**
- **fan operation only, or fan + heating operation**
- **reduces dew & frost formation, clears raindrops**
- **improves thermal stability of sensor**

Compatible pyranometers include:

EQ08; EQ08-E; EQ08-S; EQ08-SE; EQ08-SQ; EQ08-ST; ER08-S; ER08-SE.

Compatible pyrgeometers include: PG01; PG01-E.



Installation:

- 1) Remove the Shade Disk from the pyranometer or pyrgeometer, and discard
- 2) Check that the instrument bubble level is oriented close to the lead connector
- unscrew the body from the top, and re-orient if necessary
- 3) Place the three existing Shade Disk Spacers onto the instrument top.
- 4) Fit the EV2-H Unit onto the instrument
- use three existing screws and washers

Operation:

- 1) Mount pyranometer or pyrgeometer outdoors as normal.
- 2) Connect EV2-H to 12VDC power
 - red to +12VDC
 - blue to 0VDC (to operate fan only)
 - blue + green to 0VDC (to operate fan + heater)
 only operate the heater with the fan also operating

Specification

air flow rate	1.5 litre/sec
heater power	6W
increase of air temperature	2°C, when heater activated
offset when heater activated	-1.0 W.m-2, for pyranometer 0 W.m-2, for pyrgeometer
power requirement	12VDC, 0.15A (fan only) 12VDC, 0.65A (fan + heater)
operating temperature	-40 to +70°C,
ingress protection rating	IP54
fan life expectancy	60,000 hours
lead	6m, with in-line connector
weight	0.2kg (excludes lead)