



Motor Aspirated Temperature Shield S1076Z

- High air flow rate
- Delta-T accuracy within 0.10°C
- Blocked air flow alarm

This aspirated radiation shield is designed to provide maximum sensor protection from incoming short wave solar radiation, as well as outgoing long wave radiation—and to provide excellent sensor contact with the incoming ambient air.

The sensor shield employs concentric downward-facing intake tubes for thermal separation and isolation of the sensors. The temperature sensor is mounted vertically within the shield. Intake air flows between the inner and outer shield tubes, as well as across the sensor. This construction minimizes heat transfer from outer to inner surfaces, while providing a low conduction, high reflection outside surface. The white thermoplastic material is a special formulation for maximum weatherability, and provides low thermo-conductivity and low heat retention. A secondary radiation shield, mounted below the temperature sensor, blocks reflected radiation during the day, and minimizes cooling during the night.

Field testing indicates that in a typical monitoring situation, including maximum solar radiation, rapid nighttime cooling, precipitation, and variable wind conditions, ambient temperature can be continuously measured with an RMS error of less than 0.2°C. With identical shields and matched sensors at two elevations, delta-T can be measured within 0.10°C.

Currently, this is the only shield that has a switch which is essentially a paddle on the end of the air flow tube that is pushed open by the correct amount of air flow. This switch is monitored electronically, and the information (whether opened or closed) is included in the data stream. This allows you to tell not only if the fan is operating, but also if there is blockage of the air passage (insects, debris, etc.) With other shields, the current drawn by the motor is monitored, however, this has been found to be less effective.





Technical Specifications

S1076Z

Radiation Air

Under Radiation Intensity of 1,080 W/m ² Ambient Temperature:	0.2°C
Delta-T:	0.05°C
Aspiration Rate:	3 m/sec (10 ft/sec) over temperature sensor flow switch trips when flow is disrupted

PHYSICAL

Material:	White thermoplastic, UV stabilized Gloss white painted aluminum cross arm & Mounting brackets
-----------	---