

CS705

Snowfall Conversion Adapter

Campbell Scientific's CS705 consists of an antifreeze¹ reservoir, overflow tube, and catch tube. Snow captured in the catch tube dissolves into the antifreeze. The melted snow raises the level of the antifreeze and water solution. The mixture flows through the overflow tube into the tipping bucket where it is measured by the tipping bucket mechanism.

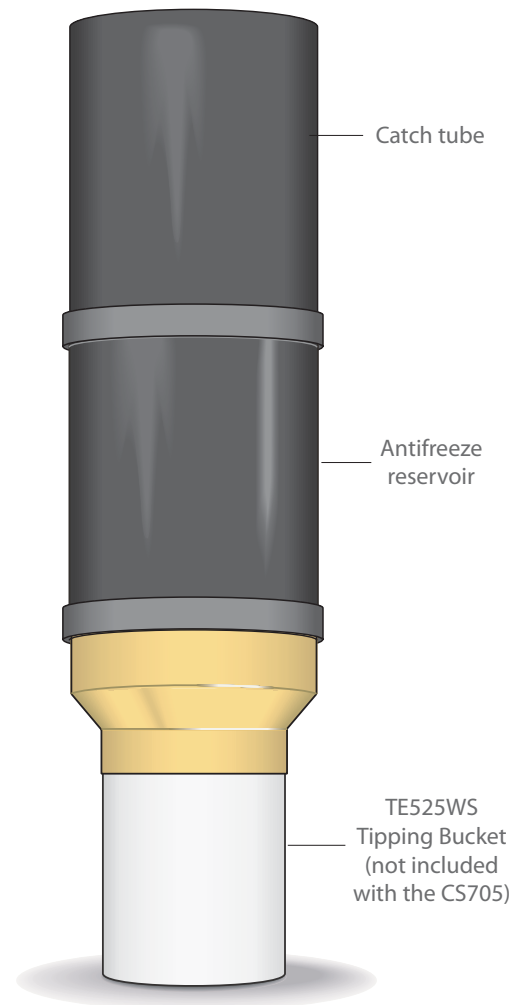
The CS705 has inherent delays and is not suitable for real-time precipitation measurements. The following factors contribute to the delays:

- Temperature of air and liquid in the reservoir
- Surface tension in the overflow tube
- Form of the precipitation

For rainfall at 25°C, a delay of minutes is expected after the gage receives a minimum accumulation of ~0.03". For snowfall, a delay of hours to tens of hours is expected. The longest delays should be expected for low density snows at very cold air temperatures. However, all precipitation falling into the catch tube eventually flows through the overflow tube and is measured by the tipping bucket gage below.

Tipping Bucket Compatibility

The CS705's specially shaped cylinder allows it to mount to the 8-inch orifice of the TE525WS Tipping Bucket Rain Gage. The CS705 cannot be directly used with the TE525, TE525MM, CS700, and TB4 tipping bucket rain gages. Both the TE525 and TE525MM can be converted to a TE525WS by returning them to Campbell Scientific.



The CS705 Snowfall Adapter is used with the TE525WS Tipping Bucket Rain Gage.

Mounting

The CM270 Mounting Kit is included with each purchase of the CS705 Snowfall Adapter. The kit consists of a funnel, two band clamps, and mounting hardware. The funnel drains the antifreeze/precipitation mixture² into a pail. One of the band clamps secures the top of the CS705 to a pole. The other band clamp attaches the funnel and the bottom of the rain gage to the pole.

A user-supplied pole or a CM300-series Mounting Pole may be used. The user must provide a pail and a hose with a 0.5" inner diameter. The hose must be long enough to span the distance from the funnel outlet to the pail.

¹Although any antifreeze will work for the CS705, Campbell Scientific recommends a 1:1 mixture of propylene glycol and ethanol (PGE). PGE is more environmentally friendly. PGE is available from Campbell Scientific in a package of four, one-gallon containers.

²The waste from the tipping bucket gage should be captured and disposed of properly in accordance with local, state, and federal regulations.

Ordering Information

Snowfall Adapter and Antifreeze

Model	Description
CS705	Snowfall adapter for rain gages with 8" orifices
10869	Four one-gallon containers of 50:50 PG:E Antifreeze; only US ground shipments

Mounting Poles and Pedestal Options

Model	Description
CM300	23" Mounting Pole with Cap
CM305	47" Mounting Pole with Cap
CM310	56" Mounting Pole with Cap
Pedestal Options for Mounting Poles	
-NP	No Pedestal Base
-PJ	CM340 Pedestal J-Bolt Kit
-PS	CM350 Pedestal Short Legs (23" legs)
-PL	CM355 Pedestal Long Legs (39" legs)

Specifications

Material: Powder-coated aluminum

Capacity: 8" of liquid @ -20°C (assuming 1:0 starting ratio of antifreeze : water)

Catch tube

Height: 10" (25.4 cm)

Diameter: 8.25" (20.96 cm)

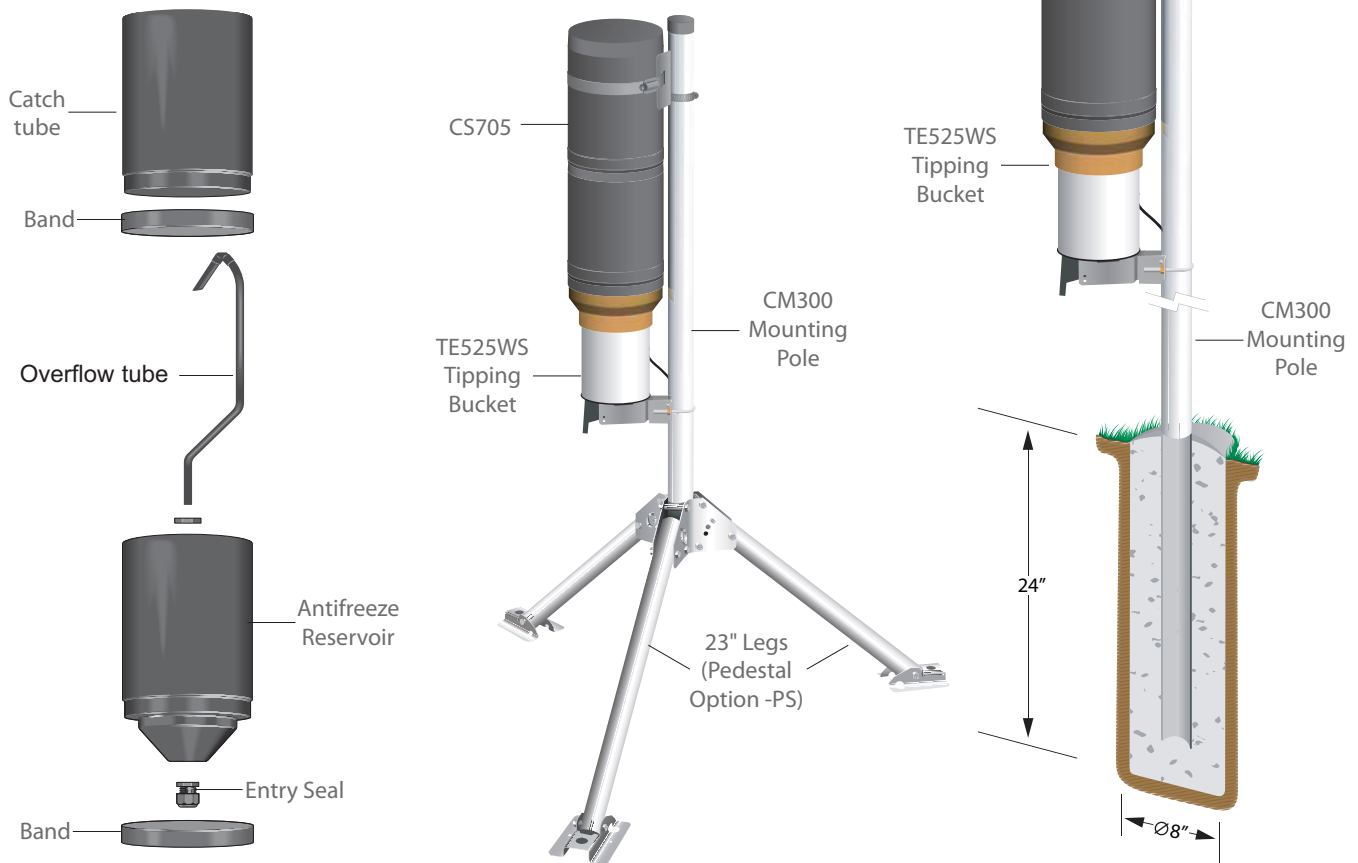
Antifreeze reservoir

Capacity: 2.5 gallons

Height: 14" (35.6 cm)

Diameter: 8.25" (20.96 cm)

Weight: ~20 lbs including antifreeze



An exploded view of the CS705 Snowfall Adapter shows all of its components.

A CS705 mounted onto a CM300 is secured to the ground using three 23" legs (-PS pedestal option chosen).

A CS705 mounted onto a CM310 pole is embedded directly in a concrete pad (-NP no pedestal base option).

