

7. SERVICING

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**ADVANCED
INSTRUMENT SHELTER****Installation Guide**

HB3283-01

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1. INTRODUCTION

The Casella Advanced Instrument Shelter is manufactured from durable plastic and plastic-coated aluminium, materials and coatings that are specially selected for their outstanding resistance to severe long-term weathering.

It offers many improved features and benefits over traditional wooden Stevenson Screens,

providing a maintenance-free solution to protecting your temperature and humidity instrumentation anywhere in the world.

Each instrument is assembled by hand and subjected to rigorous quality control checks throughout the production process to ensure it is ideal for both manual and automated observations.

2. SITING

The temperature measurements used in meteorology are intended to represent general conditions over as large an area around the measuring point as possible. They are usually taken at a height of 1.25 m above ground level.

To achieve the most representative local conditions, the measurement station should be sited in an unobstructed area open to the sun and wind. Sites sheltered by trees or buildings, in hollows or on the sides of hills are not recommended, neither are sites on buildings, as none of these locations will give representative measurements.

The Casella Advanced Instrument Shelter is designed to meet these conditions. It is supplied with a 1.4 m high stand that must be

partially buried in the ground to give a thermometer height of 1.25 m. Mounting the stand on buried concrete blocks will offer additional stability.

When on-line connection or telemetry is required, a suitable power supply must be provided.

The U.K. Met Office (Meteorological Office) recommends that the instrument shelter be installed over closely mown grass. Refer to the Met Office leaflets:

Manual weather measurements,
Automatic weather measurements,
Making weather observations,
for further guidance.

3. SCHEDULE OF PARTS

The Advanced Instrument Shelter consists of the following parts.

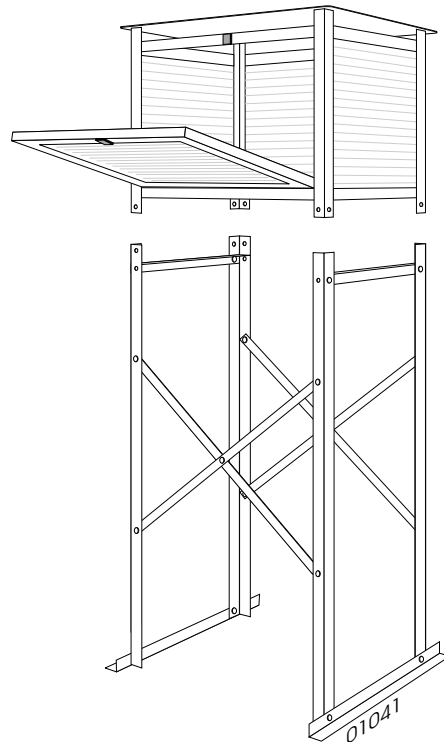
M113011	Screen, with two drop-down doors, supplied ready assembled and painted,
M131026A	Stand, supplied as a pre-fabricated kit.
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The Stand Kit has 12 components, plus fastenings.

4	Uprights (5 cm galvanised angle iron)
2	Lower cross members (5 cm galvanised angle iron)
2	Upper cross members (5 cm galvanised angle iron)
4	Diagonal cross braces (4 cm galvanised angle iron)
4	M10 x 60 mm bolts for attaching the screen
18	M10 x 30 mm bolts for assembling the stand
22	M10 nuts
22	M10 lock washers

When the equipment is delivered, please check that all items on this schedule have been supplied.

The assembled stand and screen are shown in the figure.

**4. INSTALLATION**

- 1 Check that all of the components listed in the schedule of parts have been delivered.
- 2 Following the figure, assemble the stand using the 30 mm bolts.

Leave the fastenings loose enough for final adjustment.

- 3 Stand the stand upright on its feet.
- 4 If the stand is to be attached to concrete blocks, attach it now.

Again, leave the fastenings loose enough for final adjustment.

- 5 Carefully fit the screen on to the top of the stand using the 60 mm bolts.
- 6 Tighten all fastenings.
- 7 Dig a suitable hole at the measurement site to accommodate the feet of the stand.

The shelter must be oriented so that the door which opens to give access to the thermometer(s) is on the north side.

This will ensure that the measurements are not subjected to sudden high temperatures from direct sunlight when the door is opened to inspect the instruments.

- 8 Stand the complete assembly in the hole.
- 9 Adjust the height so that the thermometer(s) can be installed at 1.25 m above normal ground level.
- 10 Make sure the assembly is upright, with the floor of the screen horizontal, so that rain can drain from the sloping roof.
- 11 Fill the hole, packing the soil down firmly, and leave space for a layer of turf at the top. Bed the feet in concrete if required.
- 12 Lay turf to cover the hole.
- 13 Install the instrumentation.

As the stand is manufactured from hot dipped galvanised iron, no painting or other weather protection should be required.

5. SITE MAINTENANCE

Make sure the enclosure is kept clean and free from staining, algae etc. Wipe frame and slats with mild detergent, possibly with a small quantity of disinfectant to discourage algae growth.

Keep the grass properly mown and free from weeds to maintain the "1.25 m height above ground" requirement.

6. TECHNICAL INFORMATION**Screen Specification**

Construction:
Polyester powder coat with chromatic pre-treatment over aluminium frame for UV and salt spray resistance,
Injection moulded louvres with enhanced UV inhibitor,
Stainless steel fittings,
Door hinges with stainless steel pins.

The screen is supplied pre-assembled.

Dimensions: Width x Height x Depth
Internal 492 mm 411 mm 313 mm
External 670 mm 576 mm 500 mm

Weight: 26 kg

Stand Specification

Construction:
5 cm and 4 cm hot dipped galvanised angle iron with M10 nut and bolt fastenings.

M10 spanners will be required.

Dimensions: Width x Height x Depth
Overall 664 mm 1400 mm 521 mm

Weight: 31 kg