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# Installation Manual for 30 Foot Towers & Tripods with Masts

Micro Weather Pro™



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# 1 Introduction

This manual provides information and instructions for installing or placing your 30 foot tower or 3 foot tripod with up to a 10 foot mast. The Micro Weather Pro is also available with a 9 foot tripod. Instructions for the 9 foot tripod are included in the Micro Weather Pro Field Installation and User Guide.

Once your tower or tripod are properly mounted, please refer to our **Field Installation and User Guide for the Micro Weather Pro** to complete the setup of the weather station.

If you have any questions or difficulties, please contact our help desk. Our help desk can be reached by phone, 800 – MESOTECH, (800-637-6832), between the hours of 9:00 a.m. and 5:00 p.m. PST. For 24 hour service, contact us by e-mail. Our e-mail address is [support@mesotech.com](mailto:support@mesotech.com). Our help desk can also be contacted through our website, [www.mesotech.com](http://www.mesotech.com). We offer an on-line Help Desk Form you can complete and submit for help with your problem.

## 2 Important Factors of Site Selection

1. Select a site that is clear of power lines, trees limbs, and other obstructions or hazards.
2. Clear the area of any loose debris.
3. If your weather station includes a solar radiation sensor make sure there is adequate exposure to the sun. Avoid a location where the station will be in the shade.
4. If your station includes a rain gauge, be sure to place it where the rain gauge funnel is unobstructed.

## 3 Installing a 30 Foot Tower

The Micro Weather Pro, our compact automated weather station, and our custom automated weather stations can be deployed on our 30 foot aluminum tower. We offer two models of the tower. One is for normal wind conditions (MWP-UT430) and the other is for high wind conditions (MWP-UT930).

Both towers require the same considerations and site preparation.

**Note:** Please read and follow all safety information provided by the tower manufacturer before installing the tower.

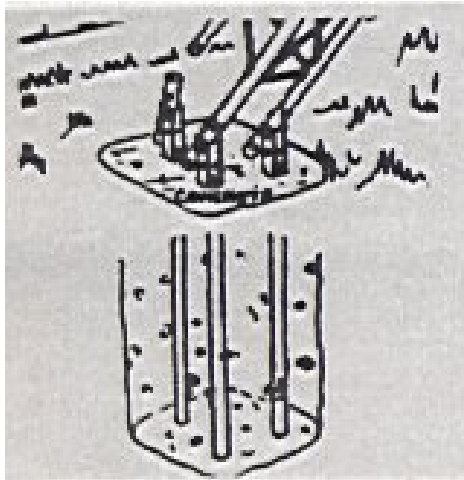
### 3.1 Site Preparation

Both 30 foot towers require the base be placed in concrete. This is a permanent installation. For model MWP-UT430 you will need to dig an 18" x 18" x 4' deep hole. You will need approximately ½ cubic yards of concrete.

For model MWP-UT930, for high wind conditions, you will need to dig a 3' x 3' x 4' deep hole. You will need approximately 1½ cubic yards of concrete.

### 3.2 Placing the Tower

1. Check the instructions for your particular tower to dig proper size hole. Place each ten-foot tower section end to end in correct order of assembly; start by putting the bottom section where the tower will stand. Make sure enough clearance exists so that the tower can later be walked up to its upright position without overhead interference.
2. Bolt the bottom 10 feet of tower to the base and place it in the hole. Be sure the base legs are positioned to tilt in the direction desired before pouring the concrete.



**Figure 1- Positioning the Tower Legs**

3. Getting bottom section plumb is very important. While the concrete is setting up, the base can be leveled using a carpenter's level on the upright of the 10 foot section.
4. Keep the 10 foot section attached to the base during the curing period.
5. Allow 3 to 4 days for concrete to set up.
6. Remove one bolt from each front leg and three bolts from rear leg as shown. Tilt bottom 10 ft. section to ground and connect remaining tower sections into the final assembly. Attach the wind sensor to the top of the tower and secure the cable using cable ties or conduit. Your wind direction sensor will need to be oriented for accurate readings.
7. Walk the tower up to its raised position, replacing bolts in the base to secure the tower.



**Figure 2 - Proper Installation of Tower Base**

### **3.3 Grounding the Data Logger and the Tower**

Mesotech provides a Grounding Kit (MWP-GK) for the Micro Weather Pro. You can use this kit to ground your MicroDCP, the data logger, and the tower. If you are in a region where there are frequent lightning storms, Mesotech offers a Lightning Rod Kit (MWP-LR). Both of these kits can be used for either the MWP or one of our custom automated weather stations on your 30 foot tower.

#### **3.3.1 Installing the Grounding Kit**

The grounding kit for the MicroDCP consists of two copper wires, a clamp (or grounding washer), and a grounding stake. Connect one end of the first copper wire to the nut on the bottom of the enclosure box. Put the grounding stake in the ground with 1-3” of the stake remaining above ground. Connect the other end of the copper wire to the grounding stake. Connect the second copper wire to the leg of the tower using a clamp or grounding washer. Connect the other end of the second copper wire to the grounding stake.

#### **3.3.2 Installing the Lightning Rod Kit**

The lightning rod kit will come with instructions for its installation. Follow those instructions to install the lightning rod.

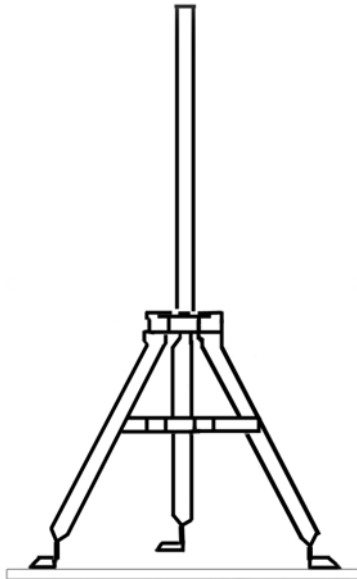
## **4 Setting up the Tripod and Mast**

The tripod is easy to setup and adjust.

1. Remove the tripod from its box.
2. Open up the legs until they are fully extended. The cross braces should snap into place.
3. Place the tripod in the location desired.

4. Make sure the feet are level and stable.
5. Secure the tripod to the surface using the fasteners provided.
6. Insert the mast through the center of the tripod and secure it at the height required.

Note: If you are using a 10 foot mast you may want to mount the wind speed and direction sensor before inserting the mast in the tripod.



### **3 Foot Tripod and Mast**

*Secure feet to platform and secure mast in the collar of the tripod.*

**Figure 3 - Three Foot Tripod and Mast**

**Note:** Please read and follow all safety information that the tripod manufacturer provides before installing your tripod.

## **4.1 Grounding the MicroDCP and the Tripod**

The grounding kit for the MicroDCP consists of two copper wires, a clamp (or grounding washer), and a grounding stake. Connect one end of the first copper wire to the nut on the bottom of the enclosure box. Put the grounding stake in the ground with 1-3" of the stake remaining above ground. Connect the other end of the copper wire to the grounding stake. Connect the second copper wire to the leg of the tower using a clamp or grounding washer. Connect the other end of the second copper wire to the grounding stake.