

## Turf-Tec Precipitation and Uniformity Gauges

	<p style="text-align: center;"><b><i>NEW Design!!!</i></b></p> 
<p>Precipitation and Uniformity Gauges can be set up in a head to head layout or in a grid pattern. Sold in a set of 16 large gauges and 4 small gauges for a total of 20 gauges and 20 stainless steel support spikes.</p>	<p>Precipitation and Uniformity Gauges have a stainless steel support spike and are calibrated in 10th of an inch and millimeters. Smaller gauges are positioned next to sprinkler heads to catch the second or third lower stream from the nozzles.</p>

**For checking the precipitation and uniformity of the water being delivered by each irrigation head.**

Turf-Tec International is proud to introduce its re-designed Precipitation / Uniformity Gauges. These gauges are designed to be set up in a head to head or grid pattern to determine how much water is applied from an irrigation system and to also show the water coverage uniformity. They are also used in performing water audits are also excellent for correlating sprinkler run times with actual soil infiltration readings with companion tools like the [Turf-Tec Infiltrometer](#). The measuring cups are made from strong plastic and the mounting brackets are made from stainless steel for ease of use and long life. The set consists of 16 large gauges and 4 small gauges. The small gauges are positioned closest to the sprinklers to insure water collection from second and third stream nozzle designs. Calibrated in inches and millimeters, there is no conversion from milliliters or volume to inches or millimeters per hour. Just install the gauges, run the cycle and look at the gauges.



Each set consists of 20 calibrated precipitation gauges that are spread out in a uniform pattern between sprinkler heads. The set consists of 16 large gauges and 4 smaller gauges as well as 20 stainless steel stands for the gauges. They are calibrated in inches and millimeters.

### PUGS2-W - Turf-Tec Precipitation and Uniformity Gauges



## FOREWORD

The correct use of water is critical to quality turf. Many problems can be corrected by accurately consoling later to fill the needs of Turfgrasses.

Nationwide water shortages have focused our attention on water management. The results of these concerns are turning out to be blessings.

More turfgrass areas have been injured and even killed by the misuse of water.

Too much water:

- .... can affect deep root systems.
- .... can promote uncontrollable diseases.
- .... promotes scald at high temperatures.
- .... can foster desiccation of the root system through
- .... excessive heaving of the soil.
- .... inhibits the normal existence of micro-organisms.
- .... creates conditions for soil compaction.
- .... seals the soil, preventing air from entering.
- .... contributes to excessive run off, carrying nutrients with it.
- .... carries away precious top soil.
- .... is a waste of money.
- .... is a waste of one of our most precious resources.

Turfgrass Managers should focus in on their watering practices. This begins with the application of irrigation water and all that it involves.

The Turf-Tec Infiltrometer and the Precipitation-Uniformity Gauges provide the necessary tools for a program of water Management.

# DIRECTIONS

Use the Turf Tec Infiltrometer to determine the amount of water that the soil will absorb in an hour.

This is determined by inserting the cutting rings of the Infiltrometer into the turf at the center of the radius of the sprinkler throw. Fill both rings with water and start the timer for 15 minutes. When the timer rings, stop it, read the number of inches on the scale and multiply this number by four. This will give you the hourly rate that it takes for water to move down into the soil.

EXAMPLE: If the Infiltrometer scale indicates that water is being absorbed by the soil at the rate of 1/2 inch in 15 minutes. Multiplying this by four will total 2 inches per hour. The clocks on the irrigation system should then be adjusted to deliver only as much water the soil can absorb, or set the timer to irrigate every 20 minutes or half hour, etc.

## HOW TO USE TURF-TEC PRECIPITATION GAUGES:

Placing precipitation / uniformity gauges to check single row system:

The precipitation / uniformity gauges come with 16 large gauges and 4 smaller gauges. The smaller gauges should be used at both ends to allow the area just next to the sprinkler head to be measured.

1. Insert stainless steel spikes into the ground to a depth of about three inches deep in the area to be tested.
2. Be sure smaller gauges are placed closest to the sprinkler heads to catch the second or third nozzle that is designed to water directly around the sprinkler head.
3. Hang the plastic collection gauge on the flat part of the stainless steel stand so that the bottom of the gauge is still about one inch above the soil surface.

### Gauge Placement

#### Single row method:

Place the one small Precipitation Gauge two feet from sprinkler head. The second small gauge can be placed anywhere from two to four feet from the first Gauge. The number of Gauges needed will be determined by the spacing and the number of feet that the sprinkler head will throw. All Gauges should be in a straight line in the radius from the head to its outer perimeter with the small gauges at either end. The closer the Gauge placement, the more accurate the results will be.

### **Grid Pattern:**

You can also set up the Precipitation Uniformity Gauges in a square grid pattern to determine the overall uniformity of the irrigation system simply mark the irrigation heads with flags, square off the area and place the 20 gauges in a even square pattern. Be sure the small gauges are closest to the irrigation heads. The closer the Gauge placement, the more accurate the results will be.

## **RATE OF WATER PER HOUR:**

After the Precipitation Gauges are placed in position, set the timer on the Turf-Tec Infiltrometer for 15 minutes. Independent timers or sprinkler timers can also be used.

When 15 minutes have elapsed, stop the sprinkler (s).

Lift each Gauge and hold it to eye level to determine the amount of water in inches it collected. Multiply the reading on the scale by four to get the rate of water being delivered per hour.

Check each Gauge accurately and record the amount of water collected. Compare each Gauge with the others in the same setting. To determine if the sprinkler is delivering water evenly in the radius of the circle being tested. If delivery is uneven, check the sprinkler head, the nozzle, pressure, etc. This includes checking the nozzle size, the pressure (PSI), Gallons per minute and the radius, in order to achieve uniformity in all of the gauges.

The Turf-Tec Precipitation Gauges were designed as a companion tool for use with the Turf-Tec Infiltrometer. Proper use of these instruments will help save time, money and water. Best of all, the proper amount of water will improve turf quality.

**Turf-Tec International**  
1471 Capital Circle NW, Ste # 13  
Tallahassee, FL. 32303 USA

Order Line (800) 258-7477 - Phone (850) 580-4026 - Fax (850) 580-4027  
Website: [www.turf-tec.com](http://www.turf-tec.com)

**Turf-Tec Precipitation / Uniformity Gauges  
For sprinkler amounts and uniformity.**



Small

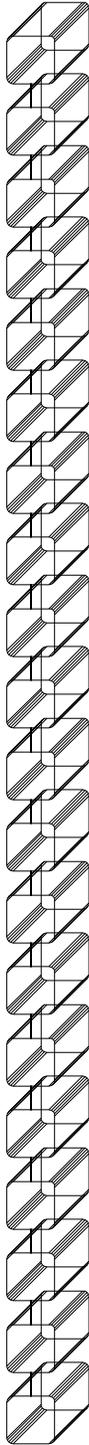
Small

**RECORD CHART**

1. Space Precipitation gauges two feet apart from head to head in straight line.
2. Run sprinkler for 15 minutes.
3. Hold each gauge at eye level and record number of inches on chart.
4. Multiply by four to get hourly rate.
5. After reading and recording the number of inches in each Precipitation / Uniformity Gauge, also compare the amount of water in each gauge from head to head.
6. Compare results with Infiltrometer reading to get amount of water that is going into the soil.
7. Adjust sprinkler water to deliver accordingly.

If differences are noted, check nozzle, type of sprinkler used

**Head**



**Head**

Record amount in inches	
# 1	_____
# 2	_____
# 3	_____
# 4	_____
# 5	_____
# 6	_____
# 7	_____
# 8	_____
# 9	_____
#10	_____
#11	_____
#12	_____
#13	_____
#14	_____
#15	_____
#16	_____
#17	_____
#18	_____
#19	_____
#20	_____

**Area:**  
\_\_\_\_\_

**Date:**  
\_\_\_\_\_  
\_\_\_\_\_

**Time:**  
\_\_\_\_\_

\* Note put two small gauges next to head on each end.