How Rainfall Intensity Affects Rain Gauge Accuracy

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Siphoning TB3/TB4 vs. Non-siphoning TB6 vs. Other non-siphoning gauges

Performance of Hydrological Services Products Expected in Washington, D.C.

5-minute Rainfall Intensities for Various Return Frequencies (Yr)
Washington, D.C.

- HS TB3 (WMO Results)
- HS TB6 (Factory Calibration)
- Other non-siphoning gauge A
- Other non-siphoning gauge B
Non-siphoning TB6 Stated Accuracy vs. Factory Calibration Results

Performance of Hydrological Services TB6 Expected in Chattanooga, TN

Rainfall Intensity Range for Various Return Frequencies (Yr)
Chattanooga, TN

Uncertainty (%)

+ 40%
+ 30%
+ 20%
+ 10%
0%
- 10%
- 20%
- 30%
- 40%

WMO Guidance
+/- 5%

HS TB6 (Factory Calibration)
HS TB6 Stated Accuracy

Rainfall Intensity (mm/hr)

0 2 4 6 8 10 12 14 16 18 20

Rainfall Intensity (inch/hr)

0 50 100 150 200 250 300 350 400 450 500
Siphoning TB3/TB4 Stated Accuracy vs. WMO Results

Performance of Hydrological Services TB3 Expected in Chattanooga, TN

Rainfall Intensity Range for Various Return Frequencies (Yr)
Chattanooga, TN

- 0
- 10
- 20
- 30
- 40
+ 0
+ 10
+ 20
+ 30
+ 40

 HS TB3 WMO Results
 HS TB3/TB4 Stated Accuracy

WMO Guidance
+/- 5%

Rainfall Intensity (mm/hr)

Rainfall Intensity (inch/hr)
TB3 WMO Results vs. Factory Calibration

Performance of Hydrological Services Products Expected in Chattanooga, TN

Maximum Rainfall Intensities for Various Return Frequencies (Yr)
Chattanooga, TN

WMO Recommendation +/- 5%

HS TB3 (WMO Results)
HS TB3 (Factory Calibration)
Local Rainfall Analysis for Seattle, Washington

Siphoning TB3/TB4 vs. Non-siphoning TB6

Rainfall Intensity Range for Various Return Frequencies (Yr)
Seattle, WA

Rainfall Intensity (mm/hr)

0  2  4  6  8  10  12  14  16  18  20

Rainfall Intensity (inch/hr)

0  2  4  6  8  10  12  14  16  18  20

± 5%
Local Rainfall Analysis for Washington, D.C.

Siphoning TB3/TB4 vs. Non-siphoning TB6

Rainfall Intensity Range for Various Return Frequencies (Yr)
Washington, D.C.

Rainfall Intensity (mm/hr)

Rainfall Intensity (inch/hr)
Local Rainfall Analysis for Miami, Florida

Siphoning TB3/TB4 vs. Non-siphoning TB6

Rainfall Intensity Range for Various Return Frequencies (Yr)
Miami, FL

Uncertainty (%)

Rainfall Intensity (mm/hr)

Rainfall Intensity (inch/hr)
TB3/TB4 vs. Weighing Rain Gauges

Comparing TB3 Performance to Various Weighing Rain Gauges

- WMO Guidance
- Local Rainfall of Interest

Rainfall Intensity Range for Various Return Frequencies (Yr)
Washington, D.C.

Rainfall Intensity (mm/hr)

Rainfall Intensity (inch/hr)