INSTALATION GUIDE TRWS_E

Follow these step-by-step instructions to assemble the TRWS for your precipitation measurement system.

Main Parts:

COVER

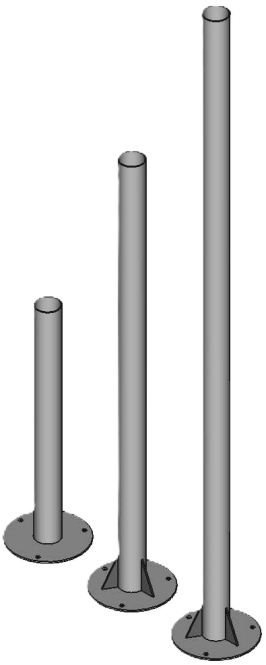
SELF EMPTYING BUCKET

SPIRIT LEVEL

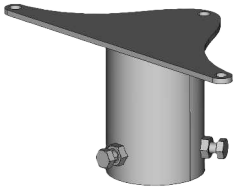
BASE

Optional:

STAND 1/1.5/2 m



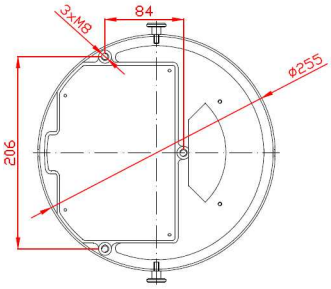
ADAPTER

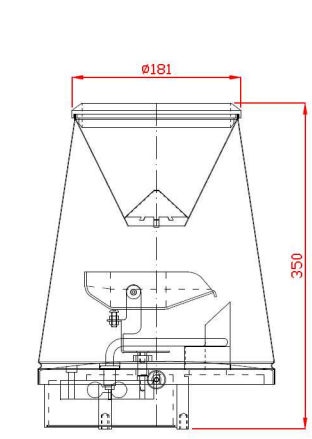


WINDSHIELD

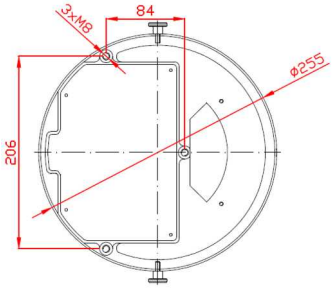
Dimensions:

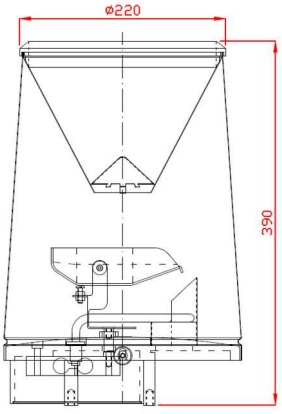
TRWS_E.200



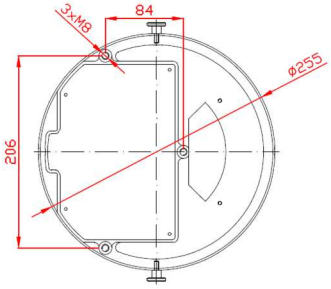


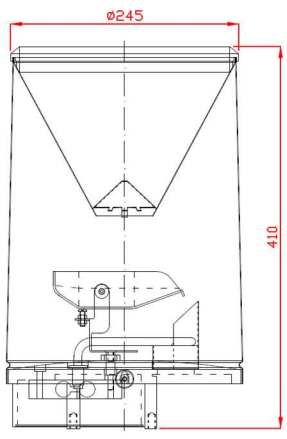
TRWS_E.314





TRWS_E.400



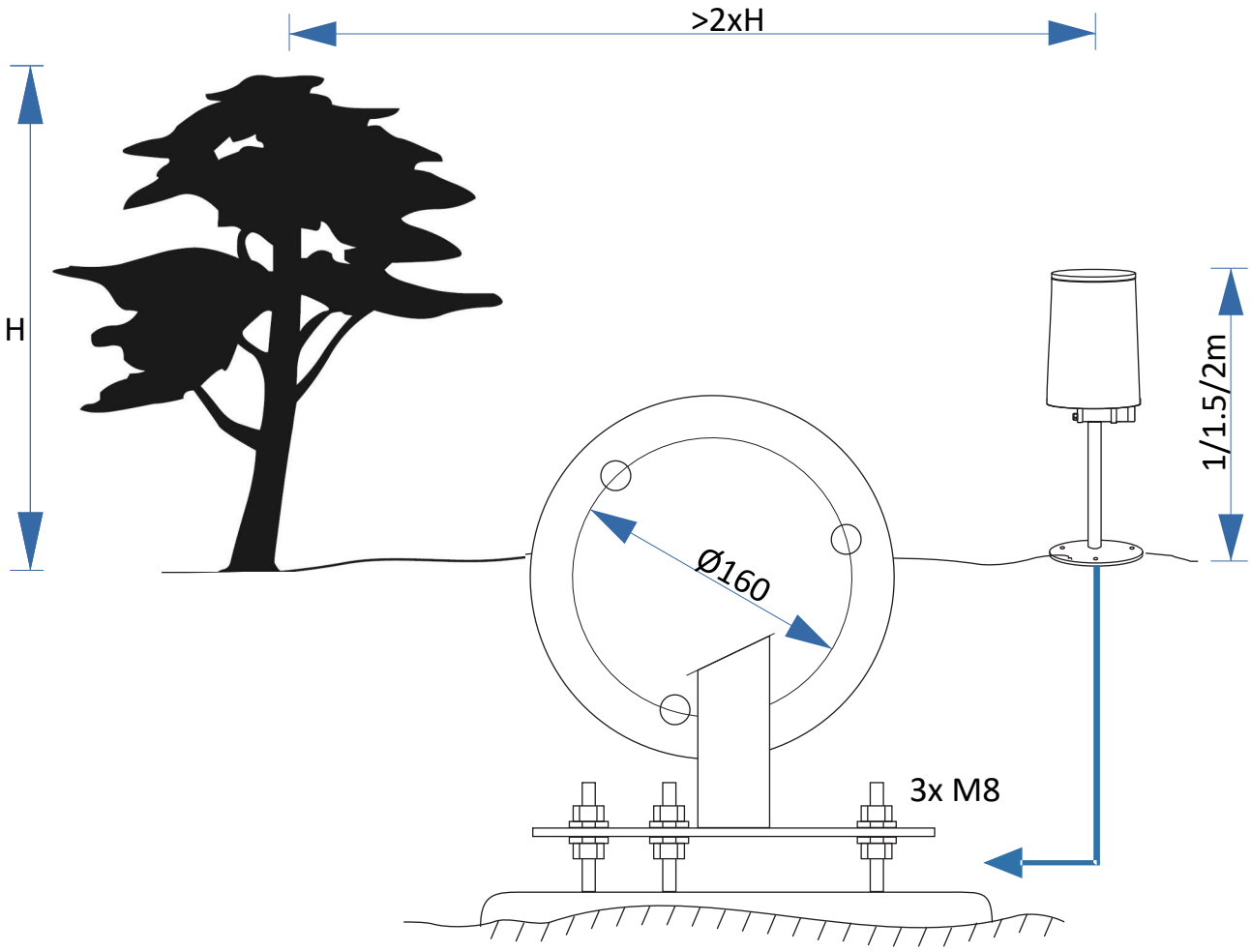


Installation:

Choose an open area for the rain gauge, avoiding overly windy locations. Ensure the distance from the gauge to any obstruction is at least twice the height of the obstruction above the rain gauge's orifice.

The height of the orifice from the surrounding terrain should comply with local regulations, typically between 0.5 and 2 meters.

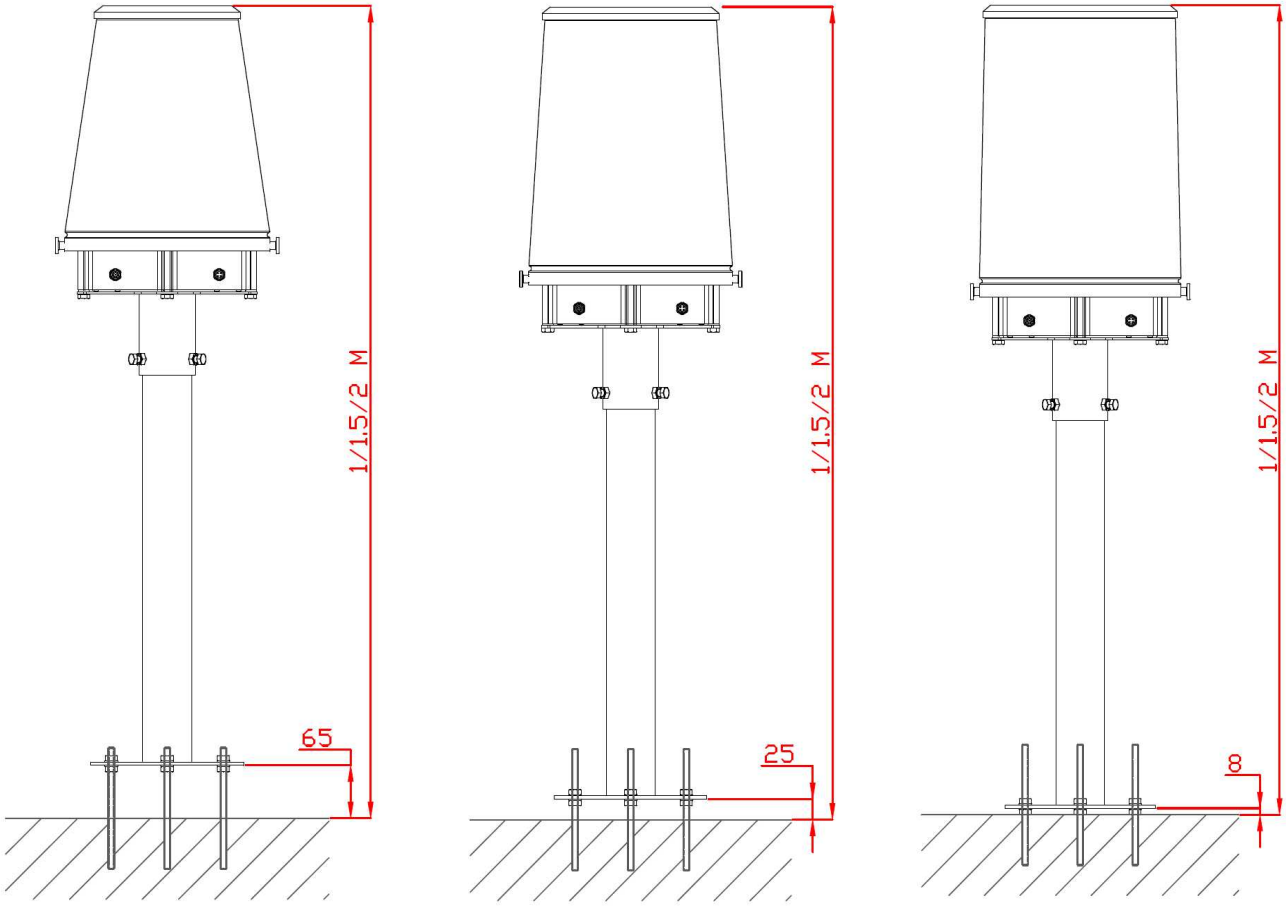
Remove the cover from the rain gauge base plate by loosening the two screws at the bottom edge.



1. Mounting on a Stand:

- Prepare a stable concrete base and **attach three M8 bolts** to it (e.g., using wall plugs and hanger bolts).
- **Screw three M8 nuts** onto the bolts and place the lower flange of the stand on them.
- Place the **adapter** onto the stand. Tighten the fixing screws securely.
- Set the height of the stand base according to the type of rain gauge:

TREWS_E.200 TRWS_E.314 TRWS_E.400



- **Attach the base to the adapter** using three M8 screws.
- **Level the stand using a spirit level on TRWS_E base**, adjusting the fixing screws of the stand base.
- Once the base is level, **tighten the top M8 nuts** securely.

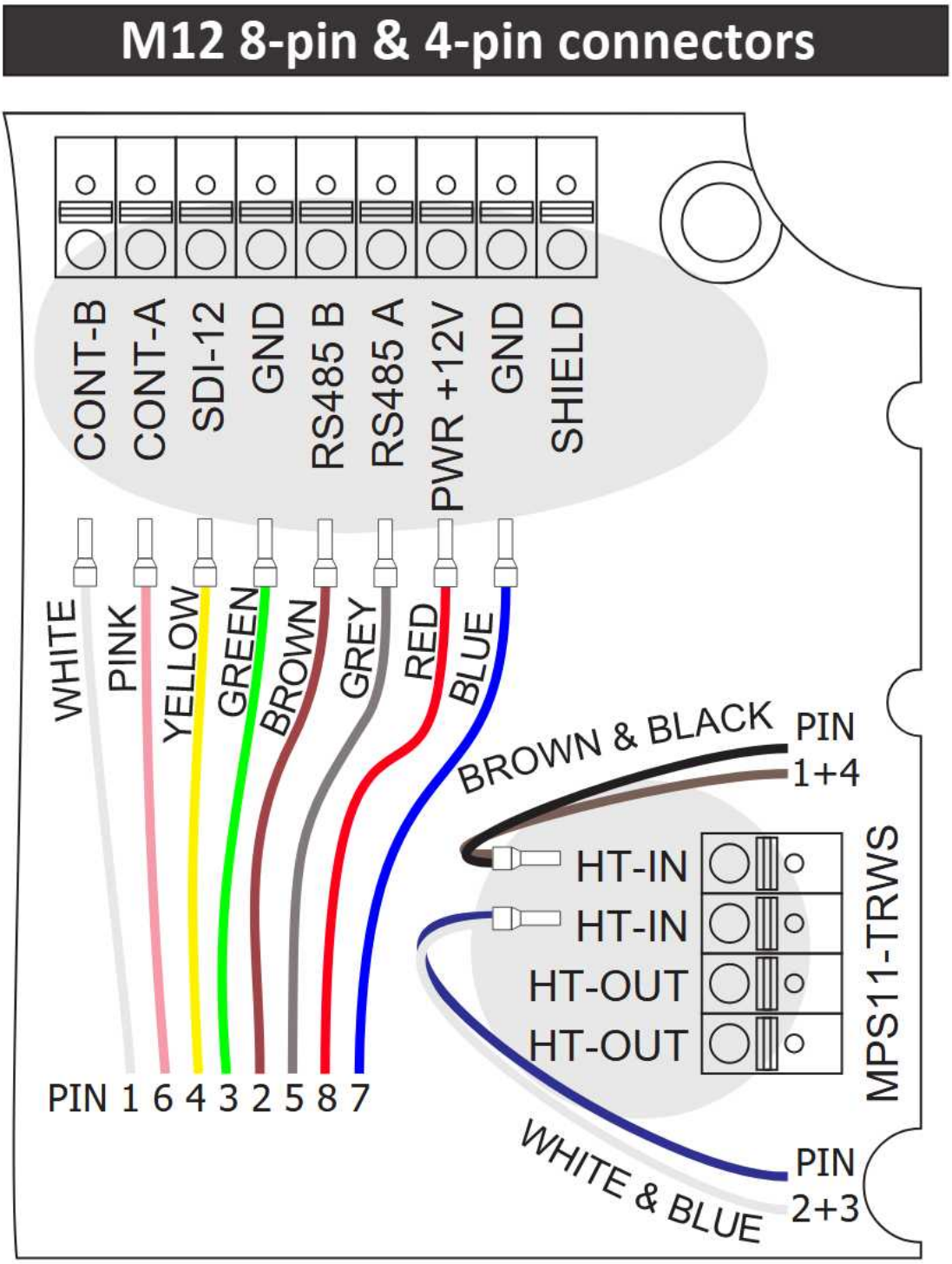
2. Mounting on a vertical pole:

- **Prepare a vertical pole** with a diameter of 50-60 mm, securely fixed to a stable base.
- Place the mounting adapter onto the pole. Do not tighten the fixing screws yet.
- **Attach the base to the adapter** using three M8 screws.
- **Level the base using a spirit level on TRWS_E base** adjusting the fixing screws of the adapter.
- Once the base plate is level, **tighten the mounting adapter's fixing screws securely.**

2. Final Assembly:

- Reattach the cover.
- Secure the cover by tightening the two screws around the lower edge.

3. Cable connection:



Data protocols & Applications

SDI-12 protocol

Start basic measurement: 0M!

→ sensor address (**default address is '0'**)

Response: 00003 <CR><LF>

→ 3 measurements available immediately

Send data: _0D0!

Response:

0+0.134+7995.146+21.246 <CR><LF>

→ total amount of precipitation (21.246mm)
→ total weight (7795.146g)
→ amount of precipitation since previous reading (0.134mm)
→ sensor address (default '0')

ModBus RTU/ASCII (RS-485)

Factory-set communication parameters: 9600,8,E,1

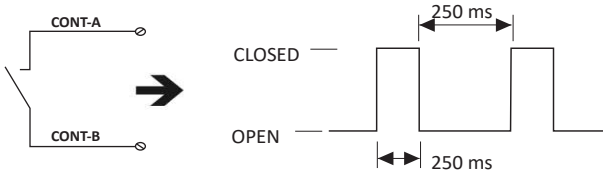
Factory-set device address: 1

Function code: 04 (read input registers)

Important register addresses: 388 = amount of precipitation [mm]
386 = weight of the bucket content [g]
400 = temperature [°C]

All registers are of type float, read two consecutive registers to get a value.

Pulse output



1 pulse = 0.01 / 0.1 / 1 mm (selectable)

AiO Application for Windows

Web applicalion link for Windows offers management of all MPS rain gauges and sensors:

https://app.mps-system.sk/main

Note: The web tool is compatible only with Microsoft Edge and Chrome browsers.

AiO Application for iOS & Android

Download on the App Store

GET IT ON Google Play

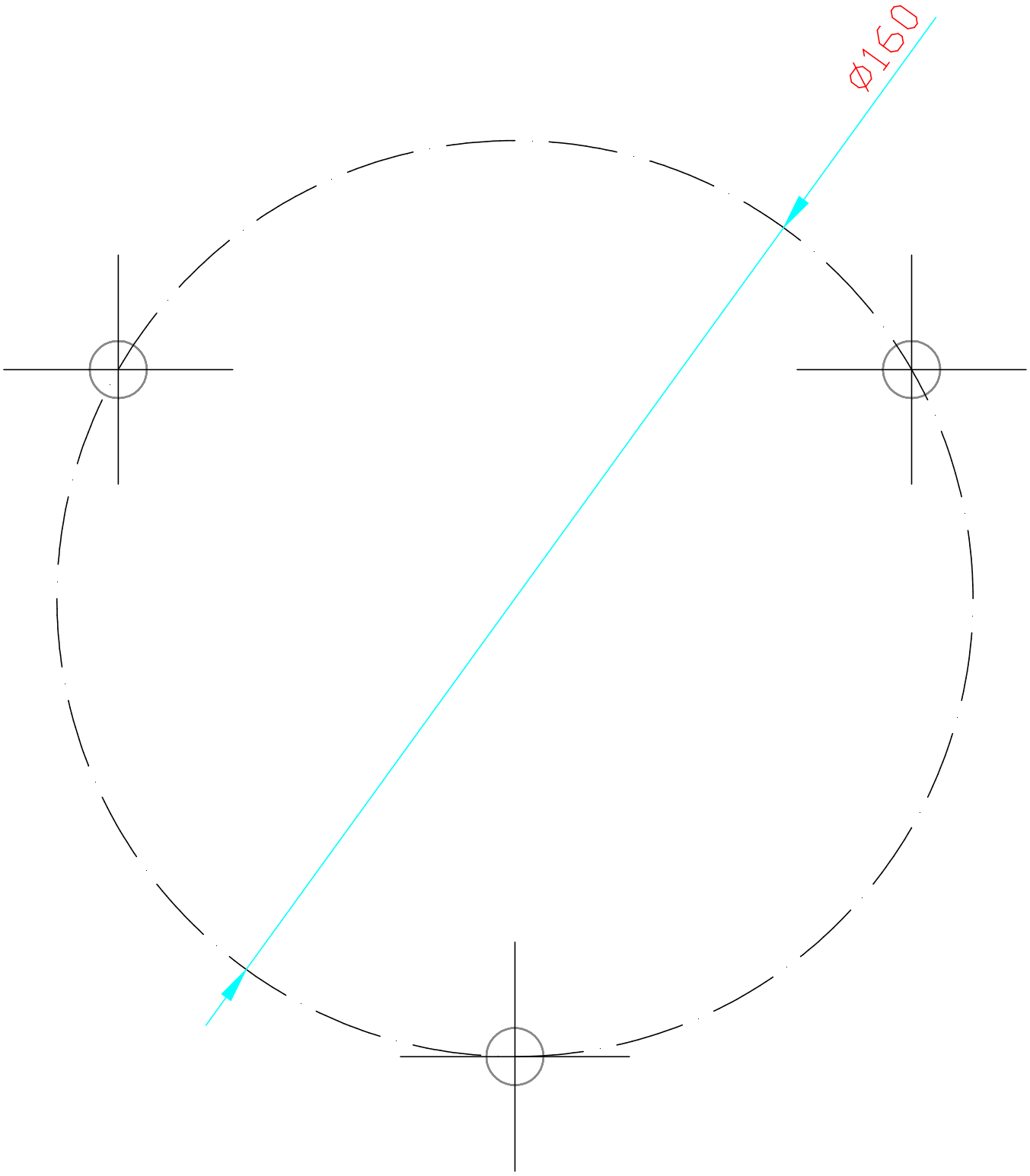
Default password: SN left-padded with zeroes to 6 characters.

TRWS Accuracy test

Link to access the online web-based testing tool for TRWS rain gauges, allowing you to verify and ensure precise measurement accuracy:

https://accuracy-test-trws.mps-system.sk/

Note: The web tool is compatible only with Microsoft Edge and Chrome browsers.



MPS - System s.r.o.	SIZE: A4
Name: TRWS_STAND	Date: 20.01.2025
Material: -	Drawing: 1/1
Type: TRWS_STAND_DRILLING_DIAGRAM	1:1