

**Endress + Hauser**  
**Shipping, Storage and Preservation Guideline**

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## Storage and Preservation Guideline

### 1.1 Introduction

**For:** Endress+Hauser Customers

**Distribution:** Sales/Projects/Logistics

**Implemented By:** Projects/Service

#### **General Guidelines:**

Endress+Hauser Canada Ltd has produced these general guidelines to describe how handling of our products should be done to eliminate potential damage during field installation, shipping and storage of Endress+Hauser equipment.

Our goal is to provide adequate information in advance to avoid environmental conditions that can damage our products. We hope these instructions will allow for proper protection of our equipment from possible mishandling or misuse.

The information provided herein does not negate any information in the Technical Literature and Manuals of the specific products, and the product documentation should be used for more detailed instructions for specific product(s).

## 2.0 Products

### 2.1 Flow Meters

#### Transportation

The following instructions apply to unpacking and to transporting the device to its final location:

- Transport the devices in the containers in which they are delivered.
- Do not remove the protective plates or caps on the process connections until the device is ready to install. This is particularly important in the case of sensors with PTFE linings.
- In the event that a forklift is used to move the meter, lift the unit from the bottom of the box/crate and ensure that the forks do not puncture the box/crate as this may damage the unit.
- Do not stack boxes on top of the unit.

#### Incoming acceptance

- Check the packaging and the contents for damage.
- Check the shipment, make sure nothing is missing and that the scope of supply matches your order.
- Check that Installation operation and maintenance manual is provided in Box.
- If Documentation was ordered (IE: Material test reports, Hydro Test, etc) ensure that the documents are inside the Box.
- *Once the unit is removed from the packaging, an inspection of the covers is recommended to ensure a tight seal. In the event that the cover is loose then turn clockwise until the cover can not rotate any further.*

NOTE: Leave Instruments in protective Box until installation is required. This will protect the unit from damage.

#### Storage

Note the following points:

- Pack the measuring device in such a way as to protect it reliably against impact for storage (and transportation). The original packaging provides optimum protection.
- The storage temperature is  $-40...+80$  °C (preferably  $+20$  °C).

- The measuring device must be protected against direct sunlight during storage in order to avoid unacceptably high surface temperatures.
- Choose a storage location where moisture does not collect in the measuring device. This will help prevent fungus and bacteria infestation which can damage the liner.
- Do not remove the protective plates or caps on the process connections until you are ready to install the device. This is particularly important in the case of sensors with PTFE linings.
- Do not remove covers of the transmitters as moisture can be captured inside the electronics

NOTE: If covers of the instrumentation housing are taken off, insure the covers are put on properly to avoid cross threading, or weather (moisture) penetrating into the housing.

### Special notes:

- The wooden covers mounted on the flanges before the device leaves the factory protect the linings on the flanges during storage and transportation. Do not remove these covers until *immediately before* the device is installed in the pipe.
- Do not lift flanged devices by the transmitter housing, or the connection housing in the case of the remote version.
- Use webbing slings slung round the two process connections. Do not use chains, as they could damage the housing.
- The storage temperature corresponds to the ambient temperature range of the measuring transmitter and the relevant measuring sensors and the corresponding sensor cables.
- *In the event that a plastic plug is installed in any conduit entry point and the unit will be exposed to the environments for a long period of time. The conduit will require a SS plug to be installed for adequate moisture protection.*
- *In the event that a plastic plug is installed in any conduit entry point and the unit will be exposed to the environments for a long period of time. The conduit will require a SS plug to be installed for adequate moisture protection.*
- **This information is used for a general guide line. If more information is required, refer to model number specific TI (Technical Information) document for more detailed information.**

## 2.2 Pressure Meters

### Transportation

The following instructions apply to unpacking and to transporting the device to its final location:

- Transport the devices in the containers in which they are delivered.
- Do not remove Protective Caps and covers that are installed on the units until installation of the equipment is required.
- Units with Diaphragm Seals - do not remove the protection of the process isolating diaphragm protection until shortly before installation.
- Do not stack boxes on top of the unit.

### Incoming acceptance

- Check the packaging and the contents for damage.
- Check the shipment, make sure nothing is missing and that the scope of supply matches your order.
- Check that Installation operation and maintenance manual is provided in Box.
- If Documentation (IE: Material test reports, Hydro Test, etc) are ordered with the shipment ensure that the documentation is inside the Box.
- *Once the unit is removed from the packaging, an inspection of the covers is recommended to ensure a tight seal. In the event that the cover is lose then turn clock wise until the cover can not rotate any further.*
- *Once the unit is removed from the packaging, an inspection of the covers is recommended to ensure a tight seal. In the event that the cover is lose then turn clock wise until the cover can not rotate any further.*

NOTE: Leave Instruments in protective Box until installation is required. This will protect the unit from damage.

### Storage

Note the following points:

- Pack the measuring device in such a way as to protect it reliably against impact for storage (and transportation). The original packaging provides optimum protection.
- Typical ambient storage temperatures for a Ceramic Diaphragm are (-20 to +60C) and for Metallic Diaphragm (-40...+60 °C). This will be dependant on

the fill fluid utilized in the instrument. Please make note of this prior to storage as the information will be provided on the name plate of the instrument.

- The measuring device must be protected against direct sunlight during storage in order to avoid unacceptably high surface temperatures.
- Choose a storage location where moisture does not collect in the measuring device. This will help prevent fungus and bacteria infestation which can damage the liner.
- Do not remove the protective covers on the process connections until you are ready to install the device.
- Do not remove covers of the transmitters as moisture can be captured inside the electronics.

NOTE: If covers of the instrumentation housing are taken off, please insure the covers are put on properly to avoid cross threading and/or weather (moisture) penetrating into the housing.

#### Special notes:

- Do not lift flanged devices by the transmitter housing, or the connection housing in the case of the remote version.
- The diaphragm seal, together with the pressure transmitter, forms a closed, calibrated system, which is filled through openings in the diaphragm seal and in the measurement system of the pressure transmitter. These openings are sealed and **must not be opened**.
- *In the event that a plastic plug is installed in any conduit entry point and the unit will be exposed to the environments for a long period of time. The conduit will require a SS plug to be installed for adequate moisture protection.*
- **This information is used for a general guide line if more information is required refer to model number specific TI (Technical Information) document for more detailed information.**

## 2.3 Level Transmitter

### Transportation

The following instructions apply to unpacking and to transporting the device to its final location:

- Transport the devices in the containers in which they are delivered.
- Do not remove Protective covers that are installed on the units until installation of the equipment is required.
- Do not stack boxes on top of the unit.

### Incoming acceptance

- Check the packaging and the contents for damage.
- Check the shipment, make sure nothing is missing and that the scope of supply matches your order.
- Check that Installation operation and maintenance manual is provided in Box.
- If Documentation (IE: Material test reports, Pressure test, etc) are ordered with the shipment ensure that the documentation is inside the Box.
- *Once the unit is removed from the packaging, an inspection of the covers is recommended to ensure a tight seal. In the event that the cover is loose then turn clockwise until the cover can not rotate any further.*

NOTE: Leave Instruments in protective Box until installation is required. This will protect the unit from damage.

### Storage

Note the following points:

- Pack the measuring device in such a way as to protect it reliably against impact for storage (and transportation). The original packaging provides optimum protection.
- The ambient storage temperature (-40...+80 °C) - preferably +20 °C.
- The measuring device must be protected against direct sunlight during storage in order to avoid unacceptably high surface temperatures.
- Choose a storage location where moisture does not collect in the measuring device. This will help prevent fungus and bacteria infestation which can damage the liner.



- Do not remove the protective covers on the process connections until you are ready to install the device.
- Do not remove covers of the transmitters as moisture can be captured inside the electronics.

NOTE: If covers of the instrumentation housing are taken off, please insure the covers are put on properly to avoid cross threading, and/or weather (moisture) penetrating into the housing.

### Special notes:

- Do not lift flanged devices by the transmitter housing, or the connection housing in the case of the remote version.
- **This information is used for a general guide line. If more information is required, refer to model number specific TI (Technical Information) document for more detailed information.**
- *In the event that a plastic plug is installed in any conduit entry point and the unit will be exposed to the environments for a long period of time. The conduit will require a SS plug to be installed for adequate moisture protection.*

## 2.4 Temperature Transmitters

### Transportation

The following instructions apply to unpacking and to transporting the device to its final location:

- Transport the devices in the containers in which they are delivered.
- Do not remove Protective bubble wrap that are installed on the units until installation of the equipment is required.
- Do not stack boxes on top of the unit.

### Incoming acceptance

- Check the packaging and the contents for damage.
- Check the shipment, make sure nothing is missing and that the scope of supply matches your order.
- Check that Installation operation and maintenance manual CD, and safety notes are provided in Box.
- If Documentation (IE: Material test reports, Calibration reports, ect) are ordered with the shipment ensure that the documentation is inside the Box.
- *Once the unit is removed from the packaging, an inspection of the covers is recommended to ensure a tight seal. In the event that the cover is lose then turn clock wise until the cover can not rotate any further.*

NOTE: Leave Instruments in protective Box until installation is required. This will protect the unit from damage.

### Storage

Note the following points:

- Pack the measuring device in such a way as to protect it reliably against impact for storage (and transportation). The original packaging provides optimum protection.
- The ambient storage temperature (-40...+80 °C) - preferably +20 °C.
- The measuring device must be protected against direct sunlight during storage in order to avoid unacceptably high surface temperatures.
- Choose a storage location where moisture does not collect in the measuring device. This will help prevent fungus and bacteria infestation which can damage the liner.

- Do not remove the protective bubble wrap on the process connections until you are ready to install the device.
- Do not remove covers of the transmitters as moisture can be captured inside the electronics.

NOTE: If covers of the instrumentation housing are taken off, please insure the covers are put on properly to avoid cross threading, and/or weather (moisture) penetrating into the housing.

### Special notes:

- **This information is used for a general guide line. If more information is required, refer to model number specific TI (Technical Information) document for more detailed information.**
- *In the event that a plastic plug is installed in any conduit entry point and the unit will be exposed to the environments for a long period of time. The conduit will require a SS plug to be installed for adequate moisture protection.*
- When Thermowells are installed and the RTD is not inserted for a long period of time. It is recommended that entry point of the Thermowell be plugged with a SS plug to avoid water build up inside the well.

## 2.5 Analytical Sensors

### Transportation

The following instructions apply to unpacking and to transporting the device to its final location:

- Transport the devices in the containers in which they are delivered.
- Do not remove Protective wrap that are installed on the units until installation of the equipment is required.
- Do not stack boxes on top of the unit.

### Incoming acceptance

- Check the packaging and the contents for damage.
- Check the shipment, make sure nothing is missing and that the scope of supply matches your order.
- Check that Installation operation and maintenance manual CD, and safety notes are provided in Box.
- If Documentation (IE: Material test reports, Calibration reports, ect) are ordered with the shipment ensure that the documentation is inside the Box.

NOTE: Leave Instruments in protective Box until installation is required. This will protect the unit from damage.

### Storage

Note the following points:

- Pack the measuring device in such a way as to protect it reliably against impact for storage (and transportation). The original packaging provides optimum protection.
- Turbidity sensors :
  - -20+60 Deg.C
  - Humidity 5 to 95 %
- pH/ORP sensors:
  - Storage temperature 0 to 50°C / 32 to 122°F
  - Store the pH /ORP electrode in its storage solution (3.8 M KCl or pH buffer 4).

NOTE: The sensor should be stored in upright position. If the electrode is inadvertently stored dry (we don't recommend this!), immerse the unit in soaking solution for a minimum of eight hours prior to service.

- Chlorine Sensors:
  - Filled with electrolyte: 41 to 122°F (5 to 50°C)
  - Without electrolyte: -4 to 140°F (-20 to 60°C)
- DO Sensors:
  - ANALOG
    - Storage temperature
      - With Electrolyte: -5 to +50°C (23 to 120°F)
      - Without Electrolyte: -20 to +60°C (-4 to 140°F)
  - DIGITAL
    - Storage temperature -10 to +60°C (10 to 140°F) at 95% relative air humidity, not condensing

**CAUTION! Danger of drying out**

Only store the sensor with the electrode protection cap (filled with 0.02 n NaOH).

- Wedgewood analytical Optical Sensors and Transmitters:
  - Operating environment: Temperature, 32 to 131°F (0 to 55°C)
  - Relative humidity 0 to 90%.

**Special Notes:**

**This information is used for a general guide line only. If more information is required, it is the responsibility of the customer/user to reference the model number specific TI (Technical Information) document for more detailed information.**