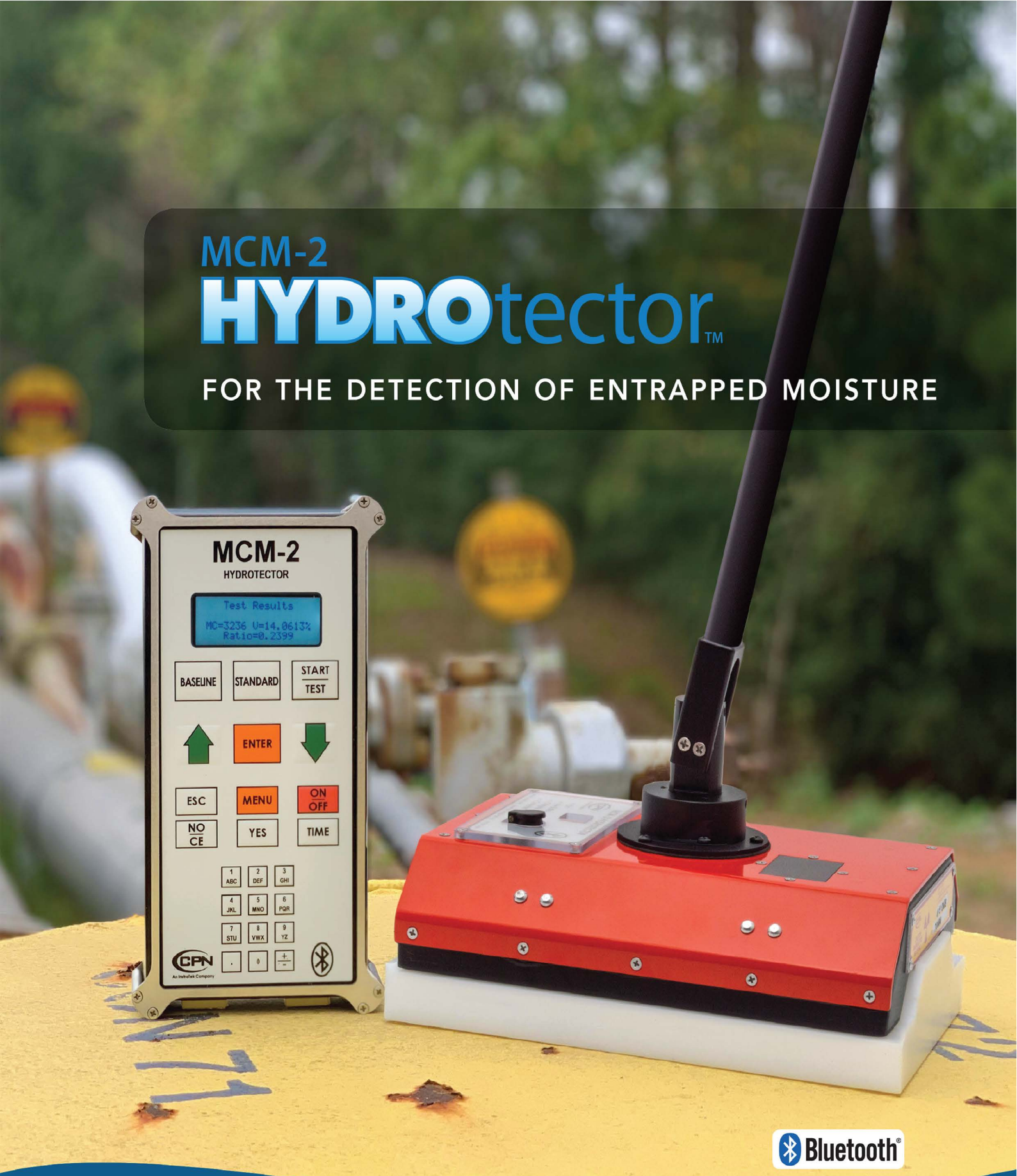
MCM-2 HYDROtector™

FOR THE DETECTION OF ENTRAPPED MOISTURE



Bluetooth®

Neutron Backscatter Moisture Detection of
Corrosion Under Insulation (CUI)
and Corrosion Under Fireproofing (CUF)
API Report 583-2014

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MCM-2 HYDROtector™

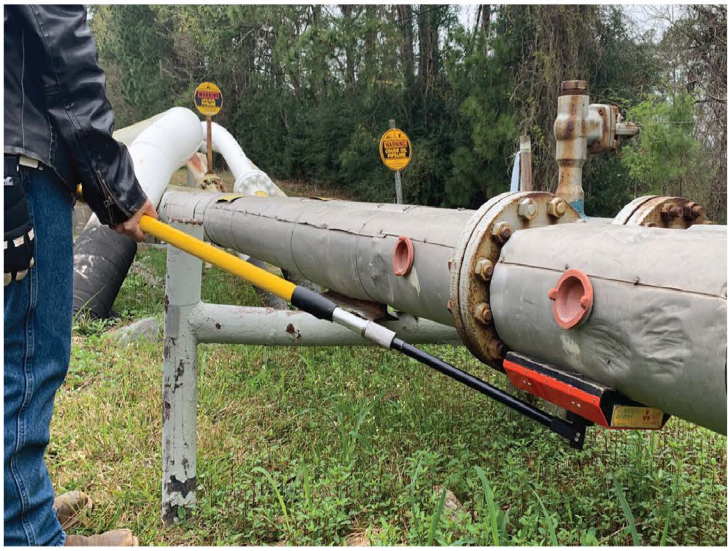
The MCM-2 Hydrotector® non-destructive, neutron moisture measurement gauge is designed for quick determination of water content in the thermal insulation of pipes and vessels at chemical and petrochemical plants.

Designed as a screening tool to rapidly locate areas of trapped moisture, the MCM-2 works well in conjunction with corrosion detection equipment to quickly detect areas where corrosion under insulation is highly probable.

The MCM-2 is an easy-to-use and superior alternative to other methods of detecting moisture in insulating materials and can be put to the task with minimal operator instructions. The sensor head, attached to the end of a telescopic pole, communicates with the hand-held control unit using Bluetooth® technology to collect data.

By taking readings along a pipe section the neutron backscatter data is analyzed to detect increased amount of moisture in pipe insulation and fireproofing. The readings can be compared against each other on relative to historic data to determine change in moisture content over time.

Rugged and reliable the MCM-2 detector assembly is enclosed in a durable, light-weight aluminum housing. The LCD readout is sealed in a dust-proof, water resistant enclosure, protected by a rubber case.



PROJECT STORAGE

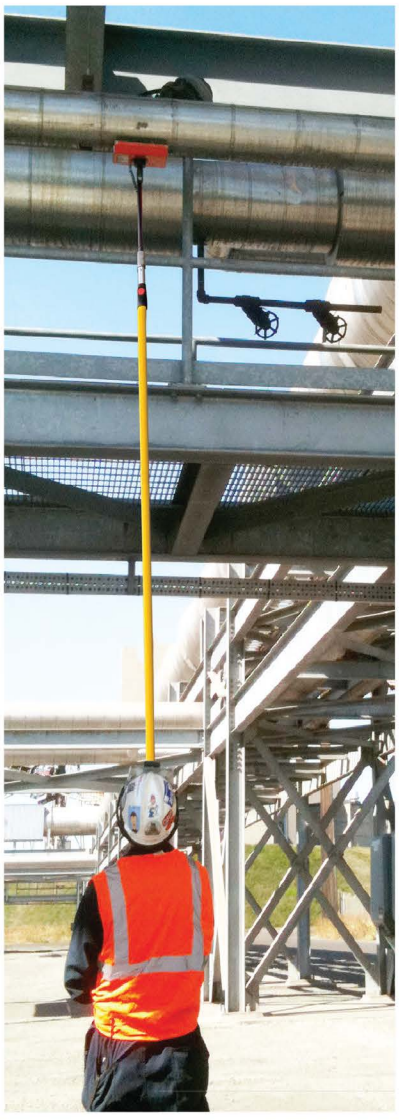
Project storage allows for three modes of storage, Simple Project, Daily Project, or Continuous Logging. Both Simple and Daily storage allow for a project ID. The user can also set up templates defining locations and sections within locations. A 2 GB internal SD card allows the user to store a large number of templates and projects. Projects and templates can be transferred to a computer via USB flash drive or Bluetooth.

FEATURES

- Wireless communications between Handheld and Sensor ensures that no problematic wires get in the way of readings.
- User-friendly alphanumeric keypad and 20 character backlit LCD.
- Rapid, precise repeatable moisture measurements.
- Lightweight and portable.
- Storage and recall selection of linear calibrations for 32 tubing/ insulation types.
- Operator selected time of test
- Data downloaded to a USB mass storage device (Thumb Drive) or via a PC application available from InstroTek's website.
- Rechargeable NiMh batteries.
- Templates for easy project creation for different work sites.
- Windows software to organize project data.

The Handheld control unit communicates with the sensor head using Bluetooth technology to collect data.

The Sensor keypad has one key – ON/OFF, four status LEDS, and the charger jack. 12V AC-DC charger provided.



Lightweight telescopic pole allows easy access to hard-to-reach areas and eliminates the need for scaffolding.

Fast & Easy
Fast and easy-to-use method that can be used to quickly scan pipes and vessels

API
As mentioned in American Petroleum Institute Recommended Practices Report 583-2014

Bluetooth
Eliminates communication cables and simplifies data capture and data transfer

Visual & Audible Alerts
Visual and audio signals alert the user when moisture limits have been reached

Software
User-friendly software with project storage or continuous logging

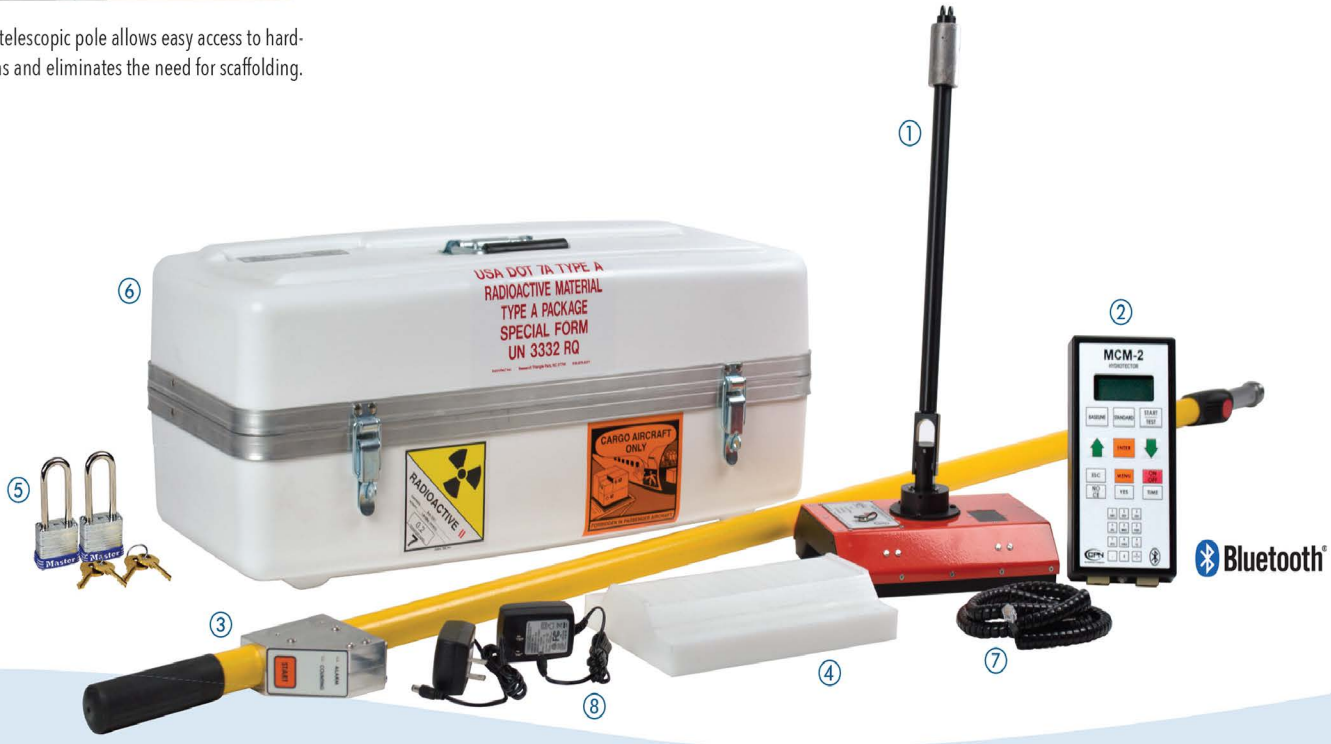
ADVANTAGES

- Lightweight, Wireless telescopic pole allows for testing from a distance up to 10 ft.
- Fast and easy to use; allows thousands of feet of insulated pipe to be tested in a day.
- Designed for maximum accessibility in hard-to-reach areas.
- All tests can be stored and identified for each pipe or vessel location. Using Bluetooth®, the data can be quickly uploaded to a computer or printer.
- Includes PC software for creating section and location templates for downloading project and logging info.

APPLICATIONS

- Evaluate insulated tanks and vessels quickly for potential corrosion problems.
- Investigate insulated pipe for high concentrations of moisture to identify areas for corrosion inspection.
- Quickly detects liquid/moisture levels in containment vessels.

The MCM-2 comes with a 1-Year Warranty and is backed by over 20 YEARS of outstanding and trusted customer service.



MCM-2 HYDROTECTOR INCLUDES:

1. *MCM-2 Hydrotector Sensor,* ***2.*** *MCM-2 Hydrotector Handheld,* ***3.*** *MCM-2 Hydrotector Extension Pole*
4. *Standard Block,* ***5.*** *Case Lock with Keys – 2,* ***6.*** *Shipping Case,* ***7.*** *Pole to Hand-Held Cable*
8. *AC Chargers - 2,* ***9.*** *Manual of operation and gauge paperwork (not shown)*

All InstroTek gauges come standard with a 1-year limited warranty and are backed with unmatched customer service and technical support.

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MCM-2 HYDROtector™

SPECIFICATIONS

DIRECT READOUT FEATURES

LCD DISPLAY
4 x 20 character LCD with back light

CALIBRATION
32 selectable calibrations allow for varying conditions.

SOFTWARE DRIVEN MENU SELECTION
Selection of gauge functions for counting, self-calibration, unit selection, data definition, and storage format.

DATA STORAGE
2 GB of project storage.

DATA TRANSFER
USB or Bluetooth.

FUNCTION
NDT measurement of insulation materials by manual counts.

RANGE
0 to 70% moisture

COUNT TIME
User selectable. Average manual count is 4 seconds.

POWER
Hand-held Control Unit: 6 AA rechargeable NiMetal Hydride.
Sensor Head: 4 AAA

BATTERY LIFE
20 - 40 hours on a single charge, dependent on usage.

ALERTS
Red & green LED alert lights on handle illuminates when elevated moisture is detected. Status LED lights on sensor head.

RADIOLOGICAL

NEUTRON SOURCE
50 mCi Americium-241/Be (1.85 GBq).

ENCAPSULATION
Double Encapsulated, Stainless Steel, CPN-131

SHIPPING
RQ, UN 3332, Radioactive Material, Type A Package,
Special Form 7
AM-241 1.85 GBq
Type A Package
Yellow II, TI = 0.2

DIMENSIONS/SHIPPING WEIGHTS

	Width	Depth	Height	Weight
Detector Assembly with Short Pole	7.0 in (178 mm)	21 in (533 mm)	5.0 in. (27 mm)	3.8 lbs. (1.72 kg)
Detector Assembly In Shipping Container	27.0 in (686 mm)	12.0 in (305 mm)	12.0 in (305 mm)	24.5 lbs (11.11 kg)
Adjustable Pole In Shipping Container	5.5 in (140 mm)	5.5 in (140 mm)	6.66 ft (2.03 m)	15.0 lbs (6.80 kg)

LICENSING AND TRAINING

InstroTek® offers the necessary radiation safety and application training to ensure proper use of this device on a continuous basis.

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