TORONTECH

HONEY MOISTURE OPTICAL REFRACTOMETER

Honey Moisture Optical Refractometer – ToronOR™ HM Series

A handheld Optical Refractometer in the ToronOR™ HM Series is designed for fast honey moisture checks using a direct optical reading. The two listed models, ToronOR™ HM 25 and ToronOR™ HM 30, are built for honey water-content measurement across different moisture ranges, so users can choose a tighter-range or broader-range Refractometer based on their product profile and process needs.

A honey moisture Refractometer works by measuring how light bends through a thin sample layer, then converting that optical behavior into a direct water-content reading on the internal scale. For honey producers, packers, and quality-control teams, this allows a quick check of moisture level without using a larger benchtop system. Honey moisture matters because excess water can raise fermentation risk and affect shelf stability.

This is what makes the ToronOR™ HM Series different from a general-purpose refractometer. A general Optical Refractometer may read Brix or refractive index only, while these models are scaled directly for water content in honey, which is more practical for beekeeping, honey processing, and incoming inspection workflows.

APPLICATIONS

Honey Moisture Optical Refractometer – ToronOR™ HM Series Application

- Honey harvest and ripeness verification: Honey moisture is often checked before extraction, blending, or packing to confirm whether the product has reached a suitable maturity and storage condition. Codex and related honey guidance identify moisture as one of the core quality parameters in honey evaluation, and high humidity conditions can make moisture control especially important.
- Honey processing and packing quality control: During filtering, storage, blending, and packing, a quick handheld moisture reading helps operators confirm lot consistency and reduce the risk of out-of-spec finished product. A portable

Refractometer is especially useful for routine line-side checks where a fast result is more practical than sending every sample to a lab.

- Incoming inspection and lot comparison: Honey packers, distributors, and trading operations can use these instruments to compare incoming lots and screen for moisture-related handling risk before acceptance or blending. The narrower ToronOR™ HM 25 and broader ToronOR™ HM 30 ranges give users a choice depending on the typical moisture profile they expect to see.

TORONOR™ HM Series
Honey Moisture Optical Refractometer

Standards

- EN 61000-6-1: 2007
- EN 61000-3-2: 2014
- EN 61000-3-3: 2013
- EN 61000-6-3: 2007+A1:2011+AC:2012
- EN 61000-4-2: 2009
- EN 61000-4-3: 2006+A1:2008+A2:2010
- EN 61000-4-4: 2012
- EN 61000-4-5: 2014
- EN 61000-4-6: 2014
- EN 61000-4-8: 2010
- EN 61000-4-11: 2004

FEATURES

Honey Moisture Optical Refractometer – ToronOR™ HM Series Key Features

- Handheld analog Optical Refractometer design for direct honey moisture reading.
- Two model ranges available, allowing users to choose a tighter-range or broader-range honey moisture Refractometer.
- Pure aluminum construction.
- Ambient-light operation with no battery required, consistent with the analog refractometer format.
- Standard handheld kit with refractometer, pipette, mini screwdriver, protective carrying case, manual, and cleaning cloth.
- Portable manual design suitable for harvest checks, packing QC, and incoming lot screening.

THEORY & METHOD

Theory and Method

Each handheld Optical Refractometer uses a prism and ambient light to create a visible boundary line in the eyepiece. A small amount of honey is placed on the prism, the cover plate is closed, and the operator reads the moisture value directly from the scale. Honey guidance from FAO explains that moisture in honey can be determined from the refraction of light as it passes through a prism coated with a honey sample.

This manual approach is practical for beekeeping and packing environments because it gives a quick result without a powered instrument.

TECHNICAL SPECIFICATIONS

Honey Moisture Optical Refractometer – ToronOR™ HM Series Technical Specification

Model	What this model is for	Scale details	Best-fit use case	Common build / package details
ToronOR™ HM 25	A narrower-range honey moisture refractometer for users who want tighter focus in the normal honey moisture zone. This model is the better fit when the goal is more concentrated reading coverage around typical commercial honey moisture levels.	13–25% water. ToronOR™ HM 25 is for honey moisture refractometer covering this range.	ToronOR™ HM 25 is for honey moisture refractometer covering this range. Best for beekeepers, honey packers, and QC teams working mainly within common honey moisture ranges and wanting a more targeted moisture scale. This model aligns well with typical commercial honey checks against Codex-style moisture limits.	Standard analog refractometer package style: refractometer, pipette, mini screwdriver, protective case, manual, and cleaning cloth. Pure aluminum construction

Model	What this model is for	Scale details	Best-fit use case	Common build / package details
ToronOR ™ HM 30	A broader-range honey refractometer for users who want to measure across a wider water-content span. This makes it more flexible when sample moisture can vary more from lot to lot.	10–30% water. The ToronOR™ HM 30 is a water honey refractometer with a broader range.	Best for broader screening, incoming lot checks, and operations that may see wider variation in honey moisture before blending or final conditioning.	Standard package includes 1× ATC refractometer, 1× pipette, 1× mini screwdriver, 1× protective carrying case, 1× manual, and 1× clean cloth. Pure aluminum construction.

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