TORONTECH

PRECISION MORTAR AIR ENTRAINMENT METER

Precision Mortar Air Entrainment Meter – ToronMAM™ P

ToronMAM™ P is a high-precision direct-reading mortar air content meter designed for accurate measurement of entrained air in fresh mortar mixes. Combining a built-in air pump and a pressure gauge lock mechanism, this instrument streamlines the test process and reduces operator variability — making it one of the most field-practical mortar air testers available. Though engineered specifically for mortar rather than full-aggregate concrete, it shares the same core pressure method principles used in standard air entrainment meter testing.

Constructed with a pure 304 stainless steel pressure gauge and a 1-liter sealed bowl, the ToronMAM™ P delivers reliable readings across an air content range of 0% to 20%, with accuracy of ±0.1% for 0%–6% and ±0.2% for 7%–20%. At approximately 3.2 kg, this compact mortar air meter is lightweight enough for routine use on masonry sites, precast plants, and mortar testing laboratories without added carrying burden.

APPLICATIONS

Precision Mortar Air Entrainment Meter – ToronMAM™ P Applications

The ToronMAM™ P mortar air content meter is suited for use across a broad range of mortar production and construction applications:

- Masonry mortar QC: air content verification for Type S, N, and M mortars used in brick, block, and stone construction
- Plastering and stucco applications: air entrainment checks for base coat, brown coat, and finish mortar mixes
- Prepackaged mortar manufacturing: plant-level quality control for bagged and bulk mortar products
- Concrete repair and patching mortars: air content testing for cementitious repair compounds
- Grout and specialty cementitious products: verification of air content in non-shrink grouts and admixture-modified mixes

- Testing laboratories: standardized mortar air tester for mix qualification and compliance testing
- Research and mix design development: accurate air measurement for mortar formulation and admixture evaluation


CAST IN PLACE
ZERO TO 0.2 METER
MPa
TORONTECH
ToronMAM™ P
Precision Mortar Air Entrainment Meter

Applicable Standards

The ToronMAM™ P mortar air content meter is designed to support testing in compliance with the following international standards:

- ASTM C185: Standard Test Method for Air Content of Hydraulic Cement Mortar
- AASHTO T137: Air Content of Hydraulic Cement Mortar
- ASTM C780: Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
- EN 1015-7: Methods of Test for Mortar for Masonry: Determination of Air Content of Fresh Mortar

FEATURES

Precision Mortar Air Entrainment Meter – ToronMAM™ P Key Features

The ToronMAM™ P precision mortar air tester offers a focused and practical set of features for repeatable, accurate air content measurement:

- Built-in air pump: self-contained pressurization requires no external air source or compressor
- Pressure gauge lock: holds initial pressure reading steady before valve release, reducing measurement error
- Direct-reading design: air content percentage displayed immediately on gauge without manual calculation
- High-precision classification: tighter accuracy than standard-grade mortar air meters
- Pure 304 stainless steel pressure gauge: corrosion-resistant, durable, and calibrated for precision performance
- 0.1 MPa operating pressure: appropriate for mortar sample characteristics per standard test protocols
- 1-liter bowl volume: matched to the finer-grained nature of mortar samples for accurate pressure response
- Air content range of 0% to 20%: covers low and high air content mortar specifications
- Graduated accuracy: ±0.1% for 0%–6% range, ±0.2% for 7%–20% range
- Lightweight at approximately 3.2 kg: easy to transport and operate in field and lab environments

THEORY & METHOD

Theory and Method

The ToronMAM™ P uses the pressure method to determine the air content of fresh mortar. The mortar sample is sealed inside the 1-liter stainless steel bowl, and the integrated air pump pressurizes the chamber to 0.1 MPa. The pressure gauge lock holds the initial pressure reading steady before the equalization valve is released. As the pressurized air compresses the entrained voids within the mortar sample, the resulting pressure drop is read directly from the gauge as a percentage of air content — no curves, no charts, and no manual calculations required.

The built-in pump design eliminates the need for external pressurization equipment, giving operators full control over the test setup in any field or lab environment. The pressure gauge lock feature — not found on standard mortar air meters — prevents pressure bleed between pressurization and reading, which directly reduces measurement error and improves repeatability across multiple tests.

TECHNICAL SPECIFICATIONS

Precision Mortar Air Entrainment Meter – ToronMAM™ P Technical Specifications

Parameter	Specification
Model	ToronMAM™ P
Bowl Volume	1 L (1,000 mL)
Pressure Gauge Range	0.1 MPa

Parameter	Specification
Pressure Gauge Material	Pure 304 stainless steel
Air Content Range	0% – 20%
Accuracy (0%–6% range)	±0.1%
Accuracy (7%–20% range)	±0.2%
Pressurization Method	Built-in air pump
Pressure Control Feature	Pressure gauge lock
Instrument Weight	Approximately 3.2 kg
Test Type	Direct-reading (pressure method); high precision
Application	Fresh mortar air content testing

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