

# DIGITAL CONCRETE AIR METER



# Digital Concrete Air Meter – ToronCAM™ D

ToronCAM™ D is an advanced direct-reading concrete air meter featuring a bilingual digital display that delivers clear, precise air content readings without the interpretation challenges associated with analog gauges. Designed for both field and laboratory use, this concrete air tester is powered by a rechargeable lithium battery — providing operational independence from power outlets on any jobsite.

Constructed from a magnesium-aluminum-zinc durable alloy with copper operating valves, the ToronCAM™ D air entrainment meter combines structural durability with measurement precision. Its imported ceramic sensing chip and 0.2 MPa maximum pressure gauge range deliver greater accuracy than conventional analog instruments, with a test error of approximately  $\pm 0.0020\%$  across the full 0% to 10% measurement range. For teams that demand digital confidence in their air meter for concrete testing, the ToronCAM™ D sets a new standard in the field.

## APPLICATIONS

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### Digital Concrete Air Meter – ToronCAM™ D Applications

The ToronCAM™ D concrete air meter is well suited for use in the following industries and project types:

- Ready-mix concrete plants: digital air entrainment meter checks with on-screen readout for rapid QC documentation
- Transportation and infrastructure projects: bridge decks, highways, and airport pavements requiring freeze-thaw durable concrete
- High-performance and specialty concrete production: precise air content verification for demanding mix designs
- Precast and prestressed concrete facilities: automated reading reduces human error during production-line testing
- Independent testing laboratories: compliant concrete air tester for standardized ASTM and international protocols
- Remote or off-grid construction sites: battery-powered operation eliminates dependence on external power sources

- Government infrastructure and DOT projects: digital readout supports accurate record-keeping and reporting requirements



## FEATURES

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### Digital Concrete Air Meter – ToronCAM™ D Key Features

The ToronCAM™ D concrete air tester delivers a comprehensive feature set for accurate, efficient air content measurement:

- Bilingual digital display (Chinese-English): clear on-screen readout eliminates analog gauge interpretation errors
- Imported ceramic sensing chip: high-precision pressure sensing for superior measurement accuracy
- Rechargeable lithium battery: continuous operation up to 3 hours fully charged, standby up to 8 hours
- Full-range test error of approximately  $\pm 0.0020\%$  (0%–10%): the last two digits can be disregarded per standard practice
- Magnesium-aluminum-zinc alloy body with all-copper operating valves: durable, corrosion-resistant construction
- 7,000 mL measuring bowl: standard capacity for fresh concrete samples per ASTM and international test methods
- Maximum aggregate particle size compatibility of 40 mm: wide mix design applicability
- 0.2 MPa maximum pressure gauge range: greater operating range than standard analog meters
- Factory pre-calibrated initial pressure point of  $0.1000 \pm 0.0020$  MPa: traceable, consistent test setup
- Dry method (no water) support: initial pressure point 0.1000 MPa with  $\leq 10$  last-digit fluctuation
- Manual sliding air exhaust: controlled and reliable pressure release during testing
- Universal bubble level: ensures accurate instrument leveling as required by standard test procedures

## THEORY & METHOD

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### Theory and Method

The ToronCAM™ D operates on the pressure method — the globally recognized standard for measuring air content in freshly mixed concrete. The concrete sample is sealed within the 7,000 mL measuring bowl, and a pre-calibrated initial pressure of 0.1000 ± 0.0020 MPa is applied via the air chamber. When the equalization valve is opened, the pressure differential caused by the entrained air voids in the concrete is measured by the ceramic sensing chip and displayed digitally as a percentage of air content.

This air meter for concrete also supports a dry method (initial pressure without water), where the initial point reads 0.1000 MPa with a last-two-decimal-digit fluctuation of ≤10. The manual sliding air exhaust method provides controlled pressure release. All initial pressure points are factory pre-calibrated and can be adjusted for environment and operator preferences, maintaining consistency across different test conditions without recalibration in the field.

TECHNICAL SPECIFICATIONS

Digital Concrete Air Meter - ToronCAM™ D Technical Specifications

| Parameter                       | Specification                                                  |
|---------------------------------|----------------------------------------------------------------|
| Model                           | ToronCAM™ D                                                    |
| Measuring Bowl Volume           | 7,000 mL                                                       |
| Air Content Measurement Range   | 0% - 10% (maximum range ≤10%)                                  |
| Maximum Aggregate Particle Size | ≤40 mm                                                         |
| Main Unit Material              | Magnesium-aluminum-zinc durable alloy; copper operating valves |
| Test Error (Full Range 0%-10%)  | Approximately ±0.0020% (last two digits may be disregarded)    |
| Maximum Pressure Gauge Range    | 0.2 MPa                                                        |
| Pressure Gauge Sensing Element  | Imported ceramic sensing chip                                  |

| Parameter                           | Specification                                        |
|-------------------------------------|------------------------------------------------------|
| Initial Pressure Point (Standard)   | 0.1000 ± 0.0020 MPa (factory pre-calibrated)         |
| Initial Pressure Point (Dry Method) | 0.1000 MPa (last two decimal digits fluctuation ≤10) |
| Air Exhaust Method                  | Manual sliding type                                  |
| Instrument Leveling Method          | Universal bubble level                               |
| Power Supply                        | Rechargeable lithium battery                         |
| Battery Life (Continuous)           | ≤3 hours (fully charged)                             |
| Battery Life (Standby)              | ≤8 hours                                             |



**Torontech Inc.**

251 Consumers Road, Suite 1200  
Toronto, Ontario, M2J 4R3, Canada 🇨🇦

Phone: +1 416 368 2721 | Fax: +1 416 981 7652  
Email: [info@torontech.com](mailto:info@torontech.com)

**Torontech, LLC**

601 Brickell Key Drive, Suite 700  
Miami, FL 33131, USA 🇺🇸

Toll-Free: 1-866-383-7919  
Email: [sales@torontech.com](mailto:sales@torontech.com)

**Torontech ME FZE**

Meydan Grandstand, 6th Floor,  
Meydan Road, Nad Al Sheba,  
Dubai-261440, UAE 🇦🇪

Phone: +971 488 19252  
Email: [me@torontech.com](mailto:me@torontech.com)

