

V-Funnel Apparatus
Self-Compacting Concrete (SCC) Workability Testing



GENERAL INFORMATION

Equipment Name	V-Funnel Apparatus
Full Form	V-Funnel Apparatus for SCC Testing
Application	Self-Compacting Concrete (SCC) Workability Measurement - Flow time and viscosity assessment
Test Method	Measurement of concrete flow time through V-shaped funnel apparatus
Standards Compliance	EFNARC Guidelines; IS (Indian Standards); EN Standards (European Norms)

EQUIPMENT DESCRIPTION

The V-Funnel Apparatus is a specialized testing device designed to evaluate the workability and flow characteristics of Self-Compacting Concrete (SCC). It measures the time taken for fresh concrete to flow through a V-shaped funnel under gravity, providing critical data on the concrete's viscosity, flow ability, and passing ability. The apparatus features a quick-release trap door mechanism for controlled discharge and is constructed to ensure leak-proof operation during testing.

MAIN COMPONENTS

1. V-Funnel Body Assembly
- Stainless Steel (SS 304 Grade) construction
- V-shaped internal geometry for smooth, unimpeded concrete flow
- Smooth internal surface to prevent aggregate bridging
- Rigid welded construction to prevent deformation
- Top inlet opening: 515 mm × 515 mm (square)
- Bottom outlet: 65 mm × 75 mm (rectangular)
2. Discharge Mechanism
- Quick-release trap door at bottom outlet
- Leak-proof sealing system
- Controlled discharge for accurate testing
3. Support Frame
- Heavy-duty laboratory-grade GI sheet outer frame
- Reinforced frame for maximum stability

Corrosion-resistant powder-coated finish
Rigid metallic construction base

TECHNICAL SPECIFICATIONS

Parameter	Specification
Top Inlet Opening	515 mm × 515 mm (Square)
Funnel Height	600 mm
Bottom Outlet Size	65 mm × 75 mm (Rectangular)
Wall Thickness	Heavy-duty laboratory grade
Material	Stainless Steel (SS 304 Grade) + GI Sheet
Design	V-shaped funnel with smooth internal surface
Discharge Mechanism	Quick-release trap door (leak-proof)

CONSTRUCTION DETAILS

Body Material:
Stainless Steel (SS 304 Grade) with smooth internal surface to ensure uniform flow

Outer Frame:
Heavy-duty laboratory-grade GI sheet with reinforced design for structural stability

Construction Method:
Rigid welded construction to prevent deformation during operation

Surface Finish:
Smooth machined internal surfaces; corrosion-resistant, powder-coated exterior

OPERATING PRINCIPLE

Fresh concrete is poured into the top inlet opening (515 mm × 515 mm)

The trap door at the bottom is released simultaneously with concrete pouring

Concrete flows through the V-shaped funnel under gravity alone

Flow time is measured from release until concrete stops flowing from the outlet

The measured time indicates viscosity and flow characteristics of the SCC

PERFORMANCE REQUIREMENTS

Performance Aspect	Requirement
Flow Characteristics	Smooth, uninterrupted flow without blockage
Sealing Integrity	No leakage during filling and discharge cycles
Test Repeatability	Repeatable and accurate test results within tolerance
Structural Stability	Remains rigid during testing without deformation
Operating Durability	Suitable for continuous laboratory use

SAFETY FEATURES

Stable, reinforced base stand to prevent tipping

Secure clamping and support mechanisms for safe operation

Smooth surfaces and rounded edges to prevent injury

Non-slip contact surfaces for stability during concrete discharge

Easy-to-use quick-release mechanism with clear operational guidelines

APPLICATION AREAS

Civil Engineering Testing Laboratories

Concrete Quality Control and Assurance Laboratories

Ready-Mix Concrete Plants and Production Facilities

Research and Development (R&D) Concrete Mix Design Studies

Construction Material Testing Facilities

Academic Research Institutions and Universities

Precast and Prefabricated Concrete Manufacturing Plants

MAINTENANCE & CARE

Clean thoroughly after each test to prevent concrete buildup

Regularly inspect for wear, damage, or deformations affecting accuracy

Check sealing gaskets and trap door mechanism for proper functioning

Maintain smooth internal surfaces to ensure unimpeded concrete flow

Perform periodic calibration to verify test accuracy

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Specifications are subject to change without prior notice. For quotations, drawings, or technical clarification,
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