MASS FLOW MEASUREMENT

Reliable Mass Flow Measurement. Even in the Toughest Process Conditions.

THE MEASUREMENT SOLUTION

Ronan's radiometric mass flow systems combine non-contact density measurement with volumetric flow data to continuously calculate actual material throughput—even in abrasive slurries, corrosive liquids and variable-density processes where conventional measurement can be difficult.

HOW IT WORKS

Ronan's mass flow system combines three coordinated measurement elements to calculate actual mass throughput from density and volumetric flow.

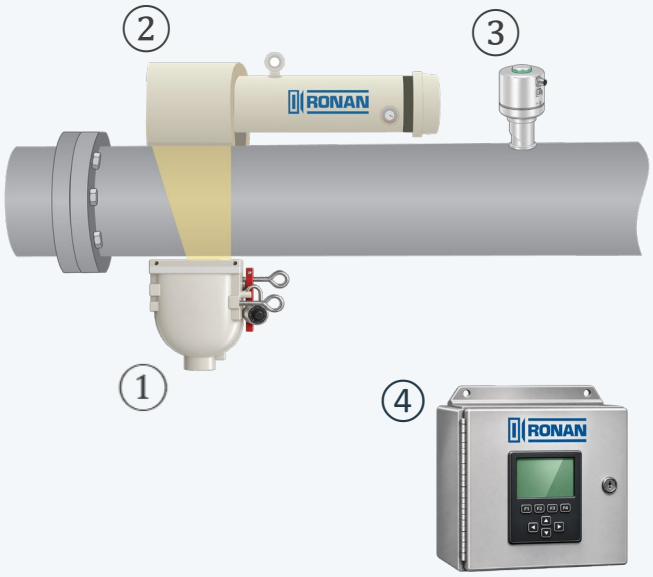
1. Source Holder
An external source holder and detector measure process density through the pipe wall without contacting the material.

2. Detector
Measures changes in radiation intensity as material density varies, sending the signal to the microprocessor for density and mass flow calculations.

3. Volumetric Flowmeter
A compatible flowmeter provides continuous volumetric flow data to the Ronan microprocessor.

4. Microprocessor / Transmitter
Combines density and volumetric flow measurements to calculate mass-flow rate and totalized mass.

Mass Flow Measurement



KEY BENEFITS

Accurate Mass Throughput
Combines density and volumetric flow to measure actual mass movement as process density changes.

Non-Contact Density Measurement
External components avoid exposure to abrasive, corrosive and challenging process materials.

Reduced Maintenance
No intrusive density probes or bypass lines that introduce wear, buildup or additional maintenance.

Better Process Control
Continuous mass-flow and totalized-material data support production monitoring and reporting.

RONAN ENGINEERING COMPANY

MEASUREMENT SYSTEMS

MASS FLOW MEASUREMENT

BUILT AROUND YOUR PROCESS

Configured around pipe geometry, material density range, volumetric flow data, operating conditions and reporting requirements.

ELECTRONICS FEATURES & CAPABILITIES

- Reliable mass-throughput calculations by combining density and volumetric flow inputs
- Continuous monitoring of mass-flow rate and totalized material
- Flexible reporting with configurable engineering units
- Improved process oversight with alarms, data logging and control outputs

INDUSTRIES & APPLICATIONS

INDUSTRIES

- Mining and Aggregates
- Dredging
- Chemical and Petrochemical Processing
- Pulp and Paper
- Cement

APPLICATIONS

- Dredging and slurry transport
- Mining process streams
- Chemical and petrochemical transfer lines
- Pulp and paper process streams
- Variable-density liquid transport
- Material throughput and totalization

ENGINEERED FOR YOUR PROCESS

Accurate mass flow measurement depends on both density and volumetric flow. Ronan engineers evaluate pipe geometry, material characteristics, flowmeter signals, operating conditions and reporting needs to configure a system for your application.

From initial application review through commissioning, startup and ongoing support, Ronan works with your team to deliver dependable mass-flow measurement.

EXPLORE THE COMPLETE SOLUTION

◄ Scan for applications, technical resources and to contact a Ronan engineer.

ronan.com/measurement-systems/mass-flow