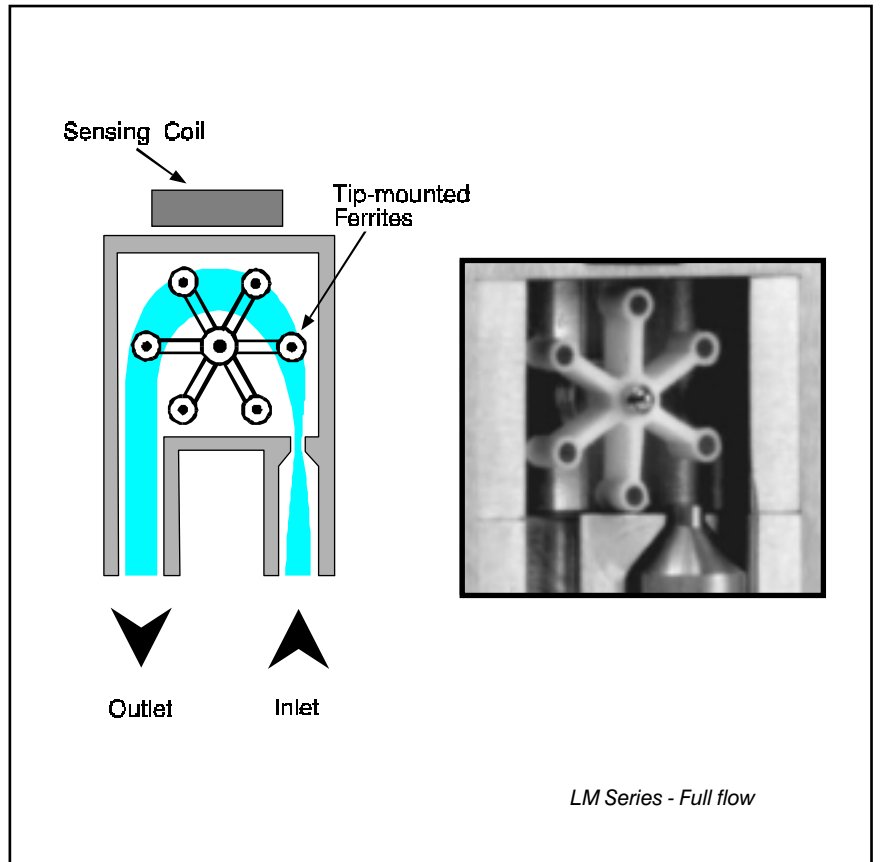


LM SERIES: Principle of Operation – Full Flow

The original rotor specified in the Litre Meter patents is a straight-bladed Pelton wheel. This proven design still forms the heart of the present flowmeters. The very large blade area compared with the flow inlet port size produces an exceptionally wide range flowmeter which can also measure very low flows.

The flow through the inlet of the meter is accurately directed onto the rotor which rotates at a speed in linear proportion to the flow rate. A small sensing coil which is part of the meter's transmitter circuit detects the ferrites mounted in the rotor blade tips as they pass. The transmitter electronics provides a current-limited pulse output signal. The signal has good noise immunity and can be transmitted for more than 1000m without difficulty. LM Series meters have screwed or hose connections based on 6mm (1/4") size.

- **Standard linearities:**
± 0.5% & 1% FSD
- **High linearity:**
± 0.5% actual within a 40:1 range using linearising electronics.
- **Repeatability:**
Better than ± 0.25% for 90% of range
- **Rangeability (turndown):**
From 50:1 to 280:1 at 1 centipoise



MM SERIES: Principle of Operation – Orifice/Bypass

The MM Series meter has a similar turbine ring assembly and signal output but is designed for larger flow rates. It achieves this by mounting the pelton wheel turbine ring assembly in a bypass chamber across an orifice plate. Flow tappings on either side of the orifice cause a proportion of the flow to drive the pelton wheel rotor. **The speed of the rotor and the resulting output pulses are proportional in a linear relationship to the fluid flowrate through the meter.** The large turndown characteristics provided by the pelton wheel design are retained and each meter is calibrated down to approximately 2% of max flow.

MM Series meters up to MM30 (1 1/4") size are provided with screwed or pipe connections and MM37 (1 1/2") to MM300 (12") size meters are designed for mounting between flanges.

- **Standard linearity:**
± 1% FSD
- **High linearity:**
± 0.5% actual within a 40:1 range using linearising electronics.
- **Repeatability:**
Better than ± 0.25% for 90% of range.
- **Rangeability (turndown):**
Better than 50:1 at 1 centipoise.

