

# The Spirax Sarco ELM Flowmeter

## For liquids including water and condensate

With the cost of utilities on the rise, it's never been more important or rewarding to measure and monitor your water usage. The Spirax Sarco ELM (electromagnetic) Flowmeter allows users to accurately measure and monitor the flow rate of electrically conductive liquids such as impure water, pulps and pastes. The ELM is a crucial first step when implementing an effective energy consumption or costs reduction exercise in any facility. The ELM provides a solution for the measurement of fluids for:

- **Cost centering** – to identify which processes or boilers are consuming higher than expected amounts of water
- **Condensate return** – measure how much water you're returning to your system
- **Liquid transportation** – understand your flow patterns and peaks
- **Energy conservation** – track efficiency measures and identify problem areas

Understand, monitor  
and optimise your  
water consumption



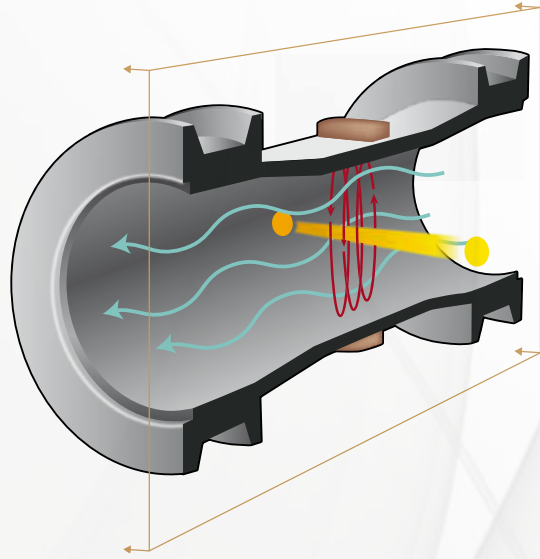
For more information visit [spiraxsarco.com/flowmetering](http://spiraxsarco.com/flowmetering)

## How the ELM Flowmeter works

Electromagnetic flowmeters generate an electromagnetic field across the pipe. When a conductive fluid flows through this field, a potential difference is created perpendicular to both the field and the flow, which is proportional to the flow rate. This potential difference is measured by two electrodes which are placed on either side of the pipe to calculate the flow rate.

Electromagnetic flowmeters therefore have no restriction or element within the flow, which significantly reduces both pressure drop and the potential for wear and tear.

This, along with high accuracy and repeatability, has caused electromagnetic flowmeters to become the de facto standard in many industries for fluid measurement.



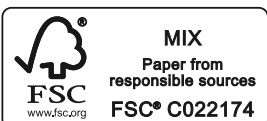
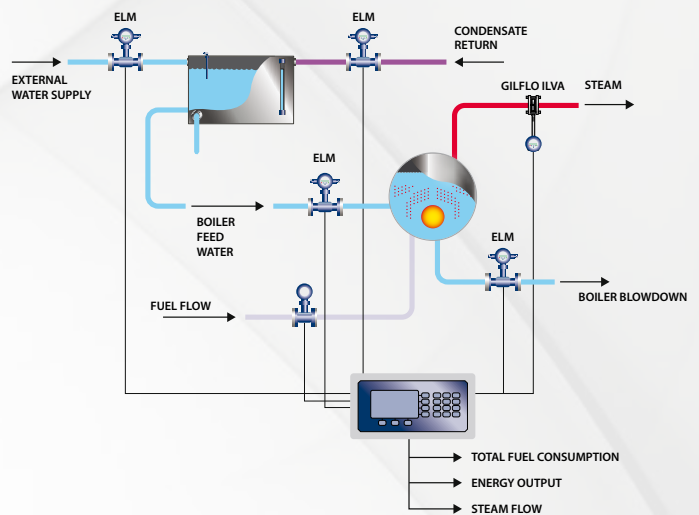
## Potential Applications

The ELM liquid flowmeter is well suited to the measurement of water, so typical installations of ELM include:

- mains water supply,
- boiler feedwater,
- Condensate return and
- Waste water with/without entrained solids.

As shown in the diagram below, when combined with other steam and/or fuel flowmeters, the ELM allows for much greater visibility of energy usage and distribution across the boiler house and the performance/efficiency of the boiler(s).

Technical Overview	
Line Size	DN25 – DN200
Turndown	20:1 from 0.5m/s to 10m/s
Temperature Limits	Process fluid -20 to +150°C, Ambient -20 to +60°C
Output	4-20 mA. HART Protocol option. Pulse or Steady State
Accuracy	±0.3%
Connections Types	Wafer



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