



Cert. No. LRQ 0963008

ISO 9001

## Spiraflo System Overview

### Description

The Spirax Sarco steam flowmetering system (Spiraflo) consists of four basic parts:

1. **M111 or M115 transducer (Spiraflo).** This is installed in the steam line at the point where the steam flow is to be measured. It is supplied complete with a 2 m length of 8 core heat resistant cable for connection to the M322 conditioning unit.
2. **M322 conditioning unit.** The function of this unit is to accept flowrate and temperature signals from either the M111 or M115 transducer and pressure signals from the EL2600 pressure transmitter and convert them to a digital form for transmission to the computer.
3. **EL2600 pressure transmitter.** This provides a 4-20 mA analogue signal to the M322 conditioning unit proportional to line pressure for superheated steam applications.
4. **M800 flow computer.** This accepts signals from the M322 conditioning unit, processes and displays them. The keypad enables the user to select the parameters to be viewed as well as allowing access to the numerous facilities available.

**Note:** The wiring between the M800 computer, EL2600 pressure transmitter and the conditioning unit is to be provided by the user/installer. The Spiraflo is for use on dry saturated and superheated steam only. Flowrates are based on a maximum flow velocity of 35 m/s. Correct installation is important if accurate and reliable flowmetering is to be achieved.

Heat flowmetering is possible on saturated steam systems by replacing the EL2600 pressure transmitter with an EL2230 temperature transmitter in the condensate return line.

### Performance

<b>Uncertainty</b>	±2% of measured flow (±1% of FSD at 50% flow)	
<b>Repeatability</b>	±0.2%	
<b>Turndown</b>	Maximum intermittent turndown	40:1
	Average continuous turndown	25:1
<b>Caution:</b> For continuous operation, do not exceed a velocity of 35 m/s, to prevent the risk of pipeline erosion.		

**Note:** See individual component TI's for full operating parameters.

### Electrical wiring

All electrical wiring must be carried out to the appropriate standards.

### Installation points to watch:

**This document does not contain enough information to install the system safely. See full Installation, Operating and Maintenance Instructions supplied with each unit.**

1. The Spiraflo transducer should be selected on capacity rather than line size.
2. The minimum recommended lengths of straight pipe upstream and downstream are 6 D and 3 D respectively.
3. It is advisable to fit a check valve downstream of the Spiraflo to avoid possible damage by reverse flow. At least 3 pipe diameters should remain between the Spiraflo and the check valve.
4. Avoid installing the Spiraflo downstream of a pressure reducing valve (especially on steam systems) as this may cause inaccurate readings. Similarly, avoid installing the Spiraflo downstream of a partially open valve.
5. A separator should always be fitted upstream of a Spiraflo to remove entrained moisture from the steam.

