

# spirax/sarco®

## Spiraflo Series Flow Transducer

### Description

The Transducer is the pipeline unit part of the Spirax Sarco Steam Meter. It is intended for use on dry saturated and superheated steam only. The transducer is available with the following options:

**M111** SG Iron Body

**M115** Steel Body

### Limiting conditions

Maximum operating pressure: 246 psig

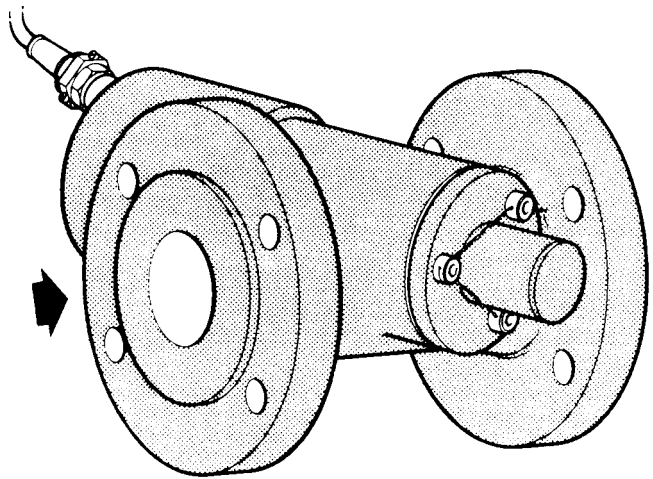
Minimum operating pressure: 14 psig

Maximum operating temperature: 446 degrees F

Minimum operating temperature: 248 degrees F

Cold hydraulic test: 544 psi

Pressure drop across unit typically 3 psig at average flow rates. Less than 7 psig at maximum flow.



### Sizes and pipe connections

1-1/2", 2", 3" and 4"

**M111** - Flanged ANSI B16.5 Class 150 and 300

**M115** - Flanged ANSI B16.5 Class 150 and 300

### Cable

Each Transducer is complete with 6.5 feet of heat resistant 8 core cable, for connection to the M322 Signal Conditioning Unit.

### How to specify (example):

Model M111 Spiraflo Steam Meter Transducer

Size: 2"

Material: S.G. Iron Body

Flanges: ANSI 300

### Dimensions (approximate) in inches

Size (in.)	ANSI		C	D	E	F	Weight
	150	300					
1-1/2	6.9	7.1	7.1	3.9	3	1.1	21 lbs
2	7	7.2	7.1	3.9	3	1.1	23.1 lbs
3	9.4	9.8	8.7	6	3	3	55.1 lbs
4	10.2	10.9	8.7	6	3	3	76.1 lbs

### Associated Equipment

M210G

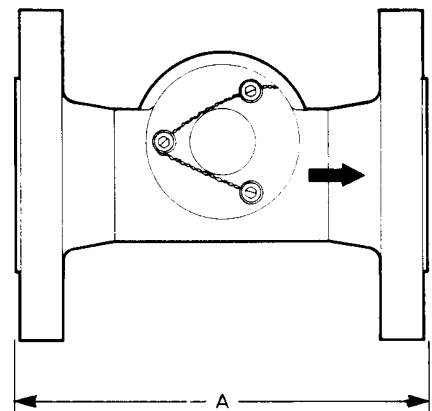
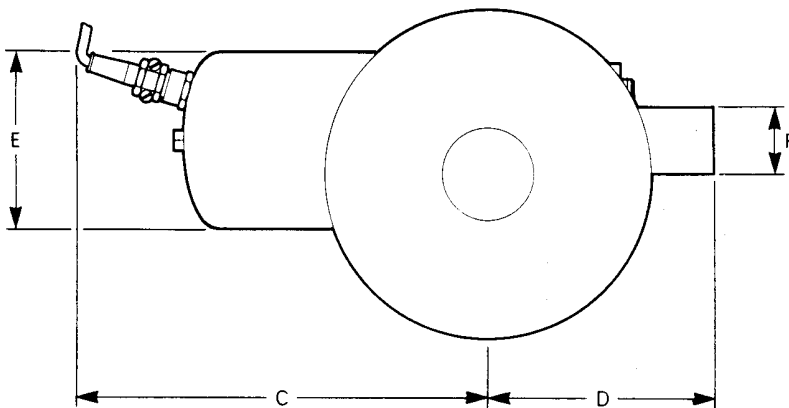
Steam Flow Computer

TIS 8.102

M322

Signal Conditioning Unit

TIS 8.101



Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.  
In the interests of development and improvement of the product, we reserve the right to change the specification.

TIS 8.100 US 01.97

# Spiraflo Series Flow Transducer

## Maintenance

The Spiraflo Series Transducer is a sealed and calibrated unit with no user serviceable parts.

## Installation

A separate installation booklet is supplied with each Transducer. In order to get the best performance from the Transducer, it is essential that installation is correctly carried out in accordance with the guidelines given in the booklet supplied with each steam metering system.

## Flow capacities for saturated steam (lbs/hr)

PSIG	Maximum	At 115 ft/sec	Minimum
<b>1-1/2" Meter</b>			
15	1,355	395	33
25	1,550	520	35
50	1,915	830	48
75	2,220	1,120	55
100	2,520	1,450	63
125	2,660	1,770	71
150	3,000	2,050	76
175	3,220	2,325	81
200	3,430	2,600	86
225	3,620	2,900	91
250	3,760	3,185	95

PSIG	Maximum	At 115 ft/sec	Minimum
<b>3" Meter</b>			
15	5,500	1,600	133
25	6,315	2,100	144
50	7,790	3,350	196
75	9,085	4,550	227
100	10,185	5,800	253
125	11,155	7,000	280
150	12,080	8,200	303
175	13,024	9,300	323
200	13,750	10,500	347
225	14,430	11,500	360
250	15,135	12,690	383

PSIG	Maximum	At 115 ft/sec	Minimum
<b>2" Meter</b>			
15	2,145	625	55
25	2,420	830	60
50	3,015	1,310	76
75	3,540	1,800	90
100	3,995	2,250	100
125	4,345	2,750	110
150	4,730	3,200	118
175	5,125	3,625	128
200	5,410	4,100	136
225	5,700	4,500	143
250	5,985	4,970	150

PSIG	Maximum	At 115 ft/sec	Minimum
<b>4" Meter</b>			
15	8,690	2,490	212
25	9,900	3,300	231
50	12,210	5,200	306
75	14,190	7,200	357
100	15,950	9,050	396
125	17,600	11,000	440
150	19,030	12,800	475
175	20,460	14,500	505
200	21,890	16,500	549
225	22,880	18,000	567
250	23,870	19,850	598

## NOTES:

When meters are selected to operate at velocities exceeding 115 ft/sec, there is a real risk of erosion, not only in the meter sensor, but also in associated pipework and fittings. It is particularly important in such applications to install a full size separator and drain trap upstream of the sensor to minimize the risk.

Turndown of the Transducer is defined as the maximum flow divided by the minimum flow: Using the **maximum** figures from the above tables, the turndown is 40:1 throughout the size and pressure range. However, based on the recommended maximum velocity of 115 ft/sec, the turndown available will vary from 12:1 at 15 psig up to 33:1 at 250 psig. The average continuous turndown of the meter is therefore 25:1.