

**FS-200 2.0 - 190 (l/min) with pre-adjusted set points**

The FS-200 range of flow switches offer accurate flow detection, with 1% repeatability, with a wide range of flow and port sizes. The durable construction delivers long life repeatability in either water or oil. The design of large flow paths keep pressure drop low, thus are ideal for detection of flow in high volume lubrication, cooling or process applications.

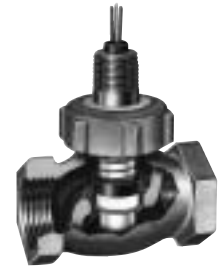
**Specifications** (All pressure data related to water at +20 °C)

<b>Max. flow</b>	see order numbers
<b>Max. operating pressure</b>	27 bar at +20 °C
<b>Proof pressure</b>	45 bar
<b>Temperature range</b>	- 20 °C...+150 °C
<b>Set points</b>	see order numbers
<b>Switching function (related to increasing flow)</b>	SPDT
<b>Factory mounting position with set point adjustments</b>	horizontal, electrical connection up
<b>Repeatability</b>	±1%
<b>Adjustment accuracy</b>	±10%
<b>Hysteresis</b>	max. 15%
<b>Mounting</b>	1" NPT...2" NPT (see "dimensions" and "order number")
<b>Electrical connections</b>	- lead wire: FEP, 0,6 mm <sup>2</sup> (length: approx. 1 m)
<b>Enclosure</b>	- IP 44 (with lead wire) - IP 54 (with terminal box)
<b>Electrical data contact rating</b>	20 VA; 0,5 A; 250 V~
<b>Weight</b>	see "dimensions"

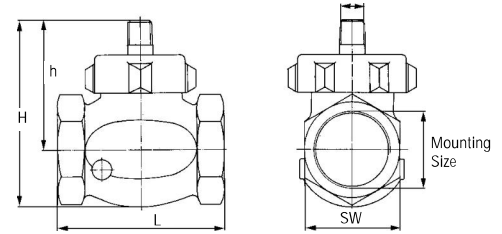
**Order numbers**

Set point (l/min)	Mounting	Max. flow (l/min)	Order number Housing Bronze	Order number Housing Stainless Steel
2.0 4.0	1" NPT	80	022-7051	022-7059
7.5 11.5			022-7052	022-7060
15.0 19.0			022-7053	022-7061
22.5 30.0			022-7054	022-7062
			022-7055	022-7063
			022-7056	022-7064
4.0 7.5	1 1/4" NPT	140	022-7057	022-7065
15.0 22.5			022-7058	022-7066
30.0 37.5			022-7067	022-7076
45.0 60.0 75.0			022-7068	022-7077
			022-7069	022-7078
			022-7070	022-7079
6.0 11.5	1 1/2" NPT	200	022-7071	022-7080
19.0 28.5			022-7072	022-7081
37.5 57.0			022-7073	022-7082
75.0 115.0			022-7074	022-7083
			022-7075	022-7084
			022-7085	022-7093
7.0 15.0	2" NPT	350	022-7086	022-7094
19.0 37.5			022-7087	022-7095
57.0 95.0			022-7088	022-7096
132.5 190.0			022-7089	022-7097
			022-7090	022-7098
			022-7091	022-7099
	022-7092	022-7100		
			022-7101	022-7109
			022-7102	022-7110
			022-7103	022-7111
			022-7104	022-7112
			022-7105	022-7113
			022-7106	022-7114
			022-7107	022-7115
			022-7108	022-7116

\*Order numbers are valid for units with the electrical connection "lead wire". If you need a unit with the electrical connection "terminal box", please select the respective "lead wire" order number and add: "...with mounted terminal box 912-0615 or 912-0625. See drawing (page FS-200)



**Dimensions (in mm)**



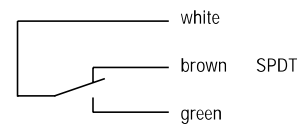
Housing: Bronze or Stainless Steel  
 Disc: Stainless Steel  
 Spring: Stainless Steel  
 O-Ring: Viton®  
 Magnet: PTFE/Ceramic

Mounting D	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT
L	83.5	98.5	112.5	136.5
h	76.0	81.0	89.0	101.5
SW	46	55	65	80
H	104	118	132	148

Approx. weight	1.2 kg	1.8 kg	2.5 kg	4.0 kg
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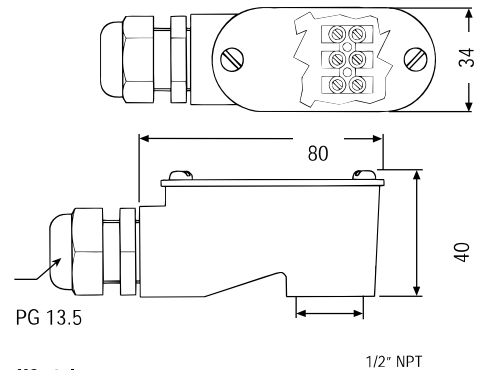
**Pressure drop diagram - (see page 12)**

**Wiring diagram**

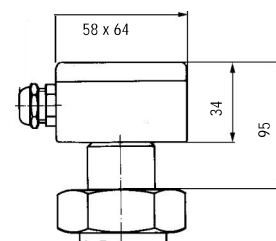


**Terminal boxes**

**Conduit style**  
**Order Number: 912-0615**



**K6 style**  
**Order Number: 912-0625**



## FS-200E 2.0 - 30 (l/min) with pre-adjusted set points

## FS-200E-A 3.0 - 57 (l/min) adjustable set points

The FS-200E flow switch offers accurate flow detection with 1% repeatability and European G1" port size. The durable construction delivers long life repeatability in either water or oil. The design of large flow paths keep pressure drop low, thus are ideal for detection of flow in high volume lubrication, cooling or process applications.

The FS-200E Adjustable versions offer the same accuracy with the additional feature of external adjustment.

### Specifications (All pressure data related to water at +20°C)

<b>Max. flow</b>	85 l/min
<b>Max. operating pressure</b>	27 bar
<b>Proof pressure</b>	45 bar
<b>Temperature range</b>	- 20 °C...+80 °C (cable, plug connector) - 20 °C...+150 °C (terminal box)
<b>Set points</b>	see order number
<b>Switching function (related to increasing flow)</b>	SPDT
<b>Factory mounting position with set point adjustments</b>	horizontal, electrical connection up
<b>Mounting position</b>	any position
<b>Repeatability</b>	± 1%
<b>Adjustment accuracy</b>	±10%
<b>Hysteresis</b>	max. 15%
<b>Mounting</b>	G1"
<b>Electrical connections</b>	- cable: PVC, 3 x 0.34 mm <sup>2</sup> (length: approx. 1 m) - plug connector per DIN 43650 - terminal box
<b>Enclosure</b>	- IP65
<b>Electrical data contact rating</b>	20 VA, 0.5 A, 250 V-
<b>Weight</b>	approx. 1.2 kg

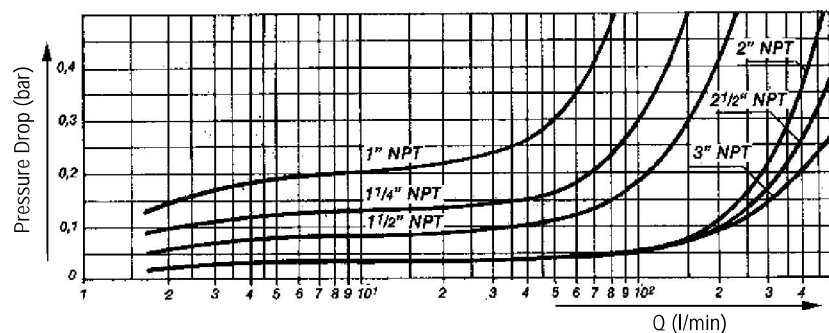
### Order numbers for FS-200E

Set points (l/min)	Cable	Terminal box	Plug connector
2.0	020-2393	020-2401	020-3481
4.0	020-2394	020-2402	020-3482
7.5	020-2395	020-2403	020-3483
11.5	020-2396	020-2404	020-3484
15.0	020-2397	020-2405	020-3485
19.0	020-2398	020-2406	020-3486
22.5	020-2399	020-2407	020-3487
30.0	020-2400	020-2408	020-3488

### Order numbers for FS-200E-A

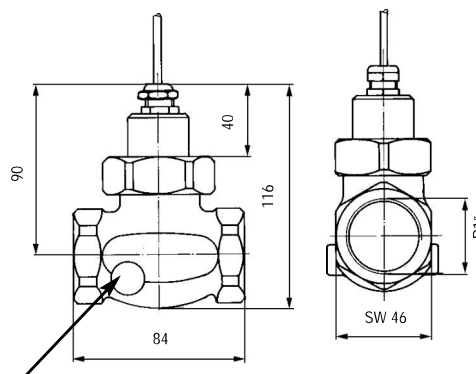
Adjustment range (l/min)	Cable	Terminal box	Plug connector
3.0 ... 22.5	020-2413	020-2416	020-3489
7.5 ... 30.0	020-2415	020-2418	020-3491
19.0 ... 57.0	020-2414	020-2417	020-3490

### Pressure drop diagram (at min. set point adjustment)



Adjustment vane on FS-200E-A

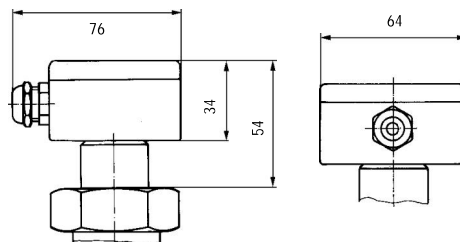
### Dimensions (in mm)



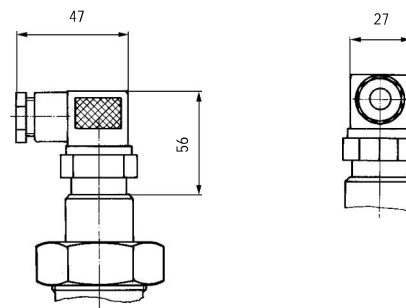
Adjustment vane on FS-200E-A

Housing: Bronze  
Disc: Stainless Steel  
Spring: Stainless Steel  
O-Ring: Viton®  
Magnet: PTFE/Ceramic

### Terminal box



### Plug connector



### Wiring diagram

