

PRODUCT SPECIFICATIONS

Drawings			
Model	SP200 Compact model	SP201 Extension model	SP202 High Temp. model
Measuring range	Water: 1~150 cm/s Oil: 3~300 cm/s	Water: 1~150 cm/s Oil: 3~300 cm/s	Water: 1~150 cm/s Oil: 3~300 cm/s
Ambient temp.	-20 ~ 60°C	-20 ~ 60°C	-20 ~ 60°C
Process temp.	-20 ~ 80°C	-20 ~ 80°C	-20 ~ 120°C
Alarm output	Open Collector : NPN / PNP (<400mA) Relay : 1A/30Vdc, 0.3A/125Vac (NO or NC)		
Operating pressure	100 bar (max.)	100 bar (max.)	100 bar (max.)
Led indication	Flow velocity below set point- Red LED on, Open Flow velocity equals set point- Yellow LED on, Close Flow velocity above set point- 4 Green LED to indicate flow speed, Close		
Housing	SUS304 / 316 / 316L		
Wetted part	SUS304 / 316 / 316L		
Protection level	IP67		
Warm-up time	Approx. 15 Sec	Approx. 15 Sec	Approx. 15 Sec
Connection thread	G1/2, G1/4, NPT1/2	G1/2, NPT1/2	G1/2, G1/4, NPT1/2
Operating voltage	19 ~ 30Vdc		
Power consumption	50mA (max.)		
Wiring	3-wire NPN/PNP Power-brown Grounding-blue Output-black		
Accessory	Gasket, 2m Cable		

Drawings	
Model	SP220 Economy model
Measuring range	Water: 1~150 cm/s Oil: 3~300 cm/s
Ambient temp.	-20 ~ 60°C
Process temp.	-20 ~ 80°C
Alarm output	Open Collector : NPN / PNP (<400mA) Relay : 1A/30Vdc, 0.3A/125Vac (NO or NC)
Operating pressure	100 bar (max.)
Led indication	Flow velocity below set point- Red LED on, Open Flow velocity equals set point- Yellow LED on, Close Flow velocity above set point- 4 Green LED to indicate flow speed, Close
Housing	PC
Wetted part	SUS304 / 316 / 316L
Protection level	IP65
Warm-up time	Approx. 15 Sec
Connection thread	G1/2, NPT1/2
Operating voltage	19 ~ 30Vdc
Power consumption	50mA (max.)
Wiring	3-wire NPN/PNP Power-brown Grounding-blue Output-black
Accessory	Gasket, 2m Cable
Footnote	Sensitivity and Alarm setting not available.

<p>Drawings</p>			
<p>Model</p>	<p>SP210 Stainless Steel model</p>	<p>SP170-(1/2) Explosion Proof model</p>	<p>SP171-(1/2) Explosion-proof extension model</p>
<p>Measuring range</p>	<p>Water: 1~150 cm/s Oil: 3~300 cm/s</p>		
<p>Ambient temp.</p>	<p>-20 ~ 60°C</p>		
<p>Process temp.</p>	<p>-20 ~ 80°C</p>		
<p>Alarm output</p>	<p>Relay: 5A/250Vac</p>	<p>Relay: 3A/250Vac</p>	
<p>Operating pressure</p>	<p>100 bar (max.)</p>		
<p>Led indication</p>	<p>Flow velocity below set point- Red LED on, Open Flow velocity equals set point- Yellow LED on, Close Flow velocity above set point- 4 Green LED to indicate flow speed, Close</p>		
<p>Housing</p>	<p>SUS304</p>		
<p>Wetted part</p>	<p>SUS304 / 316 / 316L</p>		
<p>Protection level</p>	<p>IP67</p>		
<p>Warm-up time</p>	<p>Approx. 15 Sec</p>		
<p>Connection thread</p>	<p>G1/2, NPT1/2</p>		
<p>Operating voltage</p>	<p>19 ~ 30Vdc</p>		
<p>Power consumption</p>	<p>60mA (max.)</p>		
<p>Wiring</p>	<p>5-wire Relay Output Power- red Grounding- black COM- white NC- yellow NO- blue</p>		
<p>Accessory</p>	<p>Gasket, 2m Cable</p>	<p>_____</p>	<p>_____</p>

ORDER INFORMATION

SPX1 ⑤ ⑥ ⑦ ⑧ - ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒

⑤ ⑥ Model

- 00: Standard
- 01: Economy(ABS)
- 02: Hi-temperation

⑦ ⑧ Certification

- 00: None
- 7C: NEPSI-Exd
- B0: DNV

⑨ Construction

- A: Compact type
- B: Extension type
- C: Stainless steel type
- D: Stainless steel extension type

Connection

⑩ ⑪

- Thread item
- AA: JIS
- AB: ISO
- AC: ANSI

⑫ ⑬

- A4: 3/8"
- A2: 1/4"
- A5: 1/2"
- A7: 3/4"
- A8: 1"

⑭ ⑮

- 01: PT male
- 03: PF male
- 05: BSP male
- 07: NPT male
- 13: GAS male

⑯ ⑰ Material

- MA: SUS 304
- MB: SUS 316
- MC: SUS 316L

⑱ Output signal

- A: NPN
- B: PNP
- C: Relay 1A/30Vdc, 0.3A/125Vac(NO)
- D: Relay 1A/30Vdc, 0.3A/125Vac(NC)
- E: SPDT 3A/5A, 250Vac(Only stainless steel type)

⑲ ⑳ ㉑ ㉒ Length

Code	Description
0031~0200	0031(PF), 0040(NPT/PT)mm, Max.0200
0070~0200	0070~0200mm

Spec.	Model	SF1700	SF1800
Housing material		Aluminum Alloy, Ⓢ Ex d IIC T6~T4	Aluminum Alloy, IP65
Process temp.		-30°C~130°C	-30°C~150°C
Wetted material		SUS304	SUS304
Operation pressure		Max. 355 PSIG	Max. 355 PSIG
Pressure drop allowance		3 PSIG	3 PSIG
Set point tolerance		±25%	±25%
Repeatability tolerance		±5%	±5%
Contact capacity		1A,60W 220Vac / 200Vdc, SPDT	1A,60W 220Vac / 200Vdc, SPDT

FLOW CONTROL RANGE TABLE

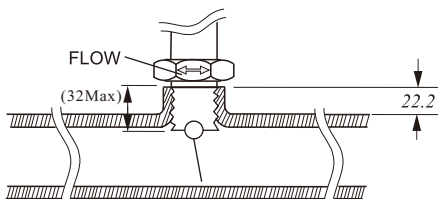
Flow Volume Paddle Length Gallon / Min.	1"		1-1/2"		2"		2-1/2"		3"	
	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.
1"	4.7	3.9	10.9	8.3	19.9	16.1				
1-1/4"			7.7	6.1	16.5	12.3	31.3	22.8		
1-1/2"			5.7	4.5	13.4	9.5	25.2	18.5		
2"					8.4	6.3	15.1	12.8	29.7	21.9
2-1/2"							13.9	10	20.4	15.4
3"									17.1	12.8

※1 Gallon=3.7854 Litter

INSTALLATION

1. The paddle length is dependent on the lowest paddle point to actuate the switch. Cut the paddle at appropriate pipe size mark or wherever desired. The minimum is 1".
2. The paddle must be at a right angle to the direction of flow
3. The FLOW mark on the screw must be parallel to the pipe.
4. Before installing the unit to a tee pipe, apply thread seal tape to the screw and then tighten.

- Not recommended for 1" or smaller NPT plastic pipes.



CAUTION

1. The pressure and temperature ranges as shown in the catalog, must not be exceeded and also take the abrupt pressure and temperature into considerations.
2. Large sudden changes in liquid temperature and density (specific gravity) changes will influence the flow switch accuracy
3. Although highly rigid and durable, shock and vibration should be minimized.
4. Excessive fluid debris might inhibit paddle operation. Occasionally remove switch and clean off any debris.
5. Sealing electrical connections and the connection will reduce moisture damage.

MODEL NUMBER / ORDER CODE COMPARISON TABLE / ORDER INFORMATION

Model Number	Order Code
SF1800	SFX10000-A1EAAA801
Sf1700	SFX1001C-A1LAAA801

SFX1 0 0 ⁰⁷ ⁰⁸ -A 1 ¹¹ ¹² ¹³ ¹⁴ ¹⁵ ¹⁶ ¹⁷ ¹⁸ ¹⁹ ²⁰

⁰⁷ ⁰⁸ Certification

00: None
1C:ATEX-Ex d

¹¹ Housing

Code	Description
E	Aluminum, 1/2"PF-88x84, only for none explosion proof
L	Aluminum, 1/2"NPT-80x80, only for ATEX-Ex d

Connection

¹² ¹³

Thread
AA: JIS
AC: ANSI

¹⁴ ¹⁵

A8: 1"

¹⁶ ¹⁷

01: PT male
07: NPT male

¹⁸ ¹⁹ Material

MA: SUS 304
MB: SUS 316

²⁰ Paddle length

X: Standard