



**7A.111-E**  
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# SENSILEVEL

## Series S1100 Float Operated Level Controls with External Chamber

### Description

The S1100 series models feature a float chamber that can be opened, enabling the internal elements to be checked and maintenance carried out. The standard model comes with 1" NPT process connections; 1" SW connections are also available, to which 1", 1½" and 2" flanges can be applied in the configurations and face-to-face dimensions shown below.

In the standard model the chamber is made of carbon steel, while the internal elements are in AISI 316 stainless steel, the float is in AISI 316 L and the attraction sleeve is in AISI 446.

All the models in this series can be fitted with one or more type 1, 2 or 3 switch mechanisms (up to 3 SPDT or 2 DPDT), or with a single type 4 or 5 mechanism.

All the models are factory set to the differential minimum (about 20 mm for a specific gravity of controlled liquid equal to 1 kg/dm<sup>3</sup>): this level can be increased in range only for devices fitted with type 1, 2, or 3 switch mechanisms, respectively by 50 mm if fitted with a single mechanism, and 25 mm if fitted with two mechanisms; it remains set to the minimum if the device is fitted with 3 mechanisms. Sensing units with special dimensions can be provided for applications requiring particular distances between the switching levels.

### Use

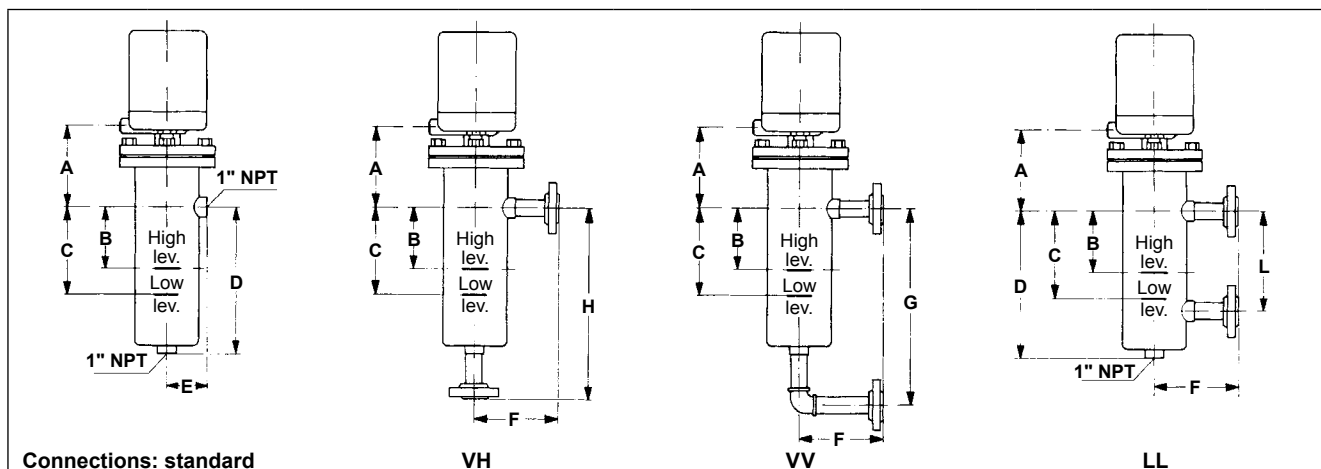
This device should be considered an accessory under pressure used to control level, and can be considered a safety device. The device can be used with group 1 or group 2 fluids, according to PED rule 2014/68/EU - category IV.

### Switch selection

To select the correct model according to the operating conditions and nature of the liquid to be controlled, please refer to the table below.

To select the switch mechanisms and switch housings, consult specification 7A.100.

### Specifications



Connections: standard

VH

VV

LL

Model	Minimum Specific Gravity (kg/dm <sup>3</sup> )			Maximum Pressure (1) (bar)				Dimensions (3) (mm)						
	ONE type 1, 2, 3 mechanism	TWO type 1, 2, 3 mechanism	Type 4 and 5 mechanism	on tank		on boiler		A (2)	D	E	F	G	H	L
				40°C	400°C	bar	°C							
S1102 A	0.55	0.62	0.61	21	12	--	--	183	251	79	180	356	340	178
S1102 B	0.60	0.65	0.66	50	33	35	244							
S1106 A	0.56	0.61	0.61	35	21	--	--	178	238	92	200	356	340	178
S1106 B	0.70	0.75	0.75	68	42	46	260							
S1107 A	0.35	0.38	0.40	16	9,6	--	--	190	243	105	220	356	340	178
S1107 B	0.42	0.45	0.45	35	21	--	--							
S1107 C	0.50	0.55	0.55	50	33	--	--							
S1107 D	0.63	0.66	0.65	62	42	--	--							

### Notes:

- (1) The values shown above apply to standard devices in carbon steel construction for use with non-corrosive liquids. For other materials, please request information.
- (2) For process temperatures above the maximum permitted for each type of switch (see spec. 7A.100), a cooling extension is required that will raise height "A" by 100 mm.
- (3) Heights B and C, relating to switching levels are given in the table on the following page.

## Switching levels (mm) as a function of specific gravity

First Mechanism Type 1 - 2 - 3																				
Specific gravity kg/dm <sup>3</sup>	0.35		0.42		0.50		0.56		0.60		0.63		0.70		0.90		1.00		1.20	
	Levels Model	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	
S1102 A	--	--	--	--	--	--	55	82	62	88	67	92	76	100	95	116	102	122	112	130
S1102 B	--	--	--	--	--	--	--	--	59	85	64	90	74	98	95	116	102	122	113	131
S1106 A	--	--	--	--	--	--	71	98	77	102	80	104	86	109	98	119	102	122	108	127
S1106 B	--	--	--	--	--	--	--	--	--	--	--	--	78	103	97	117	102	122	110	129
S1107 A	48	77	63	89	74	98	80	103	83	105	85	107	90	111	99	119	102	122	107	127
S1107 B	--	--	51	79	67	91	75	98	79	102	82	104	87	109	98	118	102	122	108	127
S1107 C	--	--	--	--	53	80	66	90	72	96	76	99	83	105	97	118	102	122	109	129
S1107 D	--	--	--	--	--	--	--	--	--	--	66	91	78	100	96	117	102	122	111	130

Second Mechanism Type 1 - 2 - 3																				
Specific gravity kg/dm <sup>3</sup>	0.38		0.45		0.55		0.62		0.66		0.70		0.75		0.90		1.00		1.20	
	Levels Model	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	
S1102 A	--	--	--	--	--	--	34	71	41	75	47	79	53	84	68	95	75	100	86	108
S1102 B	--	--	--	--	--	--	--	--	38	73	45	77	51	82	67	94	75	100	87	109
S1106 A	--	--	--	--	--	--	48	82	53	85	57	88	61	90	71	97	75	100	82	105
S1106 B	--	--	--	--	--	--	--	--	--	--	--	--	54	86	69	96	75	100	84	107
S1107 A	23	62	38	71	50	81	56	85	59	87	62	90	65	92	72	97	75	100	80	104
S1107 B	--	--	26	63	44	76	52	82	56	85	59	87	63	90	71	97	75	100	81	105
S1107 C	--	--	--	--	33	68	45	76	51	80	55	83	60	87	70	96	75	100	83	107
S1107 D	--	--	--	--	--	--	--	--	41	74	48	79	55	84	69	95	75	100	84	108

Mechanism Type 4 and 5																				
Specific gravity kg/dm <sup>3</sup>	0.37		0.44		0.54		0.61		0.66		0.70		0.75		0.90		1.00		1.20	
	Levels Model	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	
S1102 A	--	--	--	--	--	--	54	91	63	97	69	101	76	106	91	117	98	122	109	130
S1102 B	--	--	--	--	--	--	--	--	61	95	67	99	75	105	90	116	98	122	110	131
S1106 A	--	--	--	--	--	--	73	103	80	107	84	110	88	112	97	119	102	122	109	127
S1106 B	--	--	--	--	--	--	--	--	--	--	--	--	81	109	96	118	102	122	111	129
S1107 A	46	83	62	92	76	102	82	107	86	109	89	112	92	114	98	119	102	122	107	126
S1107 B	--	--	49	84	70	97	78	103	83	107	86	109	90	112	98	119	102	122	108	127
S1107 C	--	--	--	--	57	89	71	97	78	102	82	106	87	109	97	118	102	122	110	129
S1107 D	--	--	--	--	--	--	--	--	68	96	75	101	82	106	96	117	102	122	111	130

### Options and special features (1)

- AISI 316 stainless steel chamber or other special corrosion-resistant materials
- Attraction sleeve with anti-corrosion coating
- Compliance with standard NACE MR 01 - 75
- Interface control setting

(1) NOTE: request confirmation of pressure limits and minimum specific gravity.

### How to request or order

Each instrument is identified by an alphanumeric code describing the construction specifications in part only. This code is formed of three components, each of which defines part of the instrument: the first identifies the sensing unit model (chamber and float), the second identifies the type and quantity of switch mechanisms, and the third identifies the type of switch housing. It is therefore necessary to specify the material used for the chamber and internal elements, the type and orientation of the connections, and any other special requests.

Example: Mod. S1102 B - 120 - 3 - S \_\_\_\_\_ Options (connections, interface, etc.)  
 \_\_\_\_\_ Flameproof switch housing (see specification 7A.100)  
 \_\_\_\_\_ 2 SPDT mercury switch mechanisms (see specification 7A.100)  
 \_\_\_\_\_ Sensing unit model