



SENSILEVEL

7A.120-E
Issue 4 - 2005

Series 2200 Float Operated Level Controls with Sealed External Chamber

Description

Designed for external mounting on the tank, the 2200 series models feature a float chamber that is fully welded, offering extreme simplicity and low construction cost. 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/dm³): 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.

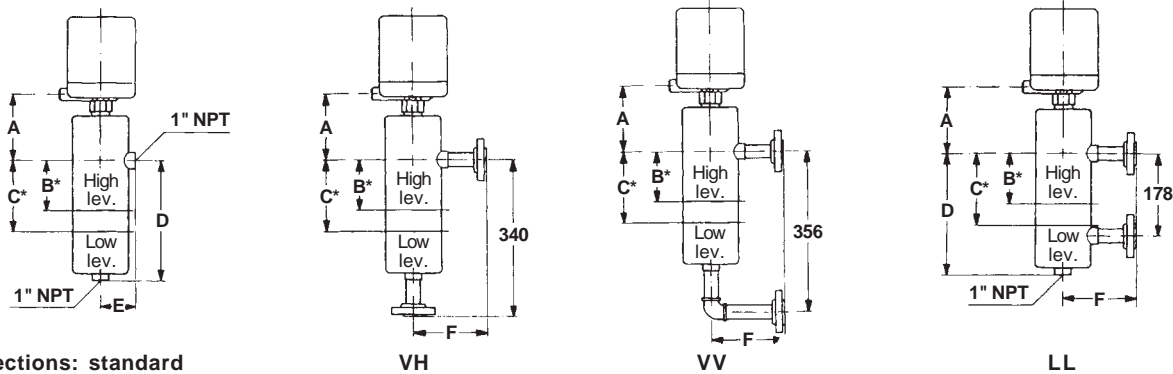
Use

This device should be considered an accessory under pressure used to control level, and should not be considered a safety device. It conforms with the requirements of the European Directive on Pressure Equipment 97/23/CE, and can be used with group 1 or group 2 fluids. For the category, please refer to the Specifications table.

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



Model	Category	Minimum Specific Gravity (kg/dm ³)			Maximum Pressure (1) (bar)				Dimensions (3) (mm)				Standard Connections VH - VV - LL 1" (4)
		ONE type 1, 2, 3 mechanism	TWO type 1, 2, 3 mechanisms	Type 4 and 5 mechanism	on tank		on boiler		A (2)	D (3)	E	F	
					40°C	400°C	bar	°C					
2202 A	2	0.55	0.62	0.61	21	12	--	--	151	251	79	167	ANSI 150
2202 B	2	0.60	0.65	0.66	50	33	35	244					ANSI 300
2206 A	2	0.56	0.61	0.61	35	21	--	--	157	238	92	180	ANSI 300
2206 B	3	0.70	0.75	0.75	68	42	46	260					ANSI 600
2207 A	2	0.35	0.38	0.40	16	9.6	--	--	165	243	105	193	ANSI 150
2207 B	3	0.42	0.45	0.45	35	21	--	--					ANSI 300
2207 C	3	0.50	0.55	0.55	50	33	--	--					ANSI 300
2207 D	3	0.63	0.66	0.65	62	42	--	--					ANSI 600

Notes:

- (1) The values shown above apply to standard devices in carbon steel construction for use with non-corrosive liquids. The maximum admissible pressure is the minimum between the flange rating and body rating. 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 between the body and the switch housing that will raise height "A" by about 100 mm.
- (3) With LL connections height D remains 251.
- (4) Other flange types are available on request.

Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification.

© Copyright 2005

Switching levels (mm) as a function of specific gravity

First Mechanism Type 1 - 2 - 3																					
Specific gravity kg/dm ³		0.35		0.42		0.50		0.56		0.60		0.63		0.70		0.90		1.00		1.20	
Model	Levels	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C
	2202 A		--	--	--	--	--	--	55	82	62	88	67	92	76	100	95	116	102	122	112
2202 B		--	--	--	--	--	--	--	--	59	85	64	90	74	98	95	116	102	122	113	131
2206 A		--	--	--	--	--	--	71	98	77	102	80	104	86	109	98	119	102	122	108	127
2206 B		--	--	--	--	--	--	--	--	--	--	--	--	78	103	97	117	102	122	110	129
2207 A		48	77	63	89	74	98	80	103	83	105	85	107	90	111	99	119	102	122	107	127
2207 B		--	--	51	79	67	91	75	98	79	102	82	104	87	109	98	118	102	122	108	127
2207 C		--	--	--	--	53	80	66	90	72	96	76	99	83	105	97	118	102	122	109	129
2207 D		--	--	--	--	--	--	--	--	--	--	66	91	78	100	96	117	102	122	111	130

Second Mechanism Type 1 - 2 - 3																					
Specific gravity kg/dm ³		0.38		0.45		0.55		0.62		0.66		0.70		0.75		0.90		1.00		1.20	
Model	Levels	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C
	2202 A		--	--	--	--	--	--	34	71	41	75	47	79	53	84	68	95	75	100	86
2202 B		--	--	--	--	--	--	--	--	38	73	45	77	51	82	67	94	75	100	87	109
2206 A		--	--	--	--	--	--	48	82	53	85	57	88	61	90	71	97	75	100	82	105
2206 B		--	--	--	--	--	--	--	--	--	--	--	--	54	86	69	96	75	100	84	107
2207 A		23	62	38	71	50	81	56	85	59	87	62	90	65	92	72	97	75	100	80	104
2207 B		--	--	26	63	44	76	52	82	56	85	59	87	63	90	71	97	75	100	81	105
2207 C		--	--	--	--	33	68	45	76	51	80	55	83	60	87	70	96	75	100	83	107
2207 D		--	--	--	--	--	--	--	--	41	74	48	79	55	84	69	95	75	100	84	108

Mechanism Type 4 and 5																					
Specific gravity kg/dm ³		0.37		0.44		0.54		0.61		0.66		0.70		0.75		0.90		1.00		1.20	
Model	Levels	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C	B	C
	2202 A		--	--	--	--	--	--	54	91	63	97	69	101	76	106	91	117	98	122	109
2202 B		--	--	--	--	--	--	--	--	61	95	67	99	75	105	90	116	98	122	110	131
2206 A		--	--	--	--	--	--	73	103	80	107	84	110	88	112	97	119	102	122	109	127
2206 B		--	--	--	--	--	--	--	--	--	--	--	--	81	109	96	118	102	122	111	129
2207 A		46	83	62	92	76	102	82	107	86	109	89	112	92	114	98	119	102	122	107	126
2207 B		--	--	49	84	70	97	78	103	83	107	86	109	90	112	98	119	102	122	108	127
2207 C		--	--	--	--	57	89	71	97	78	102	82	106	87	109	97	118	102	122	110	129
2207 D		--	--	--	--	--	--	--	--	68	96	75	101	82	106	96	117	102	122	111	130

Options and special features (2)

- AISI 316 stainless steel chamber or other special corrosion-resistant materials
- Attraction sleeve with anti-corrosion coating
- Compliance with standard NACE MR 01 - 75 (1)
- Interface control setting

(1) Only possible with sensing unit in AISI and displacer in Incoloy 825.

(2) 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 displacer), 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. 2206 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