spirax sarco

SENSILEVEL - Series 9900 Displacer Operated Level Controls with Sealed External Chamber

Description

The 9900 series models feature a displacer chamber that can be opened, enabling the internal elements to be checked and maintenance carried out. They are designed for external application to very high pressure systems, such as hydraulic accumulators and natural gas compressors, for control of very low-density liquids (down to 0.4 kg/dm³).

In the standard model the chamber is in carbon steel, fitted with sealing flanges of dimensions conforming with AMSE CODE, Section VIII, Div. 1, App. 2.

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. The internal elements are in AISI 316 stainless steel, the displacer is in AISI 316L for model 9901, in Karbate for models 9902-3-4, the contrast spring is in "INCONEL" and the attraction sleeve is in AISI 446.

All the models in this series can be fitted with a single switch mechanism; the factory settings allow them to work with all liquid density values, with the minimum limit shown in the table below.

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 2014/68/EU, 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.

Options and special features (1)

• AISI 316 stainless steel chamber or other special corrosion-resistant materials
• Attraction sleeve with anti-corrosion coating
• Interface control setting

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

Specifications

| Connections: standard | VH | VV | LL |
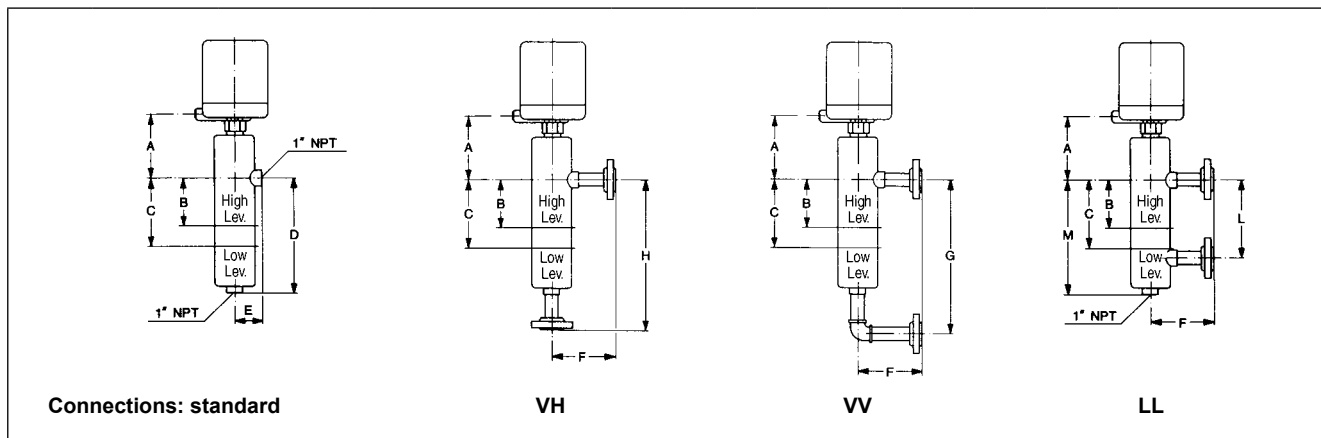
Model	Category	Minimum specific gravity (kg/dm³)	Maximum pressure (bar) at 150°C (1)	Dimensions (mm)								Standard flange for versions VH - VV - LL
				A	D	E	F	G	H	L	M	
9901	3		100	230	315	75	165	406	406	292	372	1" ANSI 600
9902	3		150	240	315	75	165	406	406	292	372	1" ANSI 900
9903	3	0.4	220	310	315	94	180	--	406	292	392	1" ANSI 1500
9904	3		350	330	315	94	180	--	406	292	392	1" ANSI 2500

Note: (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.

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Switching levels

Specific gravity	40°C		100°C		150°C		200°C		250°C	
Temperature	B	C	B	C	B	C	B	C	B	C
0.4	92	155	66	128	50	111	--	--	--	--
0.5	118	170	97	148	84	134	71	121	58	107
0.6	135	180	118	162	107	150	96	139	86	128
0.7	148	187	133	172	124	162	114	152	105	142
0.8	157	193	144	179	136	170	128	162	120	153
0.9	164	197	153	185	146	177	138	169	131	162
1.0	170	200	160	189	153	182	147	175	140	168
1.1	175	203	166	193	159	186	154	180	148	174
1.2	179	205	170	196	165	190	159	184	154	179

Options and special features (1)
- AISI 316 stainless steel chamber or other special corrosion-resistant materials
- Attraction sleeve with anti-corrosion coating
- 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 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. 9902 - 210 - 4 - S ——— Options (connections, interface, etc.)

⌐ Flameproof switch housing (see specification 7A.100)

⌐ SPDT microswitch standard mechanisms (see specification 7A.100)

⌐ Sensing unit model