



7A.190-E
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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.

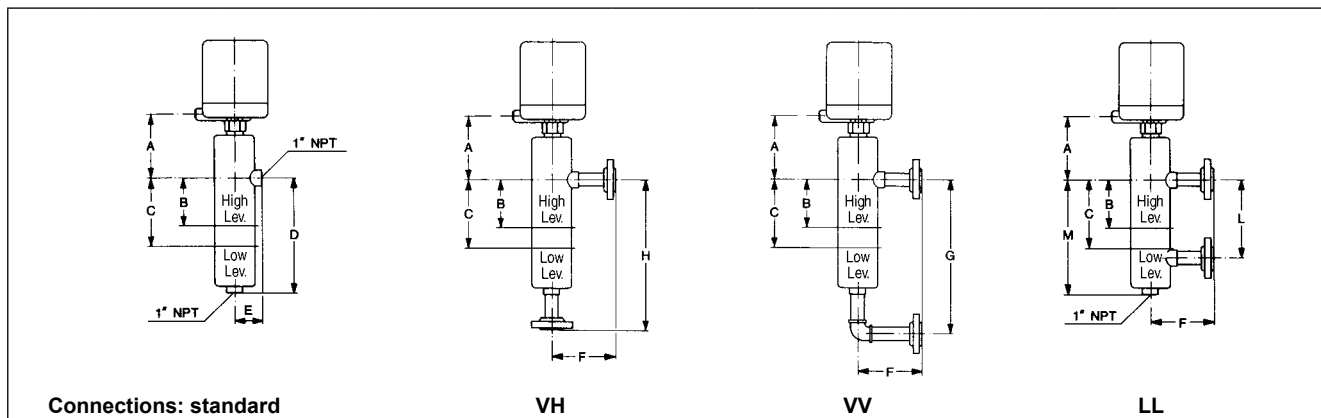
Options and special features (1)

- 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



| Model | Category | Minimum specific gravity (kg/dm ³) | 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 | 0.4 | 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 | | 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.

Switching levels

| Temperature Specific gravity | 40°C | | 100°C | | 150°C | | 200°C | | 250°C | |
|---------------------------------|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| | 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