

BICOLOUR LEVEL GAUGE B Series



DESCRIPTION

Bicolour level gauge B Series provides a continuous, clear and reliable level indication when installed on steam drums at high temperature and pressure, using the light refraction phenomenon.

The instrument consists in a steel body with transparent glasses, LED illuminators and a power supply unit.

The illuminators produce a green and red light beam that passes through the fluid inside the instrument. Due to the water and steam different refraction indexes and the specific instrument's body geometry, the screen placed on the housing appears red in presence of steam and green in presence of water.

FEATURES

- Complete production control fully integrated inside the company and highly competent local suppliers.
- Qualified welders and welding procedures compliant with ASME IX and EN ISO 15614.
- Designed compliant with ASME-Boiler and EN standard.
- Completely customizable on client's needs thanks to the support of our technical and sales departments.
- Over 60 years company experience with instruments installed in the entire world.
- Suitable for the most extreme conditions up to 210 bar and 368 °C.
- Long working life ensured by high quality materials.
- Spares parts mounted in few minutes without dismount the instrument.

TECHNICAL SPECIFICATIONS

- Rating up to ANSI 1500, PN320
- Ambient temperature range +40 °C, +70 °C
- Body in carbon steel or SS 316 dual certified for models BHH and BHC
- BHO model completely in SS 316 suitable for corrosive environment
- Continuous level indication for models BHC and BHH, discrete for BHO model
- Mica sheets to protect the glass from steam corrosion
- BHH and BHC model available in continuous visibility version

MODELS AND OPERATING LIMITS

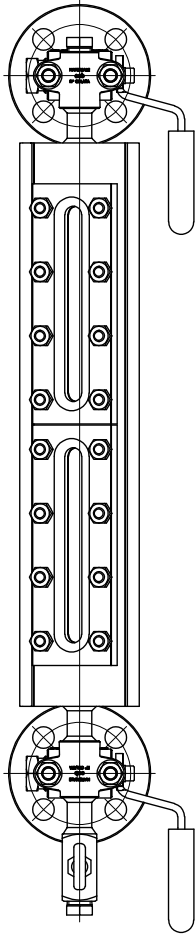
The level gauge B Series is available in three models:

- BHC model with long glasses Pmax 40 bar at 249 °C
- BHH model with long glasses Pmax 90 bar at 302 °C
- BHO model with circular glasses Pmax 210 bar at 368 °C

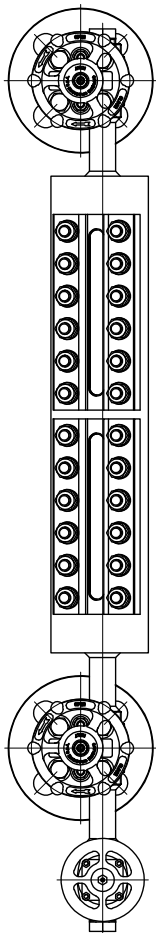
BHC and BHH models measures

Meas.	Min. range [mm] (NY)	Min. range [mm] (YY)	Visibility [mm]
11	204	223	95
12	229	248	120
13	254	273	145
14	279	298	170
15	309	328	200
16	339	358	230
17	369	388	260
18	409	428	300
19	429	448	320
24	489	508	380
25	549	568	440
26	609	628	500
27	669	688	560
28	749	768	640
29	789	808	680
36	879	898	770
37	969	988	860
38	1089	1108	980
39	1149	1168	1040
47	1269	1288	1160
48	1429	1448	1320
49	1509	1528	1400
57	1569	1588	1460
58	1769	1788	1660
59	1869	1888	1760
68	2109	2128	2000
69	2229	2248	2120
79	2589	2608	2480

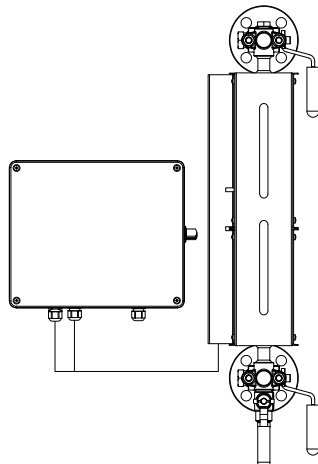
Continuous visibility option



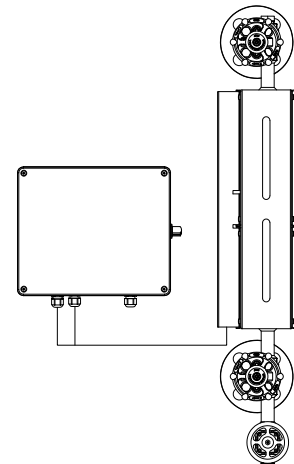
BHC NY body



BHH YY body



BHC NY



BHH YY



BHO model measures

Measure	Min. Range [mm]	Visibility [mm]
6	530	370
8	670	510
10	810	650
20	1510	1350

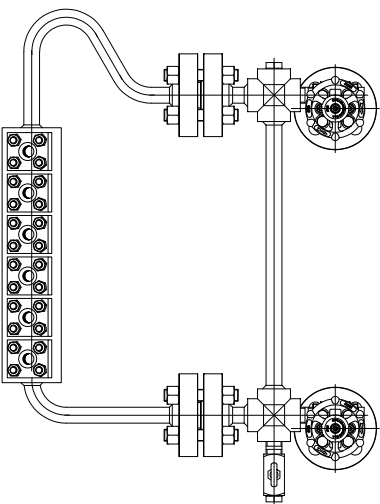
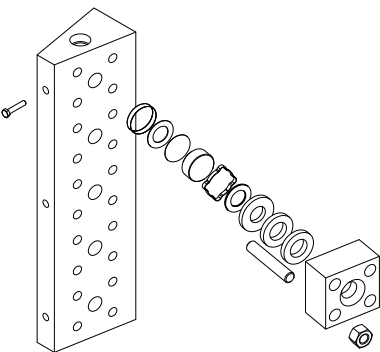
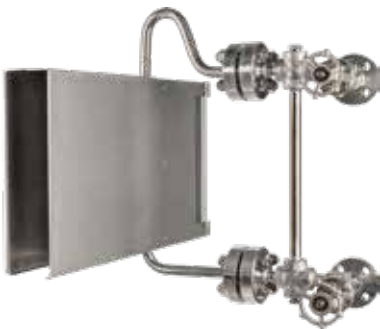
BHO model is available in any other measure.

The visibility in mm can be obtained with the following formula:

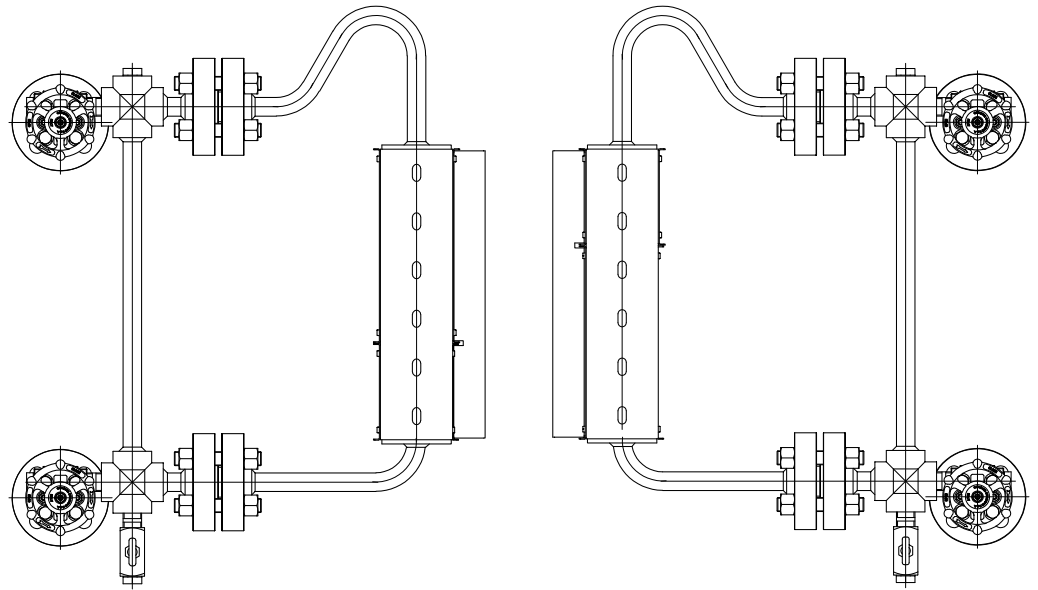
$$(n-1) \times 70 + 20$$

Where n is the measure (number of glasses). The minimum range is visibility + 160 mm.

Connections can be mounted at screen right or left side.

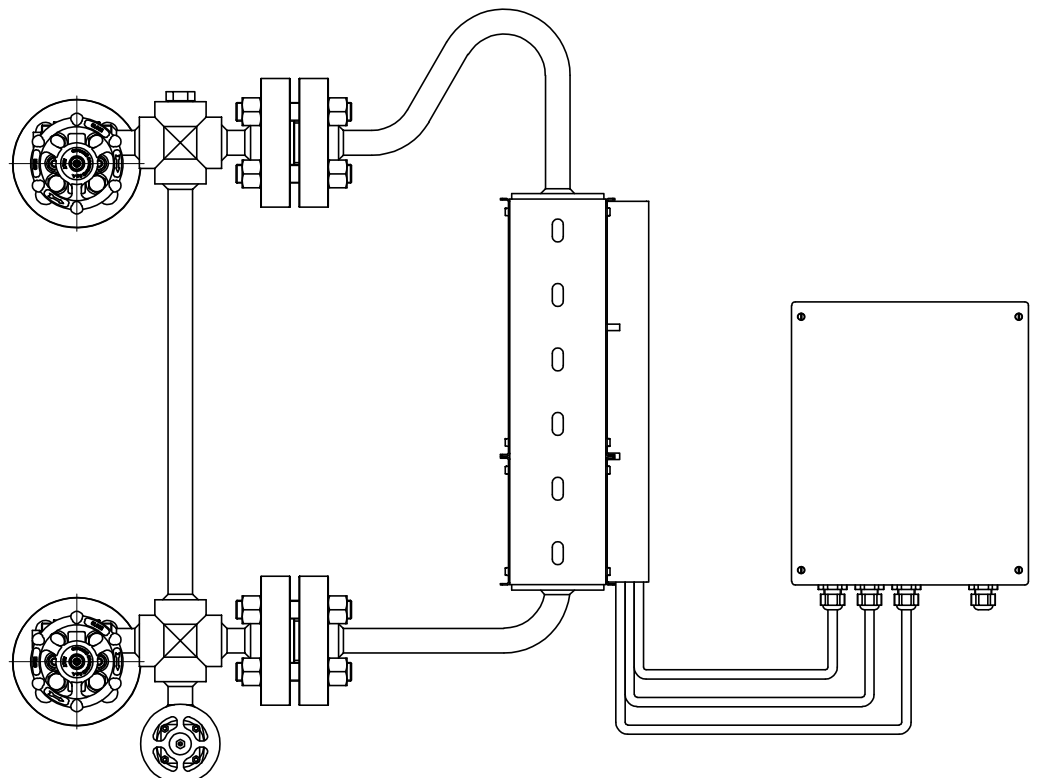


BHO body



BHO with left connections

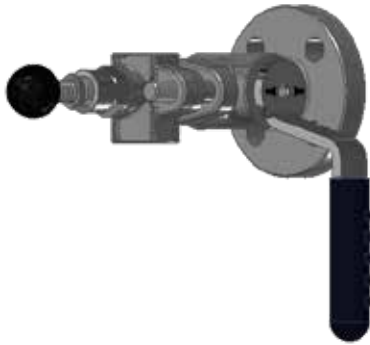
BHO with right connections



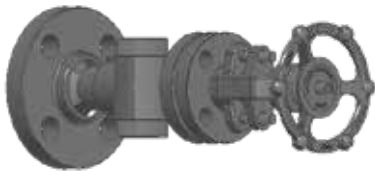
CONNECTIONS

The level gauge B Series is available with the following process and drain/vent connections:

- **Flanged**
 - ANSI B16.5
 - EN 1092/1
- **Threated**
 - NPT-F ○ NPT-M
 - GAS-F ○ GAS-M
- **Weld stub**
 - SW - socket weld
 - BW - butt weld



NY flanged valve



YY flanged valve

The instrument is available with different connection positions:

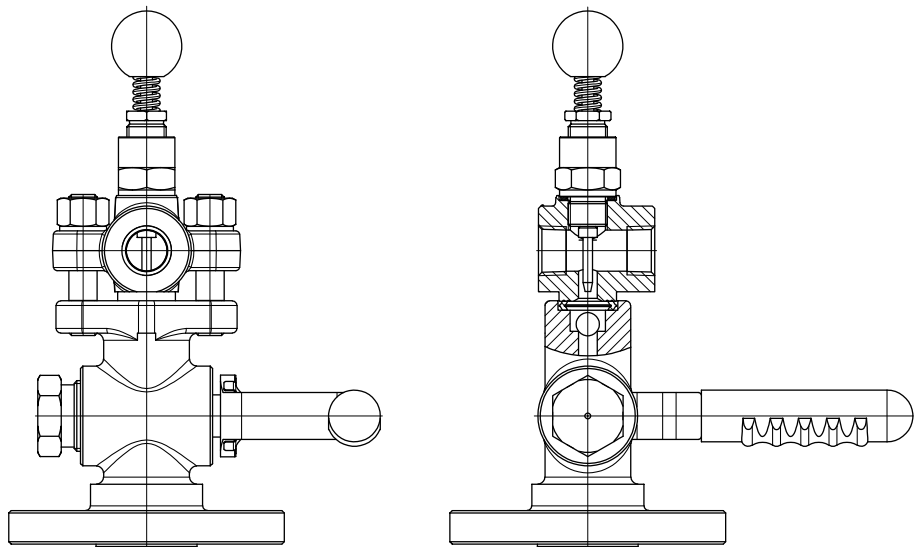
- Side-Side
- Side-Bottom
- Top-Side
- Top-Bottom

The level gauge B Series is available with cock type valves NY (PN 100) with quick action 90° closing or off-set OS&Y type valves YY (PN 250), both versions include a SS 316 safety ball that avoids liquid leakages in case of glass breaking. BHO model is available only with YY valves.

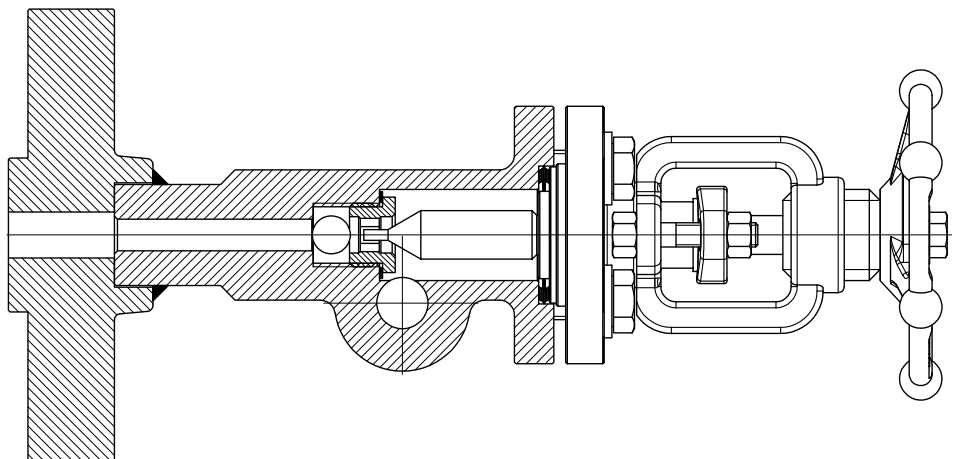
Pushers are available as accessory to ease the mounting by acting on the safety ball. On request can be supplied drain and vent valves.



NY valve with drain or vent valve



NY valve with pusher



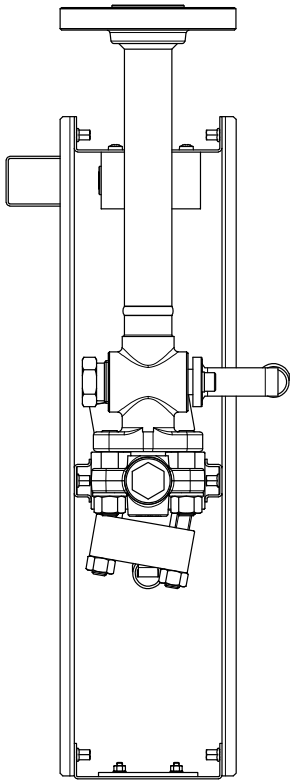
YY off-set OS&Y valve

ILLUMINATORS

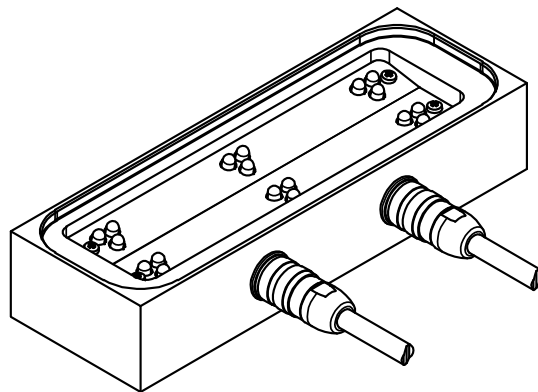
The level gauge B Series illuminators are composed of green and red LEDs placed in an aluminium housing in groups of 4 or 6 depending on instrument length. They are mounted on the SS 316 housing, on the opposite side of the screen and they are connected to the power supply unit by round connectors or cable glands. Using LEDs instead of filaments lamps greatly increase the illuminator luminosity and working life.

They are available in safe area version IP65/67 or for hazardous area with intrinsically safe ATEX or IECEx certification.

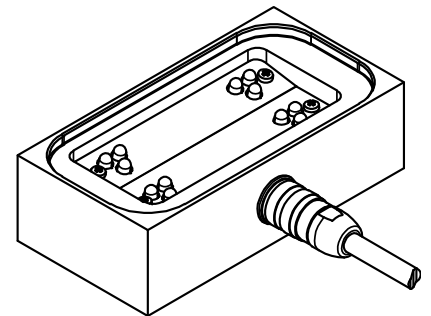
- Power supply 110 - 240 VAC
- Power consumption 0.48 W/port
- LED luminosity 25,000 mcd



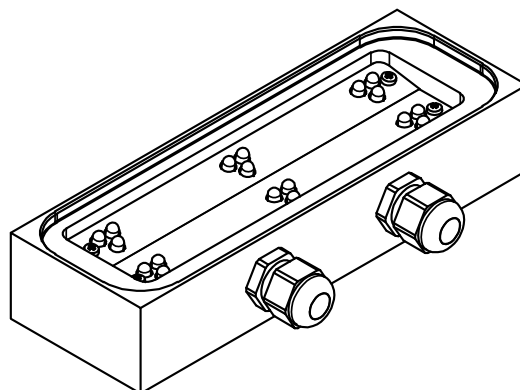
NY Version



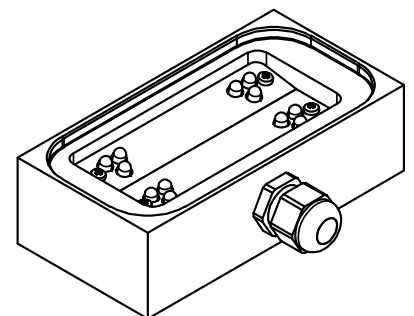
6 LEDs illuminator
with round connectors



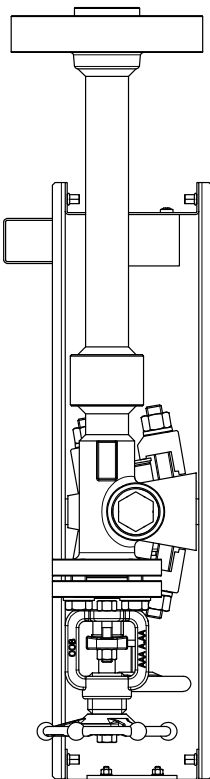
4 LEDs illuminator
with round connectors



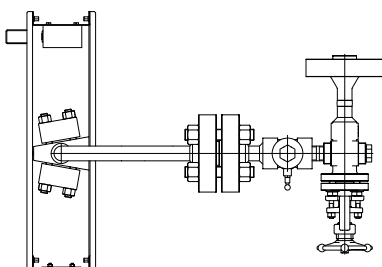
6 LEDs illuminator
with cable gland



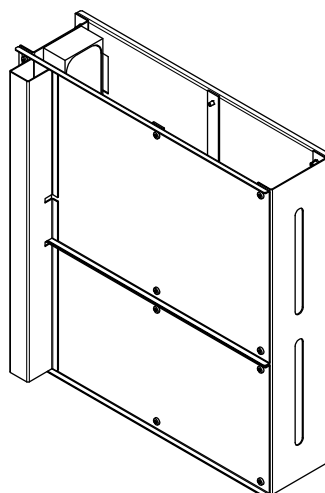
4 LEDs illuminator
with cable gland



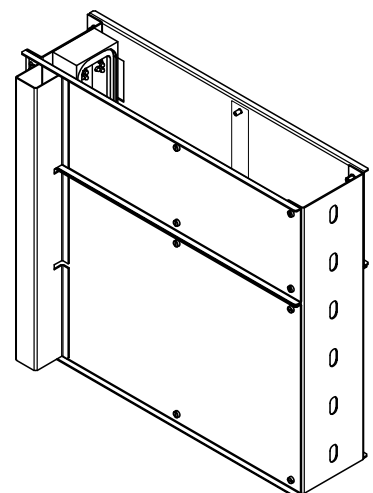
YY Version



BHO Model



Illuminators housing for BHC and BHH models

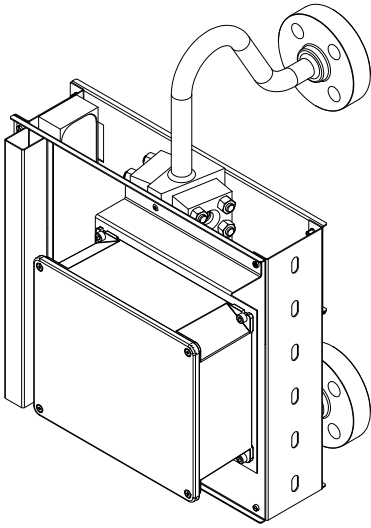


Illuminators housing for BHO model

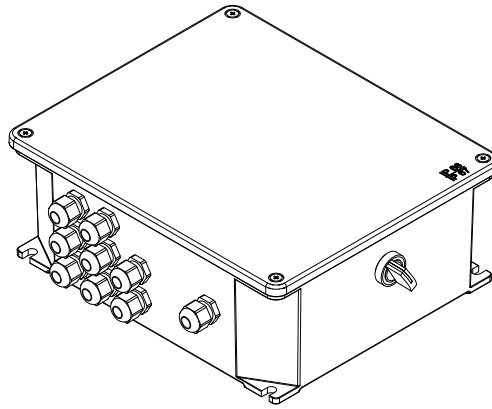
POWER SUPPLY

The level gauge B Series is available with an IP66 power supply that, on request, can be mounted on board of the instrument housing.

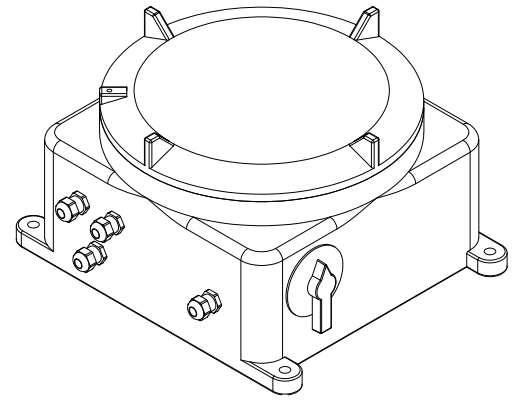
An explosion proof version is available as accessory.



Power supply unit on board of the instrument housing



Standard IP66 power supply unit for safe area



Power supply unit for hazardous area

ACCESSORIES

SUNSHADE PROTECTION

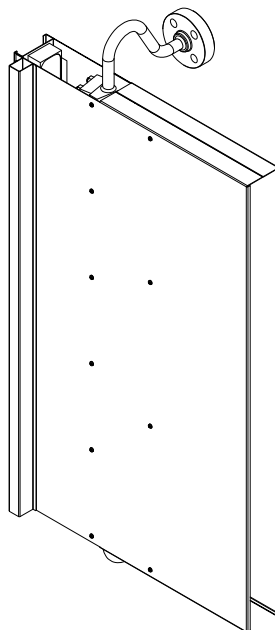
As accessory the housing is available with Sunshade protection to improve outdoor visibility, in fixed or removable version.

POINTERS

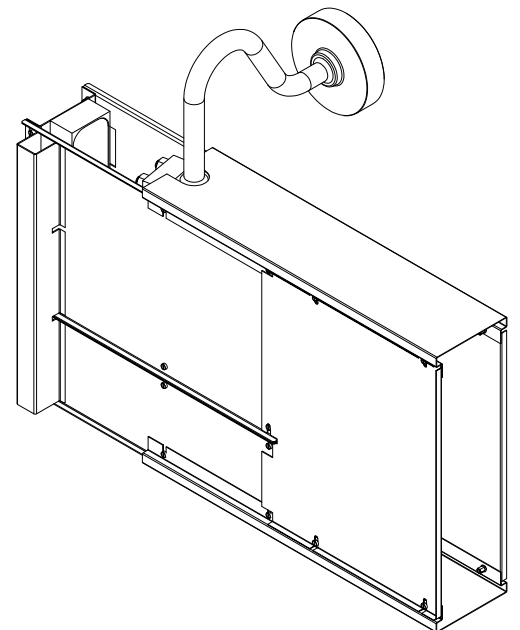
As an accessory the screen can be supplied with low, normal or high level pointers.

PAINTING

The instrument can be painted with Officine Orobiche standard paintings or compliant with customer specifications.



Fixed Sunshade protection



Removable Sunshade protection

APPROVALS



On request the following approvals are available:

Body

ATEX: II 2G Ex h IIC/IIB Tx Gb, II 2d Ex h IIIC Tx Db

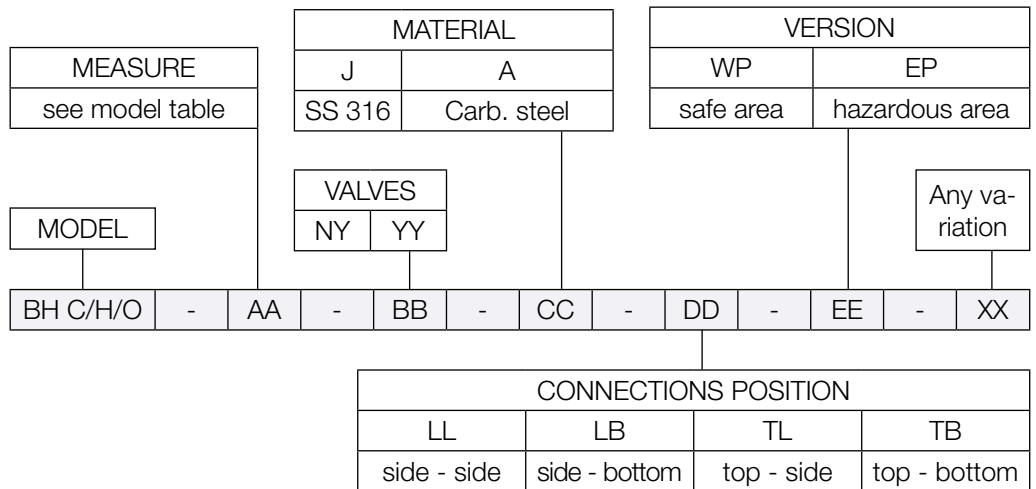
Illuminator

ATEX: II 2G Ex ia op is IIC T4 Gb, II 2D Ex ia op is IIIC T135 °C Db
IECEX: Ex ia op is IIC T4 Gb, Ex ia op is IIIC T135 °C Db

Power supply unit

ATEX: II 2G Ex db [ia Ga] IIC T6 Gb, II 2D Ex tb [ia Da] IIIC T85 °C Db
IECEX: Ex db [ia Ga] IIC T6 Gb, Ex tb [ia Da] IIIC T85 °C Db

MODEL CODE AND SPARES PARTS



In order phase state:

- Materials
- Operating and design conditions
- Range and connections type
- Accessories

On request the instrument can be supplied with spares glasses and gaskets.

Our company database contains information about the instruments manufactured in 60 years, to request spare parts for an installed instrument state the F number written in the top-right of the label:



Our technical and commercial departments are available to discuss any variation or customization not mentioned in this catalogue.



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