# SP 200 SERIES

## "All stainless steel" Bourdon tube pressure gauges

- watertight casing, dry or liquid filled execution;
- NS 63 - 100 - 150 - 200 - 250;
  (View SF serie for solid front execution)
- ranges included between -1 and 1000 bar.


made in ITALY

PED 2014/68/EU
ATEX 2014/34/EU

## TECHNICAL FEATURES

- **Nominal sizes**
  - 63, 100, 150, 200 e 250.
- **Casing**
  - case and ring in AISI 304 stainless steel with bayonet bezel (execution B).
- **Protection degree (according to EN 60529)**
  - IP 55 for execution D (dry);
  - IP 67 for execution F (liquid filled) and for execution P (fillable).
- **Window**
  - tempered glass for NS 63, 100 and 150;
  - methacrylate for NS 200 and 250;
  - laminated safety glass (option V17).
- **Blow-out device**
  - blow out plug.
- **Filling liquid**
  - glycerine (standard);
  - silicone fluid (on request - option V64).
- **Pressure connection (according EN 837-1)**
  Gas (BSP), BSPT or NPT thread as F dimension shown in SP tables, otherwise only on request:
  - AISI 316L stainless steel (execution 2);
  - Monel 400 (option W04).
- **Pressure element**
  - AISI 316L stainless steel (execution 2);
  - Monel 400 (option M04 and W04).
- **Welding**
  - TIG.
- **Movement**
  - stainless steel.
- **Ranges (according to EN 837-1)**
  - o **Maximum value:**
    - 1600 bar.
  - o **Scale ranges for pressure values between –1 and 1600 bar:**
    - pressure gauges: see table C1 at page P04;
    - vacuum gauges and compound gauges: see table C1 at page P04;
    - other graduations not normalized for single or double range (on request).
  - o **Unit of pressure:**
    - bar, kPa, MPa, kg/cm2 and psi for single or double range.
  - o **Scale angle:**
    - 270 °.
- **Working pressure (referred to full scale deflection)**
  - steady from 1/10 to 3/4;
  - fluctuating from 1/10 to 2/3;
  - pulsating from 1/10 to 1/2.
- **Over-pressure (occasionally allowed)**
  - 130% of full scale value.
- **Pointer**
  - aluminium with micrometer adjustment;
  - aluminium not adjustable for NS 63.
- **Dial**
  - white aluminium with black figures (for dial modifications see available options).
- **Accuracy (according to EN 837-1)**
  - class 1 (± 1% of full scale deflection) for NS 100, 150, 200 and 250;
  - class 1,6 (± 1,6% of full scale deflection) for NS 63.
- **Ambient temperature**
  - -40 ÷ +60 °C dry execution;
  - -20 ÷ +60 °C glycerine filled execution;
  - -40 ÷ +60 °C silicone fluid filled execution.
- **Thermal drift**
  - out of optimum ambient temperature values included within +15 ÷ +25 °C, the thermal drift affects the instruments accuracy of 0,3% every 10 °C.
- **Operating temperature**
  - -40 ÷ +250 °C dry execution;
  - -20 ÷ +100 °C glycerine filled execution;
  - -40 ÷ +120 °C silicone fluid filled execution.

## APPLICATIONS

- **Accessories** (see AM series)
- **Diaphragm seal** (see FP series)

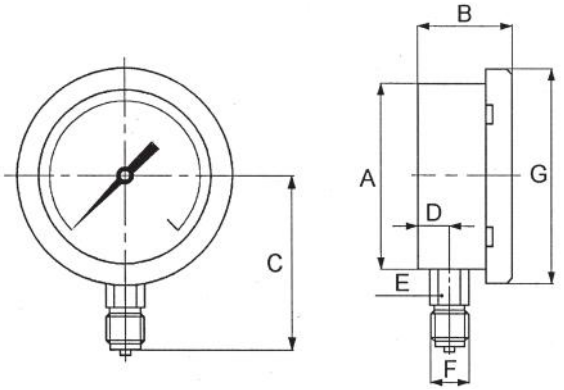
## OPTIONS

- **Maximum pointer**
  to indicate the maximum pressure reached:
  - zero setting on the window (only NS 100 and 150).
    **(identification V11)**
- **Red pointer on the dial**
  only NS 100 and 150. **(identification V14)**
- **Window**
  different from standard (only NS 63, 100 and 150):
  - methacrylate;
    **(identification V16)**
  - laminated safety glass.
    **(identification V17)**
- **External zero adjustment**
  only NS 100 and 150. **(identification V20)**
- **Damped movement**
  only NS 100 and 150. **(identification V23)**
- **Restrictor**
  applicable to pressure connection to reduce the process fluid entry speed.
  **(identification V26)**
- **High overpresseres device**
  allows to NS 100 and 150 for ranges up to 40 bar with-stand over-pressures up to:
  -160%
  **(identification V25)**
  -250%
  **(identification V27)**
  **note:** for higher over-pressures you must use over-pressure protector.
- **Degreasing for oxygen service**
  **(identification V31)**
- **Accuracy class 0,5**
  ± 0,5% of full scale deflection
  (NS 63 excluded).
  **(identification V34)**
- **Accuracy class 0,6**
  ± 0,6% of full scale deflection
  (NS 63 excluded).
  **(identification V36)**
- **Process connection**
  not standard.
  **(identification V42)**
- **Changes to the dial**
  - serial number;
    **(identification V50)**
  - specific dial;
    **(identification V51)**
  - red mark;
    **(identification V52)**
  - writings;
    **(identification V53)**
  - TAG number;
    **(identification V54)**
  - dial without logo;
    **(identification V56)**
  - double logo (Fantinelli + customer);
    **(identification V57)**
  - customer's logo.
    **(identification V58)**
- **AISI 316 stainless steel case and ring**
  as alternative to AISI 304 stainless steel for NS 63, 100 and 150 (for model SP 208 only).
  **(identification V61)**
- **Silicone fluid**
  as alternative to glycerine.
  **(identification V64)**
- **Tropicalization**
  requires AISI 316 stainless steel case and ring.
  **(identification V67)**
- **Metal tag plate**
  AISI 316 stainless steel for tag number.
  **(identification V82)**
- **Monel 400 pressure element**
  as alternative to AISI 316L st.st. pressure element on NS 100 and 150.
  **(identification M04)**
- **Monel 400 pressure element assembly**
  as alternative to AISI 316L st.st. pressure element assembly on NS 100 and 150 (sonly for model SP 208).
  **(identification W04)**

## DOCUMENTATION

- **Fantinelli calibration certificate**
  rising pressure:
  - class 0,6;
    **(identification V91)**
  - class 1.
    **(identification V92)**
- **Complementary documents**
  o certificate of compliance with the order EN 10204 -2.2.
  o Technical documentation including:
  - drawings and technical informations;
  - installation and maintenance instructions.
  o inspection and test certificate EN 10204-3.1.
  o material certificate.
  o PED declaration.
  o ATEX declaration (II 2 G/D).

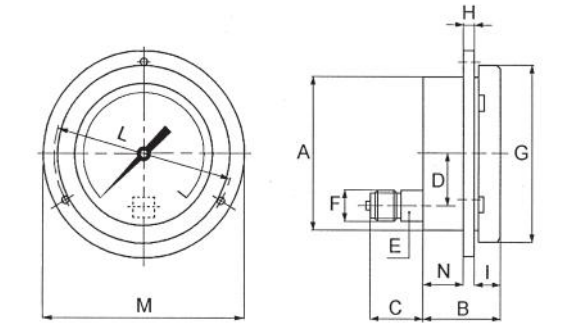
# TECHNICAL INFORMATIONS




## Table SP 208

| DN | A | B | C | D | E | F | G | H | I | L | M | N | Ø fori 120° | PESO ~ kg es. D | es. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 62 | 32 | 56 | 10 | 14 | 1/4 | 69 | | | | | | | 0,16 | 0,23 |
| 100 | 100 | 49 | 90 | 15 | 22 | 1/2 | 112 | | | | | | | 0,57 | 0,91 |
| 150 | 151 | 49 | 114 | 15 | 22 | 1/2 | 166 | | | | | | | 0,92 | 1,79 |
| 200 | 202 | 51 | 144 | 15 | 17 | 1/2 | 216 | | | | | | | 1,32 | |
| 250 | 248 | 56 | 168 | 15 | 17 | 1/2 | 262 | | | | | | | 1,78 | |

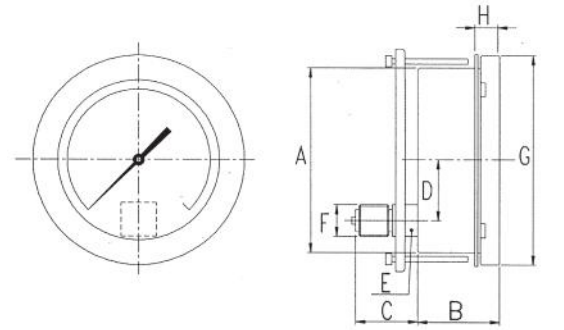
Pressure gauge with bottom connection for local mounting.




## Table SP 211

| DN | A | B | C | D | E | F | G | H | I | L | M | N | Ø fori 120° | PESO ~ kg es. D | es. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 64 | 31 | 23 | 0 | 14 | 1/4 | 69 | 2,5 | 12 | 75 | 84 | 16,5 | 3,6 | 0,18 | 0,25 |
| 100 | 100 | 50 | 35,5 | 28 | 22 | 1/2 | 110 | 3 | 16 | 116 | 134 | 31 | 5 | 0,56 | 0,90 |
| 150 | 150 | 50 | 35,5 | 33 | 17 | 1/2 | 166 | 7 | 19 | 178 | 192 | 27 | 5 | 1,04 | 1,88 |

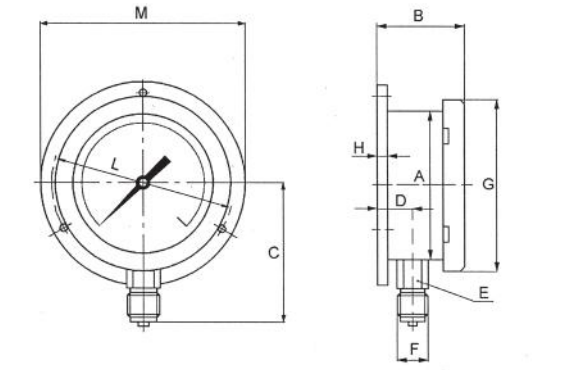
Pressure gauge with back connection for flush mounting with 3 fixing holes.




## Table SP 212

| DN | A | B | C | D | E | F | G | H | I | L | M | N | Ø fori 120° | PESO ~ kg es. D | es. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 62 | 31 | 23 | 0 | 14 | 1/4 | 69 | 12 | | | | | | 0,19 | 0,26 |
| 100 | 100 | 50 | 35,5 | 28 | 22 | 1/2 | 110 | 15 | | | | | | 0,58 | 0,92 |

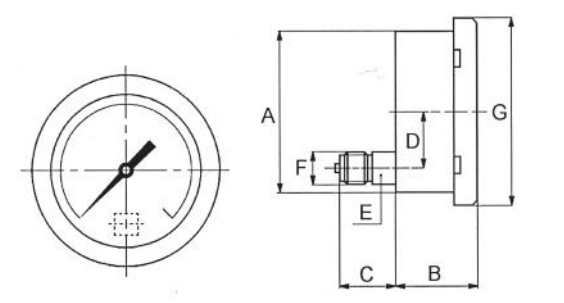
Pressure gauge with back connection for flush mounting with clamp fixing.




## Table SP 213

| DN | A | B | C | D | E | F | G | H | I | L | M | N | Ø fori 120° | PESO ~ kg es. D | es. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 100 | 49 | 90 | 15 | 22 | 1/2 | 112 | 1 | | 116 | 132 | | 5 | 0,62 | 0,96 |
| 150 | 151 | 56 | 114 | 22 | 22 | 1/2 | 166 | 7 | | 178 | 192 | | 5 | 1,16 | 2,03 |
| 200 | 202 | 60 | 144 | 24 | 17 | 1/2 | 216 | 9 | | 220 | 240 | | 6,5 | 1,92 | |
| 250 | 248 | 58 | 168 | 17 | 17 | 1/2 | 262 | 2 | | 276 | 290 | | 7 | 2,82 | |

Pressure gauge with bottom connection for surface mounting with 3 fixing holes




## Table SP 215

| DN | A | B | C | D | E | F | G | H | I | L | M | N | Ø fori 120° | PESO ~ es. D | es. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 62 | 31 | 23 | 0 | 14 | 1/4 | 69 | | | | | | | 0,16 | 0,23 |
| 100 | 100 | 50 | 35,5 | 28 | 22 | 1/2 | 110 | | | | | | | 0,51 | 0,85 |
| 150 | 150 | 50 | 35,5 | 33 | 17 | 1/2 | 166 | | | | | | | 0,98 | 1,82 |

Pressure gauge with back connection for local mounting.

**note:** informations shown in this series may be changed at any time without prior notice.