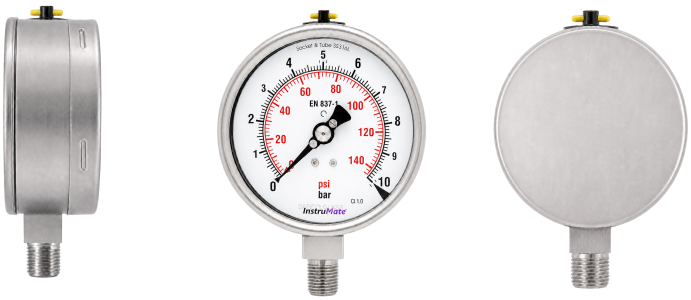


113AS

Application

- ✔ Increased safety requirements
- ✔ Chemical / petro-chemical industry
- ✔ Power stations, on- and offshore
- ✔ Environmental technology
- ✔ Gaseous and liquid aggressive media
- ✔ High dynamic pressure loads or vibrations
- ✔ Machine building and plant construction
- ✔ Aggressive ambient conditions

Special Features

- ✔ Safety version with solid baffle wall
- ✔ All stainless steel construction
- ✔ Compliant with EN 837-1 (S3 safety)
- ✔ Excellent load-cycle stability
- ✔ Scale ranges up to 0 ... 1,600 bar
- ✔ Blow-out back safety design

Description

The InstruMate model 113AS is a stainless steel safety pressure gauge designed for industrial applications with increased safety requirements. Featuring a solid baffle wall and blow-out back design, it fully complies with the operational safety requirements of EN 837-1 (S3 safety pattern).

With its all-stainless-steel construction, the 113AS is suitable for gaseous and liquid aggressive media as well as aggressive ambient conditions. The bourdon tube measuring system ensures excellent load-cycle stability and shock resistance, making it ideal for chemical, petro-chemical, power generation, and offshore applications.

Available in nominal sizes of 63, 100, and 160 mm, with scale ranges up to 1,600 bar. The glycerine-filled version (model 113AS-G) provides reliable performance under high dynamic pressure loads and vibrations, extending service life of the movement.

Ranges and Accuracy

Nominal Size	Accuracy Class	Scale Ranges (bar)
NS 63	1.6	0 ... 1 to 0 ... 1,000 bar
NS 100	1.0	0 ... 0.6 to 0 ... 1,000 bar
NS 160	1.0	0 ... 0.06 to 0 ... 1,600 bar

Also available: all equivalent vacuum or combined pressure and vacuum ranges.

Specification

Design	EN 837-1, safety version S3
Nominal sizes	63, 100, 160 mm
Accuracy class	NS 63: 1.6 NS 100 / 160: 1.0
Pressure element	Stainless steel 316L C-type or helical type
Movement	Stainless steel
Dial	Aluminium, white, black lettering
Pointer	Aluminium, black
Case	Stainless steel, safety pattern with baffle wall & blow-out back
Window	Laminated safety glass (NS 63: Polycarbonate)

Bezel ring	Cam ring (bayonet type) stainless steel
Process connection	Stainless steel 316L Lower mount (L) or back mount (B)
Connection size	NS 63: G ¼ B, 14 mm SQ NS 100/160: G ½ B, 22 mm SQ
Pressure limitation	NS 63: Steady ¾ FS, Fluct. ⅔ FS NS 100/160: Steady 100% FS, Fluct. 90% FS
Permissible temperature	Ambient: -40 ... +60 °C Medium: up to +200 °C
Ingress protection	IP65 per EN 60529 / IEC 60529 (Back mount: IP 55)
Temperature effect	Max. ±0.4 %/10 K of full scale value (ref. +20 °C)
Filling liquid (option)	Glycerine 99.7 % (86.5 % for ranges ≤ 2.5 bar)

Pressure and Temperature limits

Parameter	NS 63	NS 100 / 160
Steady pressure load	3/4 × full scale value	Full scale value
Fluctuating pressure load	2/3 × full scale value	0.9 × full scale value
Short time pressure	Full scale value	Full scale value
Ambient temperature (dry)	-40 ... +60 °C	
Ambient temperature (glycerine)	-20 ... +60 °C	
Medium temperature (max)	+200 °C (dry) / +100 °C (filled)	+200 °C (dry) / +100 °C (filled)

Options

- ✔ Other process connections (NPT, BSPT, Metric)
- ✔ Sealings (model 830)
- ✔ Assembly on diaphragm seals
- ✔ Panel mounting flange, stainless steel
- ✔ Surface mounting lugs on back
- ✔ Glycerine or silicone oil filling
- ✔ Ingress protection IP 66, IP 67
- ✔ Pressure gauge with switch contacts
- ✔ Electrical output signal (4-20 mA)
- ✔ Special dial designs and scale ranges

Glycerine filled

The glycerine-filled version (model 113AS-G) is recommended for applications with high dynamic pressure loads or vibrations. The liquid filling dampens the movement, reducing wear and extending service life. It also prevents condensation and icing on the dial face.

Filling liquid: Glycerine 99.7 % (for scale ranges ≤ 2.5 bar: Glycerine 86.5 %). Optionally available with silicone oil for low temperature applications down to -40 °C.

Mounting

Code	Connection Type	Description
L	Direct Bottom Connection	Radial bottom mount, process connection at the bottom of the case
B	Back Connection	Axial back mount, process connection at the back of the case NS 63: CBM (Center Back Mount) / NS 100, 160: LBM (Lower Back Mount)
V	Back Connection with Front Flange	Panel mounting with front flange, back connection
U	Back Connection with U-Clamp	U-clamp panel mounting, back connection
R	Bottom Connection with Back Flange	Rear flange mounting, bottom connection

3. Thread Type and Size Codes

Thread Type	Code
NPT	N
BSPP (G)	B
BSPT	Z
Metric	M

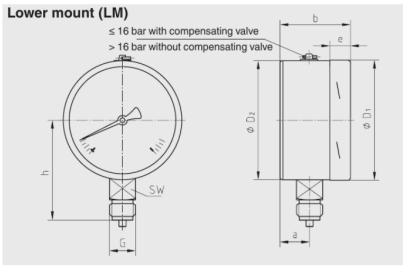
Thread Size	Code
1/8 inch	8
¼ inch	4
½ inch	2
Metric sizes	write the number (e.g. M12×1.5)

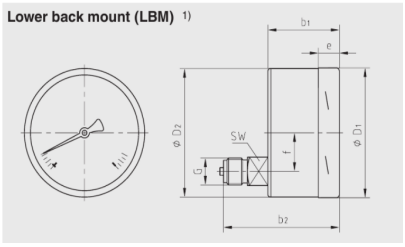
[1]) Back mount connection only for gauges NS 63 and 100 without liquid filling.
[2]) Process connection per EN 837-1 / 2-3 standard.
[3]) For scale ranges ≤ 100 bar: connection length 43.5 mm.

Dimentions (in mm)

Dimensions in mm

Standard version





NS	a	b	b1	b2	D1	D2	e	f	G	h±1	SW	Weight (kg)
63	17.5	42	42	61	63	63	14.5	18.5	G ¼ B	54	14	0.20
100	25	59.5	59.5	93	101	100	17	30	G ½ B	87	22	0.65
160	27[3])	85	–	–	161	159	17.5	–	G ½ B	118	22	1.30

[1]) Back mount connection only for gauges NS 63 and 100 without liquid filling.
[2]) Process connection per EN 837-1 / 2-3 standard.
[3]) For scale ranges ≤ 100 bar: connection length 43.5 mm.
Weight for glycerine-filled version (119H-G): +30% approx.

How To Order

Product group	Model	Mounting	Size	Thread	Thread size	Range	Options
Safety Gauge	113AS	L	100	B	2	0...10 bar	G

Order by the complete configuration code and required pressure range.