

# Capsule pressure gauge, copper alloy or stainless steel

## Edgewise panel design

### Models 614.11 and 634.11

WIKA data sheet PM 06.05



For further approvals,  
see page 7

#### Applications

- For pressure indication in control rooms
- For gaseous, dry and non-aggressive media
- Model 614.11 with wetted parts from copper alloy, for non-aggressive media
- Model 634.11 with wetted parts from stainless steel, for aggressive media

#### Special features

- Panel mounting with dimensions per DIN IEC 61554 from 72 x 72 mm [2.84 x 2.84"] to 144 x 144 mm [5.67 x 5.67"]
- Low scale ranges from 0 ... 2.5 mbar to 0 ... 600 mbar or 0 ... 1 inH<sub>2</sub>O to 0 ... 240 inH<sub>2</sub>O
- Zero point setting possible



Capsule pressure gauge, model 614.11

#### Description

The models 614.11 and 634.11 capsule pressure gauges are based upon the proven capsule measuring system. The capsule element measurement principle is suitable for very low pressures. On pressurisation, the expansion of the capsule element, proportional to the incident pressure, is transmitted to the movement and indicated.

The modular design enables a multitude of combinations of case materials, process connections, nominal sizes and scale ranges.

Due to this wide range of variants the edgewise panel design instrument is suitable for use in the most varied control panel applications.

The scale ranges of 0 ... 2.5 mbar to 0 ... 600 mbar or 0 ... 1 inH<sub>2</sub>O to 0 ... 240 inH<sub>2</sub>O and the vacuum and +/- scale ranges ensure the measuring ranges required for a wide variety of applications.

# Specifications

Basic information	
<b>Standard</b>	In line with EN 837-3, dimensions per DIN IEC 61554 → For information on the “Selection, installation, handling and operation of pressure gauges”, see technical information IN 00.05
<b>Further version</b>	<ul style="list-style-type: none"> <li>■ Oil- and grease-free</li> <li>■ Oil- and grease-free for oxygen</li> </ul>
<b>Nominal size (NS)</b>	<ul style="list-style-type: none"> <li>■ 72 x 72 mm [2.84 x 2.84"]</li> <li>■ 96 x 96 mm [3.78 x 3.78"]</li> <li>■ 144 x 72 mm [5.67 x 2.84"]</li> <li>■ 144 x 144 mm [5.67 x 5.67"]<sup>1)</sup></li> </ul>
Connection location	
NS 72 x 72 [2.84 x 2.84], 96 x 96 [3.78 x 3.78]	Centre back mount
NS 144 x 72 [5.67 x 2.84], 144 x 144 [5.67 x 5.67]	Lower back mount
<b>Window</b>	<ul style="list-style-type: none"> <li>■ Instrument glass<sup>2)</sup></li> <li>■ Acrylic glass<sup>3)</sup></li> </ul>
Case	
NS 72 x 72 [2.84 x 2.84], 96 x 96 [3.78 x 3.78], 144 x 144 [5.67 x 5.67]	Steel, galvanised
NS 144 x 72 [5.67 x 2.84]	Steel, black
<b>Panel frame</b>	Steel, black, narrow, snap-fit
<b>Mounting</b>	Mounting bracket → For information on “Mounting types, mounting flanges, panel cutouts”, see technical information IN 00.04
<b>Movement</b>	Copper alloy

1) Only available for model 614.11

2) Not available for NS 144 x 144 [5.67 x 5.67]

3) Not available for NS 144 x 72 [5.67 x 2.84]

Measuring element		
<b>Type of measuring element</b>	Capsule element	
Material (wetted)		
Capsule element	Model 614.11	Copper alloy
	Model 634.11	Stainless steel 316L <sup>1)</sup>
Seal	Model 614.11	NBR
	Model 634.11	FPM/FKM
Process connection	Model 614.11	Copper alloy
	Model 634.11	Stainless steel 316L <sup>1)</sup>
<b>Leak tightness</b>	<ul style="list-style-type: none"> <li>■ Leakage rate: <math>&lt; 1 \cdot 10^{-3}</math> mbar l/s</li> <li>■ Helium tested, leakage rate: <math>&lt; 1 \cdot 10^{-5}</math> mbar l/s</li> </ul>	

1) Not available for NS 144 x 144 [5.67 x 5.67]

Accuracy specifications	
<b>Accuracy class</b>	
EN 837-3	■ Class 1.6
ASME B40.100	■ $\pm 2\%$   $\pm 1\%$   $\pm 2\%$ of measuring span (grade A)
<b>Zero point setting with adjustment screw</b>	
Instrument glass	In front, after removing the panel frame with window
Acrylic glass	In front, through the opening in the window
NS 144 x 72	Rear
<b>Temperature error</b>	On deviation from the reference conditions at the measuring system: $\leq \pm 0.6\%$ per $10\text{ }^\circ\text{C}$ [ $\leq \pm 0.6\%$ per $18\text{ }^\circ\text{F}$ ] of full scale value
<b>Reference conditions</b>	
Ambient temperature	$+20\text{ }^\circ\text{C}$ [ $+68\text{ }^\circ\text{F}$ ]

### Scale ranges

NS	Smallest possible span in mbar	
	Model 614.11	Model 634.11
72 x 72 [2.84 x 2.84]	25	40
96 x 96 [3.78 x 3.78]	10	40
144 x 72 [5.67 x 2.84]	4	2.5
144 x 144 [5.67 x 5.67]	6	-

mbar	
0 ... 2.5	0 ... 60
0 ... 4	0 ... 100
0 ... 6	0 ... 160
0 ... 10	0 ... 250
0 ... 16	0 ... 400
0 ... 25	0 ... 600
0 ... 40	-

kg/cm <sup>2</sup>	
0 ... 0.0025	0 ... 0.06
0 ... 0.004	0 ... 0.1
0 ... 0.006	0 ... 0.16
0 ... 0.01	0 ... 0.25
0 ... 0.016	0 ... 0.4
0 ... 0.025	0 ... 0.6
0 ... 0.04	-

kPa	
0 ... 0.25	0 ... 6
0 ... 0.4	0 ... 10
0 ... 0.6	0 ... 16
0 ... 1	0 ... 25
0 ... 1.6	0 ... 40
0 ... 2.5	0 ... 60
0 ... 4	-

Pa	
0 ... 250	0 ... 6,000
0 ... 400	0 ... 10,000
0 ... 600	0 ... 16,000
0 ... 1,000	0 ... 25,000
0 ... 1,600	0 ... 40,000
0 ... 2,500	0 ... 60,000
0 ... 4,000	-

psi	
0 ... 0.036	0 ... 1.0
0 ... 0.06	0 ... 1.5
0 ... 0.1	0 ... 2.5
0 ... 0.15	0 ... 3.6
0 ... 0.25	0 ... 6.0
0 ... 0.36	0 ... 10
0 ... 0.6	-

mmH <sub>2</sub> O	
0 ... 25	0 ... 600
0 ... 40	0 ... 1,000
0 ... 60	0 ... 1,600
0 ... 100	0 ... 2,500
0 ... 160	0 ... 4,000
0 ... 250	0 ... 6,000
0 ... 400	-

inH <sub>2</sub> O	
0 ... 1	0 ... 24
0 ... 1.6	0 ... 40
0 ... 2.4	0 ... 60
0 ... 4	0 ... 100
0 ... 6	0 ... 160
0 ... 10	0 ... 240
0 ... 16	-

oz/in <sup>2</sup>	
0 ... 0.6	0 ... 15
0 ... 1	0 ... 25
0 ... 1.5	0 ... 40
0 ... 2.5	0 ... 60
0 ... 4	0 ... 100
0 ... 6	0 ... 150
0 ... 10	-

### Vacuum and compound scale ranges

mbar	
-2.5 ... 0	-1.25 ... +1.25
-4 ... 0	-2 ... +2
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5
-16 ... 0	-8 ... +8
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-160 ... 0	-80 ... +80
-250 ... 0	-125 ... +125
-400 ... 0	-200 ... +200
-600 ... 0	-300 ... +300

kg/cm <sup>2</sup>	
-0.0025 ... 0	-0.00125 ... +0.00125
-0.004 ... 0	-0.002 ... +0.002
-0.006 ... 0	-0.003 ... +0.003
-0.01 ... 0	-0.005 ... +0.005
-0.016 ... 0	-0.008 ... +0.008
-0.025 ... 0	-0.0125 ... +0.0125
-0.04 ... 0	-0.02 ... +0.02
-0.06 ... 0	-0.03 ... +0.03
-0.1 ... 0	-0.05 ... +0.05
-0.16 ... 0	-0.08 ... +0.08
-0.25 ... 0	-0.125 ... +0.125
-0.4 ... 0	-0.2 ... +0.2
-0.6 ... 0	-0.3 ... +0.3

kPa	
-0.25 ... 0	-0.125 ... + 0.125
-0.4 ... 0	-0.2 ... + 0.2
-0.6 ... 0	-0.3 ... + 0.3
-1 ... 0	-0.5 ... +0.5
-1.6 ... 0	-0.8 ... +0.8
-2.5 ... 0	-1.25 ... +1.25
-4 ... 0	-2 ... +2
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5
-16 ... 0	-8 ... +8
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30

Pa	
-250 ... 0	-125 ... +125
-400 ... 0	-200 ... +200
-600 ... 0	-300 ... +300
-1,000 ... 0	-500 ... +500
-1,600 ... 0	-800 ... +800
-2,500 ... 0	-1,250 ... +1,250
-4,000 ... 0	-2,000 ... +2,000
-6,000 ... 0	-3,000 ... +3,000
-10,000 ... 0	-5,000 ... +5,000
-16,000 ... 0	-8,000 ... +8,000
-25,000 ... 0	-12,500 ... +12,500
-40,000 ... 0	-20,000 ... +20,000
-60,000 ... 0	-30,000 ... +30,000

psi	
-0.036 ... 0	-0.018 ... +0.018
-0.06 ... 0	-0.03 ... +0.03
-0.1 ... 0	-0.05 ... +0.05
-0.15 ... 0	-0.075 ... +0.075
-0.25 ... 0	-0.125 ... +0.125
-0.36 ... 0	-0.18 ... +0.18
-0.6 ... 0	-0.3 ... +0.3
-1 ... 0	-0.5 ... +0.5
-1.5 ... 0	-0.75 ... +0.75
-2.5 ... 0	-1.25 ... +1.25
-3.6 ... 0	-1.8 ... +1.8
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5

mmH <sub>2</sub> O	
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-160 ... 0	-80 ... +80
-250 ... 0	-125 ... +125
-400 ... 0	-200 ... +200
-600 ... 0	-300 ... +300
-1,000 ... 0	-500 ... +500
-1,600 ... 0	-800 ... +800
-2,500 ... 0	-1,250 ... +1,250
-4,000 ... 0	-2,000 ... +2,000
-6,000 ... 0	-3,000 ... +3000

inH <sub>2</sub> O	
-1 ... 0	-0.5 ... +0.5
-1.6 ... 0	-0.8 ... +0.8
-2.4 ... 0	-1.2 ... +1.2
-4 ... 0	-2 ... +2
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5
-16 ... 0	-8 ... +8
-24 ... 0	-12 ... +12
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-160 ... 0	-80 ... +80
-240 ... 0	-120 ... +120

oz/in <sup>2</sup>	
-0.6 ... 0	-0.3 ... +0.3
-1 ... 0	-0.5 ... +0.5
-1.5 ... 0	-0.75 ... +0.75
-2.5 ... 0	-1.25 ... +1.25
-4 ... 0	-2 ... +2
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5
-15 ... 0	-7.5 ... +7.5
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-150 ... 0	-75 ... +75

Further details on: scale ranges	
<b>Unit</b>	<input type="checkbox"/> mbar <input type="checkbox"/> kg/cm <sup>2</sup> <input type="checkbox"/> kPa <input type="checkbox"/> Pa <input type="checkbox"/> psi <input type="checkbox"/> mmH <sub>2</sub> O <input type="checkbox"/> inH <sub>2</sub> O <input type="checkbox"/> oz/in <sup>2</sup> Other units on request
<b>Overpressure safety</b>	
Scale range < 0 ... 40 mbar [0 ... 16 inH <sub>2</sub> O]	<input type="checkbox"/> Without <input type="checkbox"/> 3 x full scale value
Scale range ≥ 0 ... 40 mbar [0 ... 16 inH <sub>2</sub> O]	<input type="checkbox"/> Without <input type="checkbox"/> 10 x full scale value
<b>Vacuum resistance</b>	
Scale range < 0 ... 40 mbar [0 ... 16 inH <sub>2</sub> O]	<input type="checkbox"/> Without <input type="checkbox"/> 3 x full scale value
Scale range ≥ 0 ... 40 mbar [0 ... 16 inH <sub>2</sub> O]	<input type="checkbox"/> Without <input type="checkbox"/> 10 x full scale value

## Further details on: scale ranges

Dial		
Scale layout	<ul style="list-style-type: none"> <li>■ Single scale</li> <li>■ Dual scale</li> </ul>	
Scale colour	Single scale	Black
	Dual scale	Black/red
Serial number	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ Consecutive number * ... *</li> </ul>	
Material	Aluminium	
Special scale	→ Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request	
Pointer		
Instrument pointer	Aluminium, black	
Mark pointer	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ Red mark pointer on window, adjustable <sup>1)</sup></li> </ul>	
Pointer stop pin	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ At zero point</li> <li>■ At 6 o'clock</li> </ul>	

1) Only available for NS 72 x 72 [2.84 x 2.84], 96 x 96 [3.78 x 3.78]

## Process connection

Standard	<ul style="list-style-type: none"> <li>■ EN 837-3</li> <li>■ ANSI/B1.20.1</li> </ul>	
Size		
EN 837-3	<ul style="list-style-type: none"> <li>■ G ¼ B, male thread</li> <li>■ G ½ B, male thread <sup>1)</sup></li> </ul>	
ANSI/B1.20.1	<ul style="list-style-type: none"> <li>■ ¼ NPT, male thread</li> <li>■ ½ NPT, male thread <sup>1)</sup></li> </ul>	
Restrictor	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ Ø 0.3 mm [0.012"], copper alloy</li> <li>■ Ø 0.5 mm [0.02"], copper alloy</li> <li>■ Ø 0.3 mm [0.012"], stainless steel</li> <li>■ Ø 0.6 mm [0.024"], stainless steel</li> </ul>	
Material (wetted)		
Capsule element	Model 614.11	Copper alloy
	Model 634.11	Stainless steel 316L <sup>2)</sup>
Seal	Model 614.11	NBR
	Model 634.11	FPM/FKM
Process connection	Model 614.11	Copper alloy
	Model 634.11	Stainless steel 316L <sup>2)</sup>



1) Only available for model 614.11 and model 634.11 in NS 144 x 72 [5.67 x 2.84] and 144 x 144 mm [5.67 x 5.67"]

2) Not available for NS 144 x 144 mm [5.67 x 5.67"]

→ Other process connections on request

Operating conditions	
Medium temperature	-20 ... +100 °C [-4 ... +212 °F]
Ambient temperature	-20 ... +60 °C [-4 ... +140 °F]
Pressure limitation	
Steady	Full scale value
Fluctuating	0.9 x full scale value
Short time	1.3 x full scale value
Ingress protection per IEC/EN 60529	IP42

## Optional approvals

Logo	Description	Region
	<b>PAC Kazakhstan</b> Metrology, measurement technology	Kazakhstan
-	<b>MChS</b> Permission for commissioning	Kazakhstan
-	<b>PAC Ukraine</b> Metrology, measurement technology	Ukraine
	<b>PAC Uzbekistan</b> Metrology, measurement technology	Uzbekistan
-	<b>PAC China</b> Metrology, measurement technology	China

## Certificates (option)

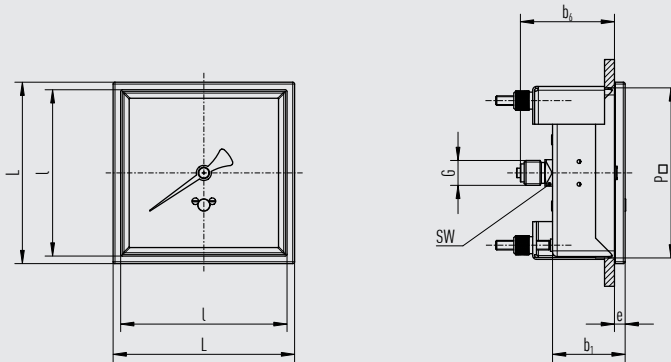
Certificates	
<b>Certificates</b>	<ul style="list-style-type: none"> <li>■ 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy)</li> <li>■ 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metal parts, indication accuracy)</li> </ul>
<b>Calibration</b>	<ul style="list-style-type: none"> <li>■ Factory calibration certificate</li> <li>■ SCS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025)</li> <li>■ Calibration certificate by a national accreditation body, traceable and accredited in accordance with ISO/IEC 17025 on request</li> </ul>
<b>Recommended calibration interval</b>	1 year (dependent on conditions of use)

→ For approvals and certificates, see website

## Dimensions in mm [in]

NS 72 x 72 [2.84 x 2.84] and 96 x 96 [3.78 x 3.78]

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NS	Weight
72 x 72 [2.84 x 2.84]	Approx. 0.3 kg [0.66 lb]
96 x 96 [3.78 x 3.78]	Approx. 0.4 kg [0.88 lb]

### Process connection with thread per EN 837-3

NS	G	Dimensions in mm [in]						
		b <sub>1</sub>	b <sub>6</sub>	e	L	l	p	SW
72 x 72 [2.84 x 2.84]	G ¼ B	36.5 [1.44]	50 [1.97]	6 [0.24]	72 [2.84]	62 [2.44]	66 [2.6]	14 [0.55]
96 x 96 [3.78 x 3.78]	G ¼ B	39 [1.54]	50 [1.97]	6 [0.24]	96 [3.78]	79 [3.11]	88.5 [3.48]	14 [0.55]

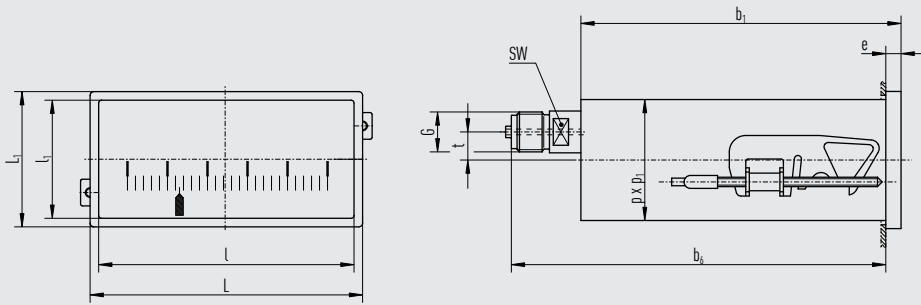
### Process connection with thread per ANSI/B1.20.1

NS	G	Dimensions in mm [in]						
		b <sub>1</sub>	b <sub>6</sub>	e	L	l	p	SW
72 x 72 [2.84 x 2.84]	¼ NPT	36.5 [1.44]	50 [1.97]	6 [0.24]	72 [2.84]	62 [2.44]	66 [2.6]	14 [0.55]
96 x 96 [3.78 x 3.78]	¼ NPT	39 [1.54]	50 [1.97]	6 [0.24]	96 [3.78]	79 [3.11]	88.5 [3.48]	14 [0.55]



NS 144 x 72 [5.67 x 2.84]

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NS	Weight
144 x 72 [5.67 x 2.84]	Approx. 1.6 kg [3.53 lb]

**Process connection with thread per EN 837-3**

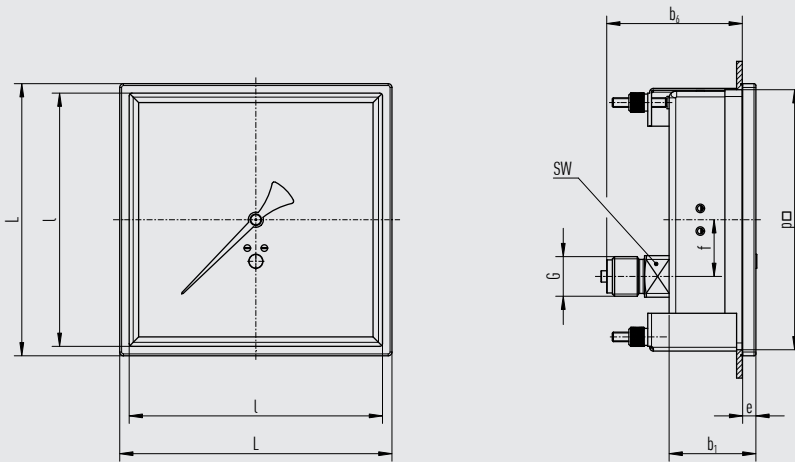
NS	G	Dimensions in mm [in]									
		b <sub>1</sub>	b <sub>6</sub>	e	F	L	L <sub>1</sub>	l	l <sub>1</sub>	p x p <sub>1</sub>	SW
144 x 72 [5.67 x 2.84]	G ¼ B	168 [6.61]	190 [7.48]	8 [0.31]	17 [0.70]	144 [5.67]	72 [2.83]	134 [5.28]	62 [2.44]	138 x 67 [5.43 x 2.64]	17 [0.70]
	G ½ B	168 [6.61]	197 [7.76]	8 [0.31]	17 [0.70]	144 [5.67]	72 [2.83]	134 [5.28]	62 [2.44]	138 x 67 [5.43 x 2.64]	17 [0.70]

**Process connection with thread per ANSI/B1.20.1**

NS	G	Dimensions in mm [in]									
		b <sub>1</sub>	b <sub>6</sub>	e	F	L	L <sub>1</sub>	l	l <sub>1</sub>	p x p <sub>1</sub>	SW
144 x 72 [5.67 x 2.84]	¼ NPT	168 [6.61]	190 [7.48]	8 [0.31]	17 [0.70]	144 [5.67]	72 [2.83]	134 [5.28]	62 [2.44]	138 x 67 [5.43 x 2.64]	17 [0.70]
	½ NPT	168 [6.61]	197 [7.76]	8 [0.31]	17 [0.70]	144 [5.67]	72 [2.83]	134 [5.28]	62 [2.44]	138 x 67 [5.43 x 2.64]	17 [0.70]

**NS 144 x 144 [5.67 x 5.67]**

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NS	Weight
<b>144 x 144</b> <b>[5.67 x 5.67]</b>	Approx. 0.9 kg [1.98 lb]

**Process connection with thread per EN 837-3**

NS	G	Dimensions in mm [in]							
		b <sub>1</sub>	b <sub>6</sub>	e	F	L	l	p	SW
<b>144 x 144</b> <b>[5.67 x 5.67]</b>	G ¼ B	46.5 [1.83]	64.5 [2.54]	8 [0.31]	30 [1.18]	144 [5.67]	134 [5.28]	136 [5.35]	22 [0.87]
	G ½ B	46.5 [1.83]	71.5 [2.81]	8 [0.31]	30 [1.18]	144 [5.67]	134 [5.28]	136 [5.35]	22 [0.87]

**Process connection with thread per ANSI/B1.20.1**

NS	G	Dimensions in mm [in]							
		b <sub>1</sub>	b <sub>6</sub>	e	F	L	l	p	SW
<b>144 x 144</b> <b>[5.67 x 5.67]</b>	¼ NPT	46.5 [1.83]	64.5 [2.54]	8 [0.31]	30 [1.18]	144 [5.67]	134 [5.28]	136 [5.35]	22 [0.87]
	½ NPT	46.5 [1.83]	70.5 [2.78]	8 [0.31]	30 [1.18]	144 [5.67]	134 [5.28]	136 [5.35]	22 [0.87]

**Ordering information**

Model / Nominal size / Scale range / Process connection / Options

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