

Bourdon tube pressure gauges for chemical applications

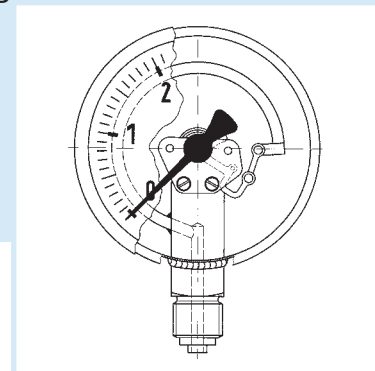
EN 837-1



- For chemical and process engineering applications
- Measuring system fully welded to housing
- Extremely robust design
- For temperatures (medium) $\leq 150\text{ }^{\circ}\text{C}$
- Optionally available with electrical contact
- Tightness-tested with helium
- DNV- and GOSSTANDART-certified



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Application For corrosive gaseous and liquid media which are not highly viscous and do not crystallise; suitable for corrosive environments.

! For measuring gas or vapour, these gauges must be used in accordance with the table "Selection Criteria as per EN 837-2" (see appendix)!

Technical specifications

Type

D 4

Nominal size

100 – 160

Accuracy class (EN 837-1/6)

1.0

Ranges (EN 837-1/5)

-1/0 to -1/+15 bar

NG 100 0/0.6 to 0/1000 bar

NG 160 0/0.6 to 0/1600 bar

Application area

Static load:

 $\leq 600\text{ bar} = \text{full scale value}$ $> 600\text{ bar} = \frac{3}{4} \times \text{full scale value}$

Dynamic load:

 $\leq 600\text{ bar} = 0.9 \times \text{full scale value}$ $> 600\text{ bar} = \frac{2}{3} \times \text{full scale value}$

Short-term:

 $\leq 600\text{ bar} = 1.3 \times \text{full scale value}$ $> 600\text{ bar} = \text{full scale value}$

Operating temperature range

Medium: $T_{\text{max}} = +150\text{ }^{\circ}\text{C}$ Ambient: $T_{\text{min}} = -20\text{ }^{\circ}\text{C}$ $T_{\text{max}} = +60\text{ }^{\circ}\text{C}$

Temperature performance

Indication error when the temperature of the measuring system deviates from the normal temperature of $20\text{ }^{\circ}\text{C}$:

Rising temperature approx. $\pm 0.4\text{ } \%/10\text{ K}$ Falling temperature approx. $\pm 0.4\text{ } \%/10\text{ K}$ of full scale value

Degree of protection

IP 65 (EN 60529)

with housing vent ($\leq 25\text{ bar}$)

IP 54

Standard version

Connection

Stainless steel 316 Ti or 316 L,

bottom or lower back

 $G\frac{1}{2}B$ – spanner size SW 22 (EN 837-1/7.3)

Measuring element

Bourdon tube, stainless steel 316 Ti/316 L

 $\leq 60\text{ bar}$ "C" type tube $> 60\text{ bar}$ helical tube

tightness-tested with helium

(EN 837-1/9.5.6)

Movement

Stainless steel

Dial

Aluminium, white

Dial marking black

Pointer

Aluminium, black

Housing

Stainless steel 304 with blow-out

Bayonet bezel

Stainless steel 304

Window

Laminated safety glass

Options

- Back flange
- Panel mounting bezel for clamp fixing
- 3-hole fixing, panel mounting bezel
- Special scales
- Electrical contacts
- Other process connections

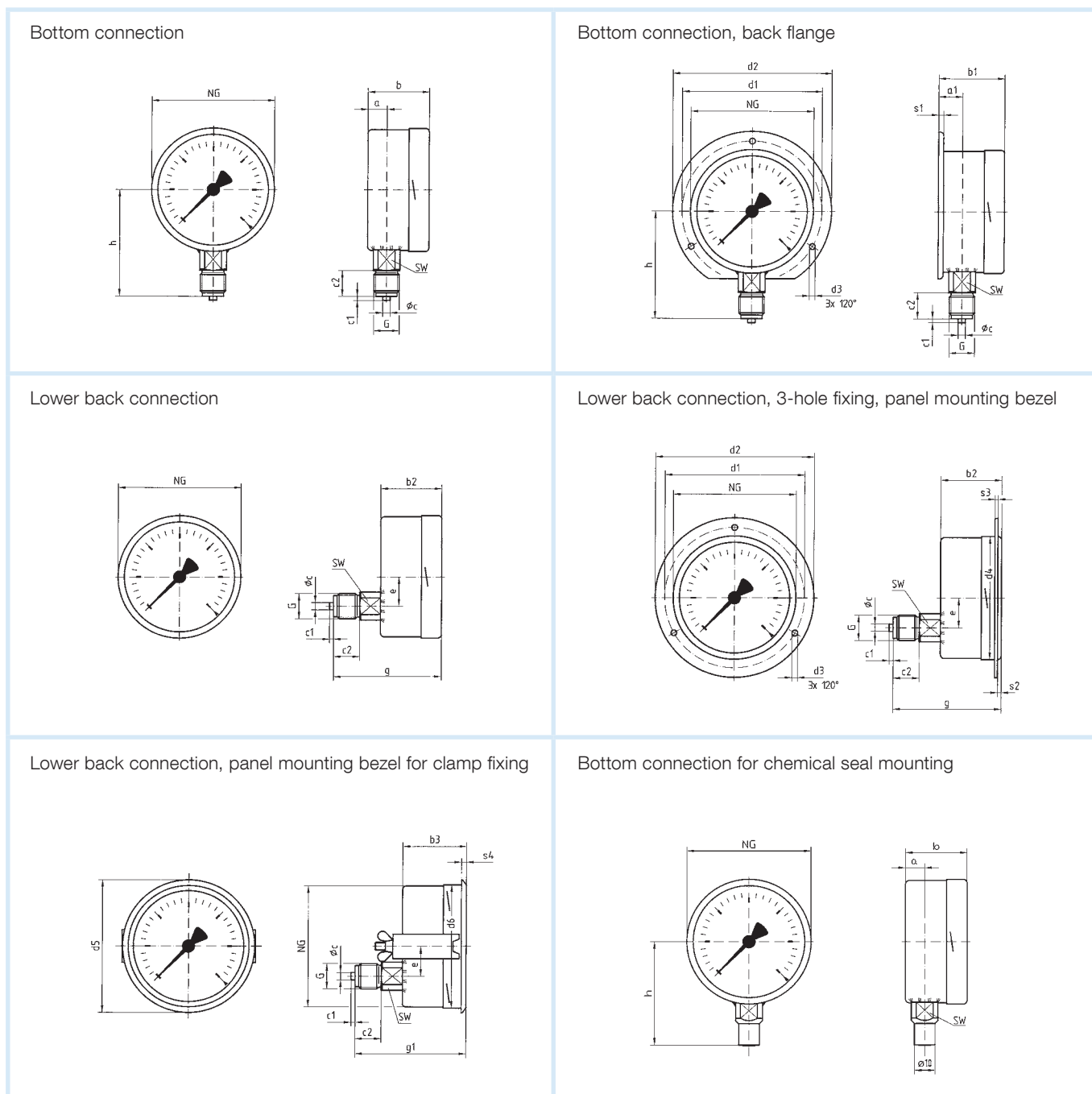
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See page 294 for prices.

Bourdon tube pressure gauges for chemical applications

Type D 4 – NG 100/160

Housing types and dimensions (mm)



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Dimensions (mm)

Nominal size (NG)	a	a1	b	b1	b2	b3	Øc	c1	c2	d1*	d2*	d3*	d4	d5	d6	e	G	g	g1	h	s1
100	15.6	19.1	49	52.5	49	49	6	3	20	116	132	4.8	104	107	101	34.5	G $\frac{1}{2}$ B	83	83	86	5.5
160	17.5	20.5	50	53	50	52	6	3	20	178	196	5.8	164	167	161	34.5	G $\frac{1}{2}$ B	84	86	116	6
Nominal size (NG)	s2	s3	s4	SW																	
100	4	2	4	22																	
160	4	2	4.5	22																	

* Dimensions as per DIN 16064

Bourdon tube pressure gauges for chemical applications with glycerine filling

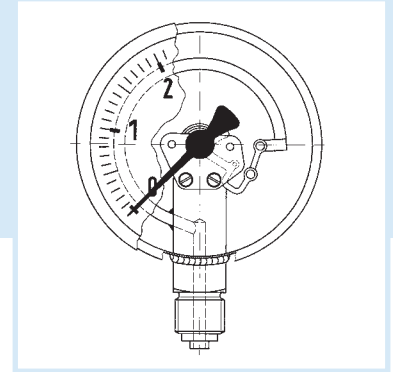
EN 837-1



- For chemical and process engineering applications
- Measuring system fully welded to housing
- Extremely robust design
- Can be used in case of heavy vibrations and high, dynamic pressure loads.
- Tightness-tested with helium
- DNV- and GOSSTANDART-certified



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Application For corrosive gaseous and liquid media which are not highly viscous and do not crystallise; suitable for corrosive environments. For measurements in areas with high vibration levels and high, dynamic pressure loads.

! For measuring gas or vapour, these gauges must be used in accordance with the table "Selection Criteria as per EN 837-2" (see appendix)!

Technical specifications

Type
D 7

Nominal size
50 – 63

Accuracy class (EN 837-1/6)
1.6

Ranges (EN 837-1/5)
NG 50:
-1/0 to -1/+15 bar
0/0.6 to 0/600 bar
NG 63:
-1/0 to -1/+15 bar
0/0.6 to 0/1000 bar

Application area
Static load: $\frac{3}{4}$ x full scale value
Dynamic load: $\frac{2}{3}$ x full scale value
Short-term: Full scale value

Standard version

Connection
Stainless steel 316 Ti/316 L
NG 50 bottom or lower back
NG 63 bottom or centre back
G $\frac{1}{4}$ B – spanner size SW 14
(EN 837-1/7.3)

Measuring element
Bourdon tube, stainless steel 316 Ti/316 L
 \leq 60 bar "C" type tube
> 60 bar helical tube
tightness-tested with helium (EN 837-1/9.5.6)

Movement
Stainless steel

Dial
Aluminium, white / dial marking black

Operating temperature range

Medium: $T_{max} = +100\text{ }^{\circ}\text{C}$
Ambient: $T_{min} = -20\text{ }^{\circ}\text{C}$
 $T_{max} = +60\text{ }^{\circ}\text{C}$

Temperature performance

Indication error when the temperature of the measuring system deviates from the normal temperature of 20 °C:
Rising temperature approx. $\pm 0.4\%$ /10 K
Falling temperature approx. $\pm 0.4\%$ /10 K
of full scale value

Degree of protection

IP 65 (EN 60529)
with housing vent (< 25 bar)
IP 54

Pointer

Aluminium, black

Housing

Stainless steel 304 with pressure relief port

Crimped bezel

Stainless steel 304

Window

NG 50 plastic
NG 63 laminated safety glass

Filling liquid

Glycerine (99.5 %)

Options

- Filling liquid silicone oil
- Plastic window (NG 63)
- Back flange (NG 63)
- Clamp fixing
- Crimped bezel, polished
- Special scales
- Other process connections

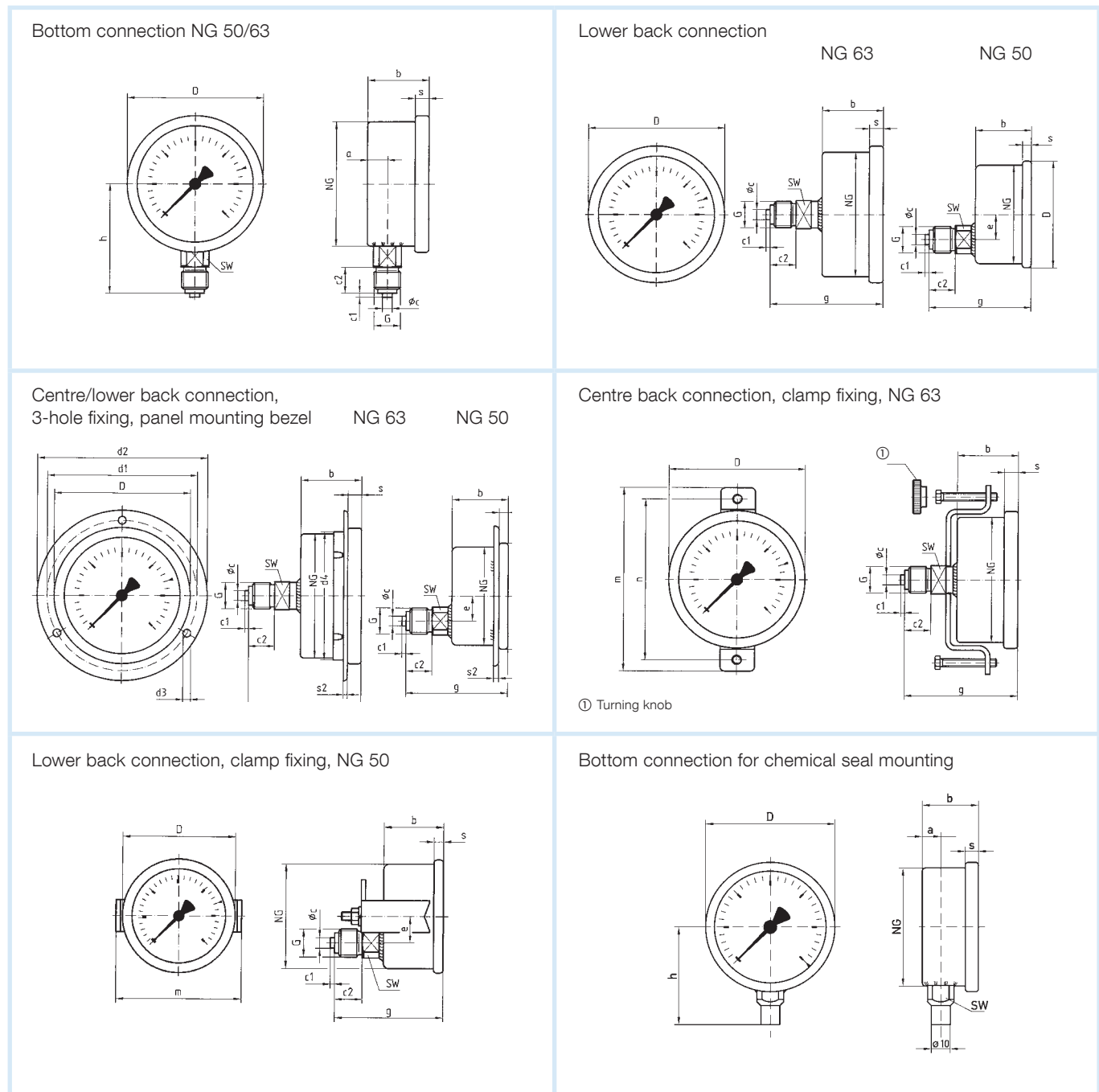


See page 297 for prices.

Bourdon tube pressure gauges for chemical applications with glycerine filling

Type D 7 – NG 50/63

Housing types and dimensions



Dimensions (mm)

Nominal size (NG)	a	a1	b	b1	Øc	c1	c2	d1*	d2*	d3*	d4	D	e	G	g	h	m	n	s	s1	s2
50	10.5	-	28	-	5	2	13	60	70	3.6	-	53	12.5	G¼B	51	46	59	-	4.5	-	2.5
63	9.5	13	30.5	34	5	2	13	75	85	3.6	64	68	-	G¼B	56	53	94	82	7	5.5	2
Nominal size (NG)	SW																				
50	14																				
63	14																				

* Dimensions as per DIN 16063