

# Bourdon tube pressure gauges for chemical applications

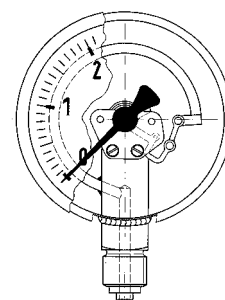
EN 837-1



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- For chemical and process engineering applications
- Measuring system fully welded to housing
- Extremely robust design
- For medium temperatures up to 150 °C
- Tightness-tested with helium
- DNV- and GOSSTANDART-certified
- ATEX version (optional)



**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:  
≤ 600 bar = full scale value  
> 600 bar = ¾ x full scale value  
Dynamic load:  
≤ 600 bar = 0.9 x full scale value  
> 600 bar = ⅔ x full scale value

## Standard version

**Connection**  
Stainless steel 316 L,  
bottom or bottom back  
G½B – spanner size SW 22 (EN 837-1/7.3)

**Measuring element**  
Bourdon tube, stainless steel 316 Ti/316 L  
≤ 60 bar "C" type tube  
> 60 bar helical tube  
tightness-tested with helium

**Movement**  
Stainless steel

## Options

- Back flange
- Panel mounting bezel
- 3-hole fixing, panel mounting bezel
- ATEX version

Short-term:  
≤ 600 bar = 1.3 x full scale value  
> 600 bar = full scale value

**Operating temperature range**  
Medium:  $T_{max} = +150\text{ °C}$   
Ambient:  $T_{min} = -20\text{ °C}$   
 $T_{max} = +60\text{ °C}$

**Temperature performance**  
Indication error when the temperature of the measuring system deviates from the normal temperature of 20 °C:  
rising temperature approx. ±0.4 %/10 K  
falling temperature approx. ±0.4 %/10 K  
of full scale value

**Degree of protection**  
IP 65 (EN 60529)  
with housing vent (≤ 25 bar): IP 54

**Dial**  
Aluminium, white  
Dial marking black

**Pointer**  
Aluminium, black

**Housing**  
Stainless steel 304 with blow-out

**Bayonet type bezel**  
Stainless steel 304

**Window**  
Laminated safety glass

- Special scales
- Electrical contacts
- Other process connections

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See page 60 for prices.

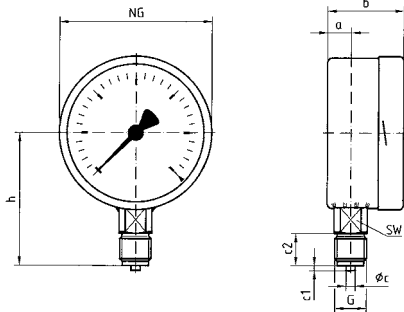
# Bourdon tube pressure gauges for chemical applications

Type D 4 – NG 100/160

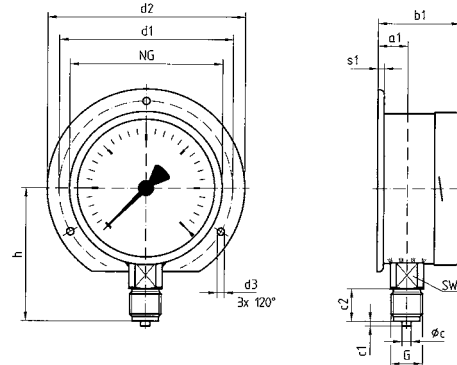
Housing types and dimensions (mm)

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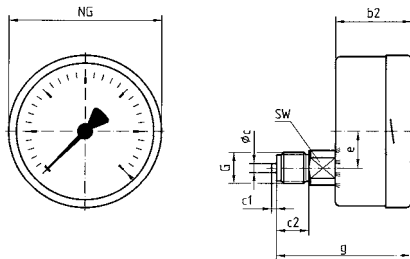
Bottom connection



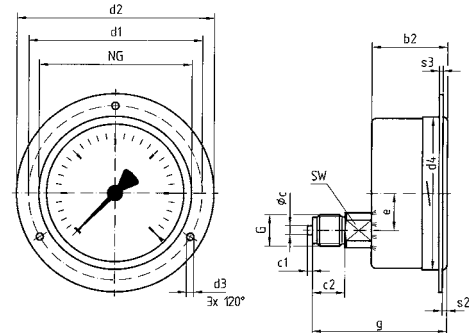
Bottom connection, back flange



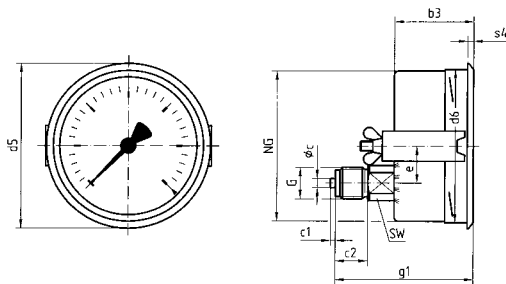
Centre back connection



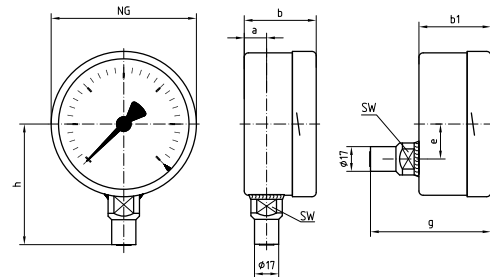
Centre back connection, 3-hole fixing, panel mounting bezel



Centre back connection, panel mounting bezel with clamp fixing



Bottom connection, back /NG 63) for fitting of chemical seal



## Dimensions (mm)

Nominal size (NG)	a	a1	b	b1	b2	b3	ϕc	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	G½B	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	G½B	84	86	116	6
Nominal size (NG)	s2	s3	s4	SW																	
100	4	2	4	22																	
160	4	2	4.5	22																	

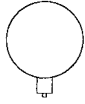
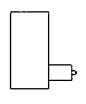
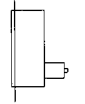
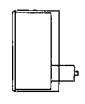
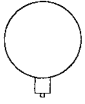
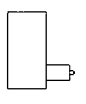
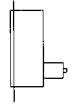
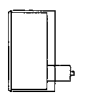
\* Dimensions as per DIN 16064.

# Bourdon tube pressure gauges for chemical applications

EN 837-1

DG: M, PG: 3

1

Type	RF100Ch, D402	RF100Ch, D412	RF100Ch, D432	RF100Ch, D452	RF160Ch, D402	RF160Ch, D412	RF160Ch, D432	RF160Ch, D452
Version								
Housing Ø	100	100	100	100	160	160	160	160
Housing	Stainless steel 304 with bayonet bezel, laminated safety glass window							
Measuring element	Bourdon tube, stainless steel 316 Ti/316 L							
Accuracy class	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Connection	G½B	G½B	G½B	G½B	G½B	G½B	G½B	G½B
			3-hole fixing, panel mounting bezel, 304, polished	Panel mounting bezel, 304, polished, with clamp fixing			3-hole fixing, panel mounting bezel, 304, polished	Panel mounting bezel, 304, polished, with clamp fixing
Range (bar)	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.
<b>Price €</b>								
-1/0	<b>85201402</b>	85201412	85201432	85201452	85251402	85251412	85251432	85251452
-1/+0.6	85202402	85202412	85202432	85202452	85252402	85252412	85252432	85252452
-1/+1.5	85203402	85203412	85203432	85203452	85253402	85253412	85253432	85253452
-1/+3	85204402	85204412	85204432	85204452	85254402	85254412	85254432	85254452
-1/+5	85205402	85205412	85205432	85205452	85255402	85255412	85255432	85255452
-1/+9	85206402	85206412	85206432	85206452	85256402	85256412	85256432	85256452
-1/+15	85207402	85207412	85207432	85207452	85257402	85257412	85257432	85257452
<b>Price €</b>								
0/0.6	<b>85209402</b>	85209412	85209432	85209452	85259402	85259412	85259432	85259452
0/1	<b>85210402</b>	85210412	85210432	85210452	85260402	85260412	85260432	85260452
0/1.6	<b>85211402</b>	85211412	85211432	85211452	85261402	85261412	85261432	85261452
0/2.5	<b>85212402</b>	85212412	85212432	85212452	85262402	85262412	85262432	85262452
0/4	<b>85213402</b>	<b>85213412</b>	85213432	85213452	85263402	85263412	85263432	85263452
0/6	<b>85214402</b>	<b>85214412</b>	85214432	85214452	<b>85264402</b>	85264412	85264432	85264452
0/10	<b>85215402</b>	<b>85215412</b>	85215432	85215452	<b>85265402</b>	85265412	85265432	85265452
0/16	<b>85216402</b>	85216412	85216432	85216452	<b>85266402</b>	85266412	85266432	85266452
0/25	<b>85217402</b>	85217412	85217432	85217452	<b>85267402</b>	85267412	85267432	85267452
0/40	<b>85218402</b>	85218412	85218432	85218452	85268402	85268412	85268432	85268452
<b>Price €</b>								
0/60	<b>85219402</b>	85219412	85219432	85219452	85269402	85269412	85269432	85269452
0/100	<b>85220402</b>	85220412	85220432	85220452	85270402	85270412	85270432	85270452
0/160	<b>85221402</b>	85221412	85221432	85221452	85271402	85271412	85271432	85271452
0/250	<b>85222402</b>	85222412	85222432	85222452	85272402	85272412	85272432	85272452
0/400	<b>85223402</b>	85223412	85223432	85223452	85273402	85273412	85273432	85273452
<b>Price €</b>								
0/600	85224402	85224412	85224432	85224452	85274402	85274412	85274432	85274452
0/1000	85225402	85225412	85225432	85225452	85275402	85275412	85275432	85275452
<b>Price €</b>								
0/1600	---	---	---	---	85276402	85276412	85276432	85276452

Minimum order quantity for non-stock items = 10 pieces.

Blue part no. = in-stock items



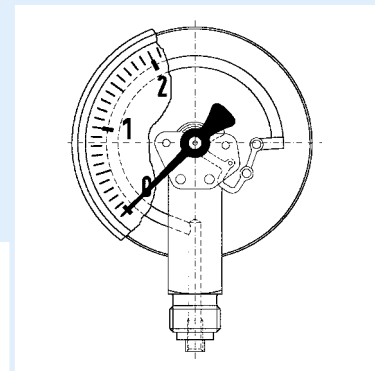
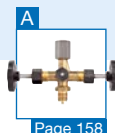
See page 72 for extra charges.

# Glycerine filled Bourdon tube pressure gauges

EN 837-1



- Robust, stainless steel housing with bayonet bezel
- Can be used in case of heavy vibrations and high, dynamic pressure loads
- Longer service life due to less wear and corrosion protection of the measuring system
- No steaming up of the inside of the window in case of outdoor applications
- DNV-certified



**Application** For gaseous and liquid media which are not highly viscous, do not crystallise and do not attack copper alloys. 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 8  
D 751

### Nominal size

100 – 160

### Accuracy class (EN 837-1/6)

1.0

### Ranges (EN 837-1/5)

-1/0 to -1/+15 bar  
0/0.6 to 0/1000 bar

### Application area

Static load:

≤ 600 bar = full scale value  
> 600 bar = ¾ x full scale value

Dynamic load:

≤ 600 bar = 0.9 x full scale value  
> 600 bar = ⅔ x full scale value

Short-term:

≤ 600 bar = 1.3 x full scale value  
> 600 bar = full scale value

### Operating temperature range

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

### Temperature performance

Indication error when the temperature of the measuring system deviates from the normal temperature of 20 °C:

rising temperature approx. ±0.4 %/10 K  
falling temperature approx. ±0.4 %/10 K  
of full scale value

### Degree of protection

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

## Standard version

### Connection

Brass, bottom or bottom back  
G½B – spanner size SW 22 (EN 837-1/7.3)

### Measuring element

Bourdon tube,  
≤ 60 bar "C" type tube, copper alloy  
> 60 bar helical tube,  
stainless steel 316 Ti/316 L

### Movement

Brass

### Dial

Aluminium, white  
Dial marking, black

### Pointer

Aluminium, black

### Housing

Stainless steel 304 with blow-out

### Bayonet type bezel

Stainless steel 304  
(D 751 = crimped bezel)

### Window

Instrument glass  
(D 751 = plastic)

### Filling liquid

Glycerine (99.5 %)

## Options

- Back flange
- 3-hole fixing, panel mounting bezel
- Special scales
- Other process connections

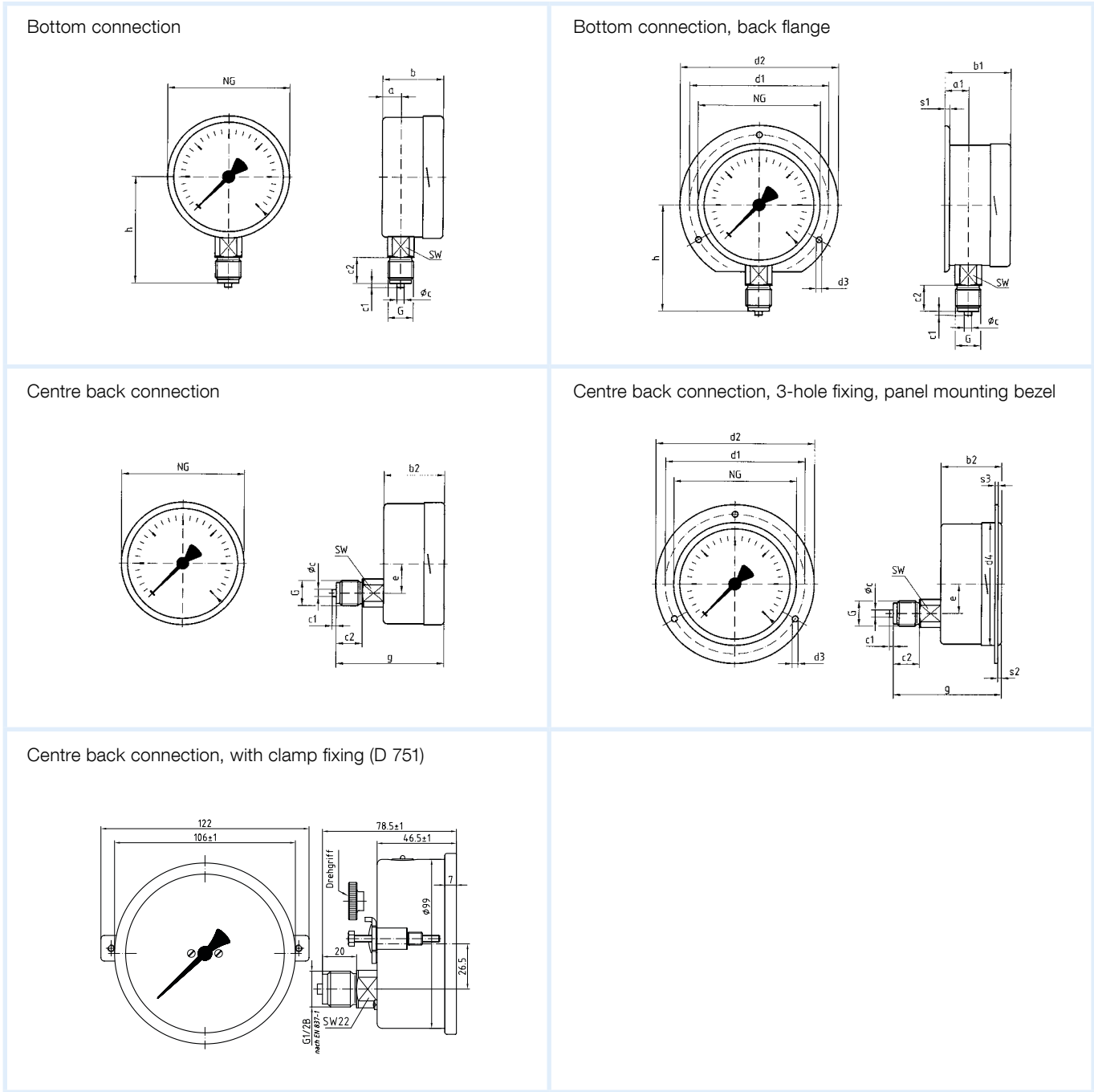


See page 51 for prices.

# Glycerine filled Bourdon tube pressure gauges

Type D 8/D 751 – NG 100/160

## 1 Housing types and dimensions



### Dimensions (mm)

Nominal size (NG)	a	a1	b	b1	b2	Øc	c1	c2	d1*	d2	d3*	d4	e	G	g	h	s1
100	15.6	19.1	49	52.5	49	6	3	20	116	132	4.8	104	26.5	G½B	81	86	5.5
160	17.5	20	50	53	50	6	3	20	178	196	5.8	164	26.5	G½B	82	116	6
Nominal size (NG)	s2	s3	SW														
100	4	2	22														
160	4	2	22														

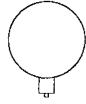
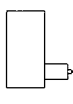
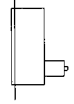
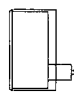
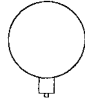
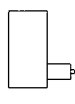
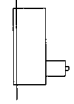
\* Dimensions as per DIN 16064.

# Glycerine filled Bourdon tube pressure gauges

EN 837-1

DG: M, PG: 2

1

Type	RF100Gly, D801	RF100Gly, D811	RF100Gly, D831	RF100Gly, D751	RF160Gly, D801	RF160Gly, D811	RF160Gly, D831
Version							
Housing Ø	100	100	100	100	160	160	160
Housing	Stainless steel 304, window, see data sheet						
Measuring element	Bourdon tube, copper alloy (> 60 bar stainless steel 316 Ti/316 L)						
Accuracy class	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Connection	G½B	G½B	G½B	G½B	G½B	G½B	G½B
			3-hole fixing, panel mounting bezel, 304, polished	Crimped bezel 304 with clamp fixing			3-hole fixing, panel mounting bezel, 304, polished
Range (bar)	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.
<b>Price €</b>							
-1/0	<b>85201801</b>	85201811	85201831	85301751	85251801	85251811	85251831
-1/+0.6	85202801	85202811	85202831	85302751	85252801	85252811	85252831
-1/+1.5	85203801	85203811	85203831	85303751	85253801	85253811	85253831
-1/+3	85204801	85204811	85204831	85304751	85254801	85254811	85254831
-1/+5	85205801	85205811	85205831	85305751	85255801	85255811	85255831
-1/+9	85206801	85206811	85206831	85306751	85256801	85256811	85256831
-1/+15	85207801	85207811	85207831	85307751	85257801	85257811	85257831
<b>Price €</b>							
0/0.6	85209801	85209811	85209831	85309751	85259801	85259811	85259831
0/1	<b>85210801</b>	85210811	85210831	85310751	85260801	85260811	85260831
0/1.6	<b>85211801</b>	85211811	85211831	85311751	85261801	85261811	85261831
0/2.5	<b>85212801</b>	85212811	85212831	85312751	85262801	85262811	85262831
0/4	<b>85213801</b>	<b>85213811</b>	85213831	85313751	85263801	85263811	85263831
0/6	<b>85214801</b>	<b>85214811</b>	85214831	85314751	85264801	85264811	85264831
0/10	<b>85215801</b>	<b>85215811</b>	85215831	85315751	85265801	85265811	85265831
0/16	<b>85216801</b>	<b>85216811</b>	85216831	85316751	85266801	85266811	85266831
0/25	<b>85217801</b>	85217811	85217831	85317751	85267801	85267811	85267831
0/40	<b>85218801</b>	85218811	85218831	85318751	85268801	85268811	85268831
<b>Price €</b>							
0/60	<b>85219801</b>	85219811	85219831	85319751	85269801	85269811	85269831
0/100	<b>85220801</b>	85220811	85220831	85320751	85270801	85270811	85270831
0/160	<b>85221801</b>	85221811	85221831	85321751	85271801	85271811	85271831
0/250	<b>85222801</b>	85222811	85222831	85322751	85272801	85272811	85272831
0/400	<b>85223801</b>	85223811	85223831	85323751	85273801	85273811	85273831
<b>Price €</b>							
0/600	<b>85224801</b>	85224811	85224831	85324751	85274801	85274811	85274831
0/1000	85225801	85225811	85225831	85325751	85275801	85275811	85275831

Minimum order quantity for non-stock items = 10 pieces.

Blues part no. = in-stock items



See page 72 for extra charges.