

BDT1-218 – pressure gauge 40mm

Product description

Badotherm's pressure gauge model BDT1-218 is manufactured according to the EN837-1 and is available in full stainless steel. This pressure gauge is typically used for applications in the chemical, petro-chemical, oil & gas, power and utilities, machine building and general process industries. Pressure elements is a screwed type connection construction of the 40mm. These gauges are designed to withstand the severest of operating conditions of the ambient environment and the process medium.

Design standard

EN837-1

Dial size, ranges & accuracy

Possibilities in ranges and accuracy. Accuracy class is based on dry gauges.

Dial size	Ranges	Accuracy
40mm	0...1 bar – 0...400 bar	1.6%

Mounting variation

Not all gauges are suitable for some mounting variations. For the BDT1-218 series the mounting variations are below.

- **type A** (10) bottom connection, direct mounting
- **type D** (30) Center back connection, direct mounting

More specifically per dial size:

Dial size	A	B	C	D	E
40mm	•			•	



Process connection

Dial size	Standard thread	optionally	SW size
40mm	G 1/8 A or 1/8" NPT	1/4" with adapter nipple	12mm

-> See datasheet "thread information" for specific thread details

Materials of construction

	BDT1-218
Case	AISI 304
Bezel	AISI 304
Connection ¹	AISI 316
Sensing element ¹	AISI 316
Movement	Brass
Pointer	Aluminium
Dial	Aluminium
Window gasket	Cardboard
Window	Glass

Pressure limitations

The gauge are built to withstand harsh environments however the EN 837 limits the use of a pressure gauge according below table.

Dial size	Steady	Fluctuating	Short time
40mm	0.75 x FSV	0.67 x FSV	FSV

FSV: full scale value

Temperature limitations

The gauges can withstand ambient and process temperature up to a certain limit. The limitations on temperature are:

	Ambient	Medium
Dry	-40°C ...+60°C	-40°C...+200°C

The variation of indication caused by the effect of temperature shall not exceed: $\pm 0.4\% / 10K FSV$

Window

Standard BDT1-218 gauges have an glass window.

Pointer

Standard pointer is a fixed black painted aluminum pointer.

Dial facing

The dial plate is made from aluminum and coated with UV resistant white coating. The black dial markings, scale, numbering, and interval is according the EN 837. Options like colored dial, customer logo, or colored segments are possible as well. Scale interval and numbering is following the EN837.

Limit stop

To prevent permanent damage the gauge is protected by an vacuum limit stop on the dial.

Degree of protection

The BDT1-218 has a standard degree of protection of IP44. The values are determined according the IEC/EN 60529.

Certification & Declaration

Calibration

Gauges are full range calibrated as a factory standard. Optionally you can select a 5 points calibration certificate.

[ATEX 114 - 2014/68/EU](#)

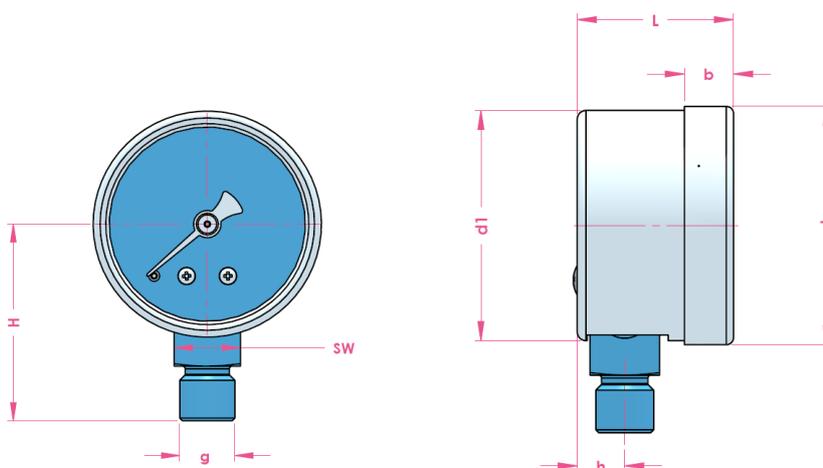
ATEX restrictions are explained in the IOM and in the ATEX background datasheet.

[EN 10204 material certificate](#)

A material 3.1 certificate on the wetted parts can be supplied.

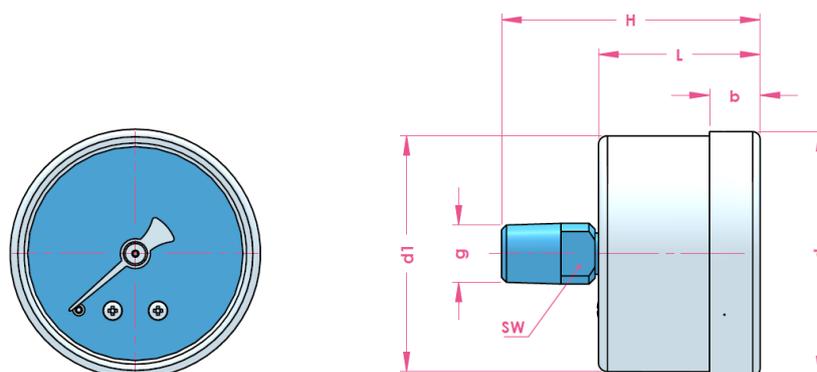
Dimensions table

Type A (10)



Dial size	d	d1	b	L	h	g	SW	H	weight
40	41.5	40.0	8.5	27.0	8.2	G 1/8 A	12	36.0	0.3 kg

Type D (30)



Dial size	d	d1	b	L	g	SW	H	weight
40	41.5	40.0	8.5	27.0	G 1/8 A	12	43.5	0.3 kg

Product code 40mm

		Code									
Example code:		BDT1-218	40	A	G18M	S363	S304	F	G	B50	16
<u>TYPE</u>											
40mm		040									
<u>MOUNTING</u>											
Bottom connection - direct mounting (10) ◀		A									
Lower back connection. - direct mounting (30) ¹		D									
<u>CONNECTION</u>											
G 1/8 A ◀		G18M									
1/8" NPT ◀		N18M									
G 1/4 A ¹		G14M									
1/4" NPT ¹		N14M									
<u>TUBE & SOCKET MATERIAL</u>											
AISI 316 ◀		S363									
<u>CASE/BEZEL MATERIAL</u>											
AISI 304 ◀		S304									
<u>POINTER</u>											
Fixed pointer ◀		F									
<u>WINDOW</u>											
Glass ◀		G									
<u>RANGE</u>											
See page table 1 and table 2										
<u>ACCURACY</u>											
1,6 ◀		16									

◀: is the sign for the standard pressure gauge

Note 1: 1/4" threads are with adapter nipple.

Tabel 1: Pressure Range code

bar		psi		MPa		kPa		kgf/cm2	
Code	Range	Code	Range	Code	Range	Code	Range	Code	Range
C36	-1...0,6	C37	30Hg/15psi	N50	0...1,6	D36	-100...60	E36	-1...0,6
C38	-1...1,5	C39	30Hg/30psi	N54	0...2,5	D38	-100...150	E38	-1...1,5
C40	-1...3	C41	30Hg/60psi	N57	0...4	D40	-100...300	E40	-1...3
C42	-1...5	C44	30Hg/100psi	N58	0...6	D42	-100...500	E42	-1...5
C45	-1...9	C46	30Hg/150psi	N60	0...10	D45	-100...900	E45	-1...9
C50	-1...15	C50	30Hg/220psi	N62	0...16	D50	-100...1500	E50	-1...15
C54	-1...24	C53	30Hg/300psi	N65	0...25	D54	-100...2400	E54	-1...24
B01	-1...0	P32	0...10	N69	0...40	L01	-100...0	K01	-1...0
B35	0...1	P35	0...15			L04	-60...0	K35	0...1
B36	0...1,6	P37	0...30			L35	0...100	K36	0...1,6
B38	0...2,5	P40	0...60			L36	0...160	K38	0...2,5
B40	0...4	P43	0...100			L38	0...250	K40	0...4
B42	0...6	P46	0...160			L40	0...400	K42	0...6
B45	0...10	P48	0...200			L42	0...600	K45	0...10
B50	0...16	P51	0...300			L45	0...1000	K50	0...16
B54	0...25	P55	0...400					K54	0...25
B57	0...40	P56	0...500					K57	0...40
B58	0...60	P57	0...600					K58	0...60
B60	0...100	P58	0...800					K60	0...100
B62	0...160	P59	0...1000					K62	0...160
B65	0...250	P60	0...1500					K65	0...250
B69	0...400	P61	0...2000					K69	0...400
		P64	0...3000						
		P66	0...4000						
		P68	0...5000						
		P69	0...6000						

Table 2: Secondary scale

Dual scale option	code
PSI red	#PR
PSI black	#PB
PSI blue	#PBL
bar red	#BR
bar black	#BB
bar blue	#BBL

Add the code behind the pressure code
(eg B45#PR for 0...10 bar//psi with red scale)

Table 3: General option code

Option (start options with X_)	code
ATEX II2GDc-IM2c	_ATEX
3.1 material certificate	_IC31
Calibration certificate 5 points	_CC5

Change log

Date	Change

Holland – Romania – India – Thailand – Dubai – USA

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