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DIFFERENTIAL PRESSURE GAUGE P301



FEATURES

- Single side static sustainable
- Static pressure 400 bar max.
- External Zero adjustment
- Electric contact version
- Dry / liquid filled
- ATEX certified

APPLICATION

- Liquid & gaseous media
- Corrosive environments
- Oil & Gas applications
- Chemical & Petrochemical
- Level measurement in closed tank
- Filter monitoring

REFERENCE



EN 837-3

II 2 GD c

STANDARD PARAMETERS

Accuracy ¹	: CL 1.6 (AISI 316L SS / Hastelloy C276) : CL 2.5 (Monel 400)
Ambient temperature	: -40...+60°C (without dampening liquid) : -20...+60°C (with dampening liquid)
Service temperature	: 100°C max.
Static pressure limits (on either side)	: 40 bar / 100 bar / 250 bar / 400 bar
Over-pressure safety	: 400 bar for ranges 0...0.4 bar up to 0...40 bar
Zero shift	: Max. ± 2% at 20°C and max. static pressure

MATERIAL OF CONSTRUCTION

Sensing element	: Double diaphragm, Internal stop without o-ring : ≤ 16 bar - AISI 316L SS, > 16 bar Inconel 718
Case & Ring material	: AISI 316 SS (Bayonet type)
Diaphragm	: AISI 316L SS
Chamber	: AISI 316L SS
Fastener	: AISI 304 SS (PN 100 bar max.) : Alloy steel zinc flake coated, RoHS complaint (PN 250 bar and PN 400 bar)
Movement mechanism	: Stainless Steel with ball bearing
Transmission chamber dampening liquid	: Silicon oil
Chamber sealing gaskets	: Viton
Dial	: Aluminum, black graduation on white background
Pointer	: Micro-zero adjustable, aluminum, black powder coated
Gaskets & filling plug	: NBR
Window	: Shatterproof Safety Glass, 4mm thickness
Purging plugs	: 2 x 1/4" NPT (M), AISI 316L SS

STANDARD SPECIFICATIONS

Dial size	: DN100 / DN160
Range	: 0...60 mbar (gauge body DN 140) : 0...100 to 0... 250 mbar (gauge body DN 100) : 0...0.4 to 0...40 bar (gauge body DN 88)
Mounting pattern	: Direct, Bottom connection
Process connection	: 1/4" NPT (F) x 2 Nos.
Ingress protection	: IP 65 - EN 60529 / IEC 529
Execution	: Dry

TEMPERATURE EFFECT

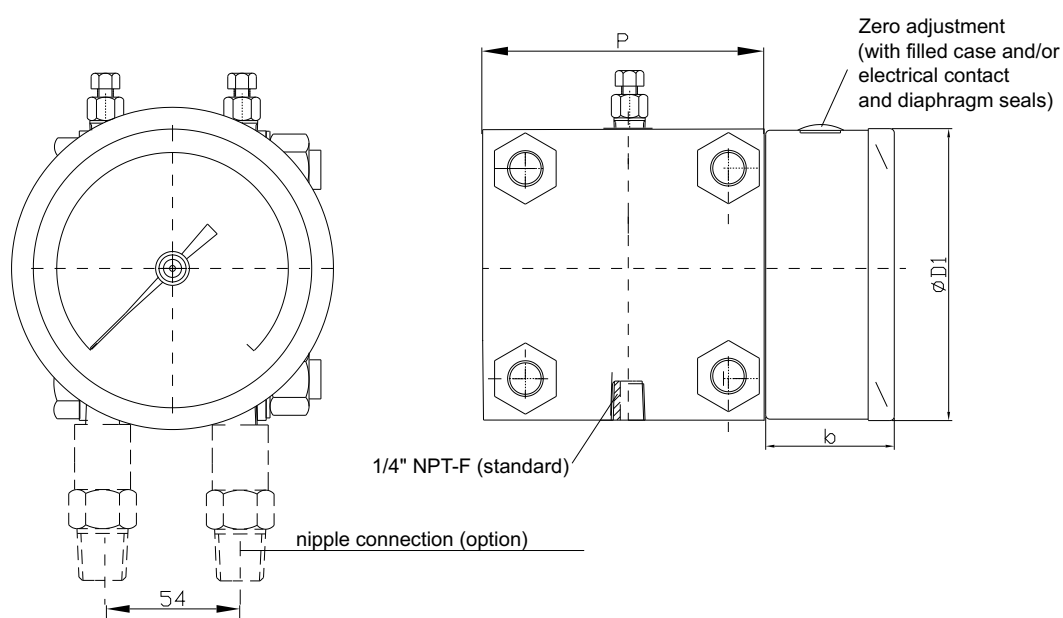
When temperature of the measuring system deviates from reference temperature (+20°C) max error ±0.6% / 10K of true scale value.

STANDARD SPECIFICATIONS : DAMPENING LIQUID FILLED, GLYCERIN OR SILICON OIL

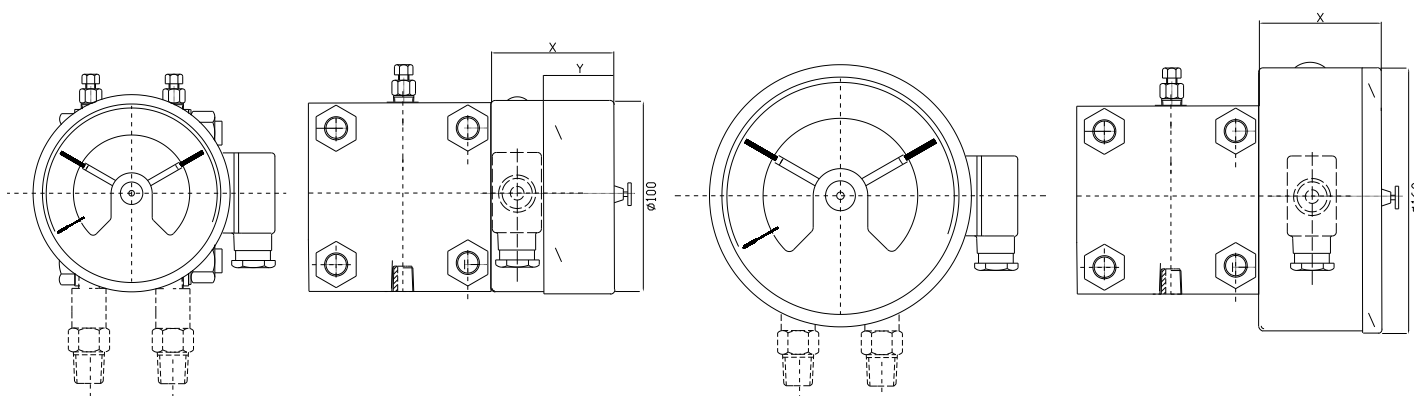
Accuracy	:	CL 2.5
Window	:	Shatterproof safety glass
Dampening liquid	:	Glycerin 99.7% / Silicon oil 47V50

DIMENSIONAL DRAWING

Type B0

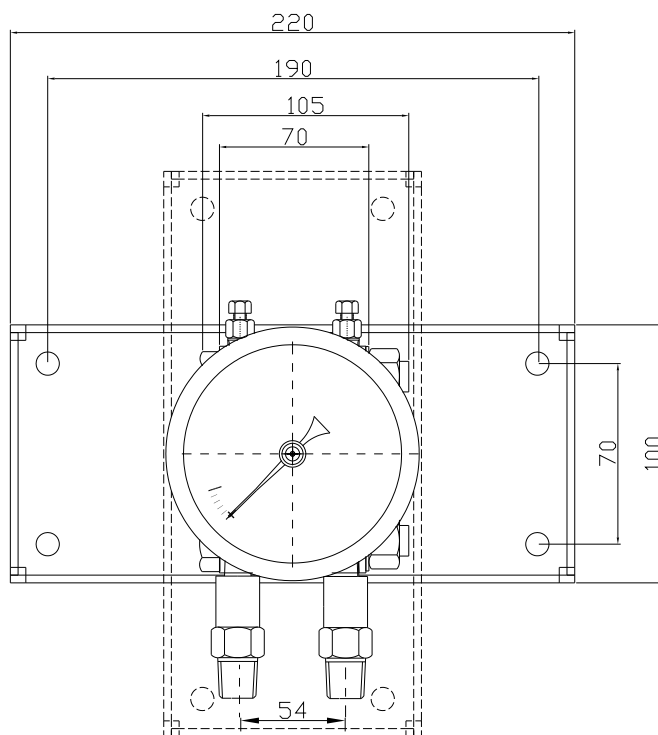


DN	Range mbar	P□ (PN40/100)	P□ (PN250)	P□ (PN400)	b	D1
100	≤160	140	-	-	51	100
100	250	100	100	-	51	100
100	≥400	88	88	100	51	100
160	≤160	140	-	-	51	160
160	250	100	100	-	51	160
160	≥400	88	88	100	51	160

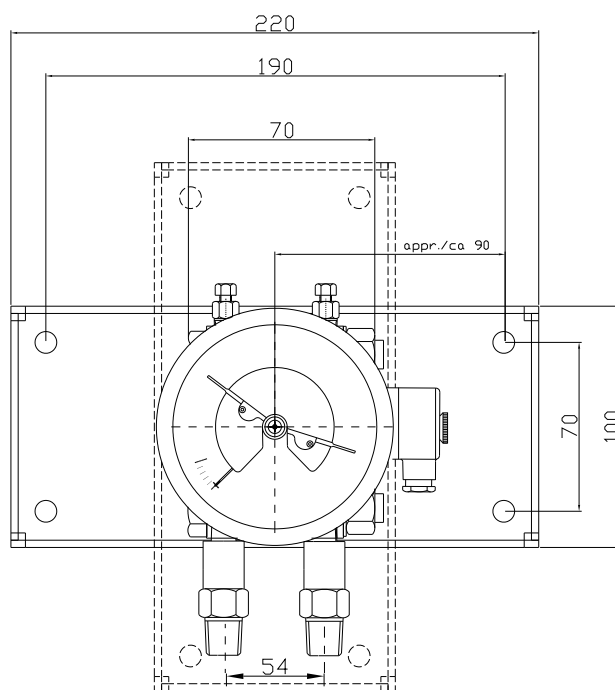


DN	Type of contact	X	Y
100	Single or double contact / SPDT	100	60
160	DPDT	110	-
160	Single or double contact / SPDT	102	-

Type B2



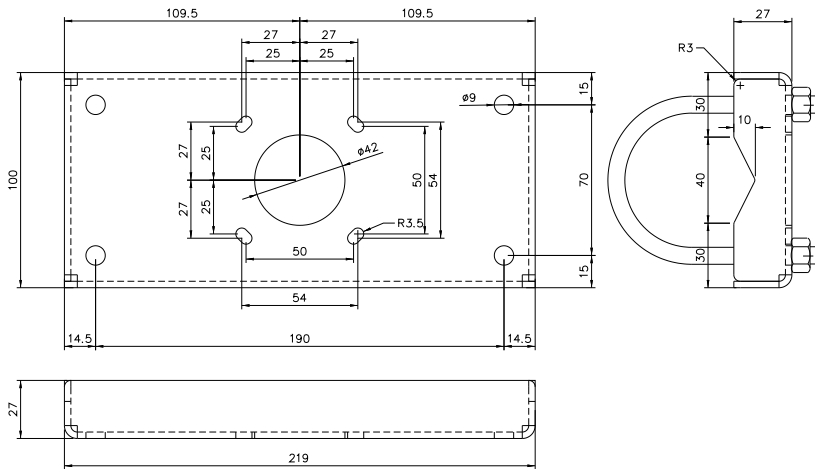
Type B2
With Electric Contact



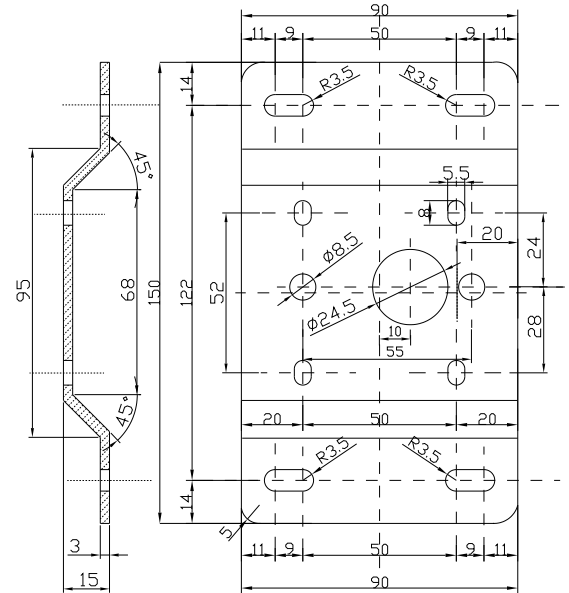
All dimensions are in mm.

DIMENSIONAL DRAWING

2" pipe bracket

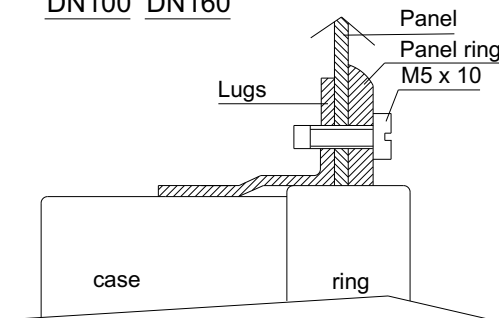


Back flange surface mounting



Panel Mounting (*)

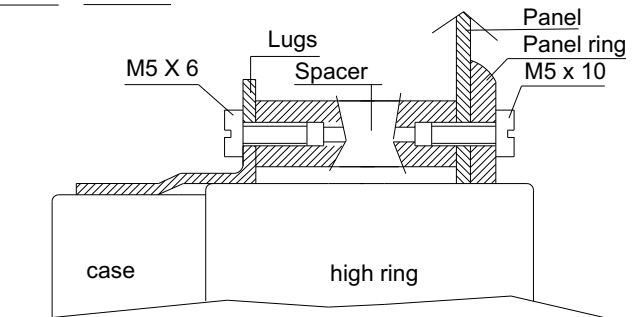
DN100 DN160



The assembly consist of:
Panel ring
4 screws M5

Panel Mounting with electrical contacts (*)

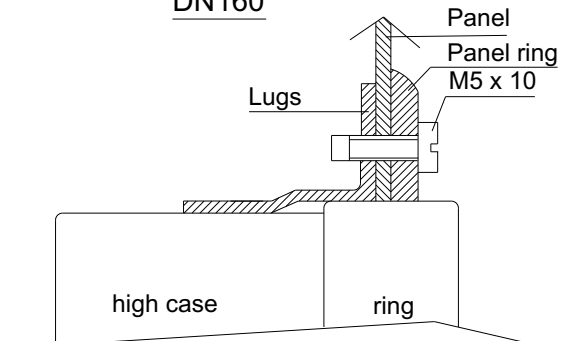
DN100 DN160



The assembly consist of:
Panel ring
4 spacers
8 screws M5

(*) Panel Cut-out : 105 mm for DN100 & 165 mm for DN160

DN160

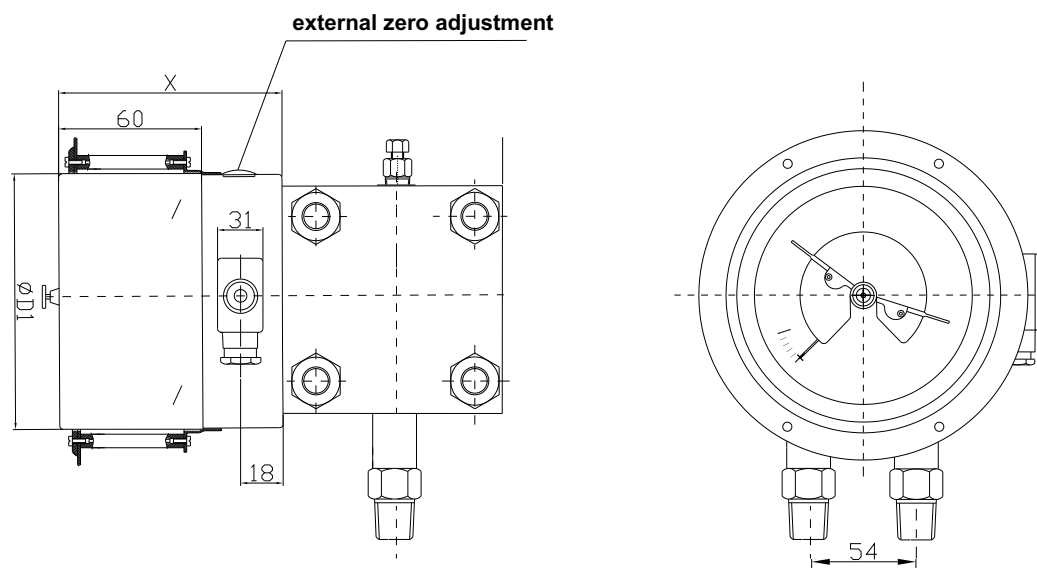


The assembly consist of:
Panel ring
4 screws M5

All dimensions are in mm.

DIMENSIONAL DRAWING

Type B3



All dimensions are in mm.

STANDARD SPECIFICATIONS : ELECTRIC CONTACT VERSION

Accuracy	:	CL 2.5
Window	:	Shatterproof Safety Glass, 4mm thickness
Switch	:	1NO; Make contact
Dampening liquid	:	Dielectric oil (Optional)

ELECTRIC CONTACT DETAILS

Switch type	Contacts	Action	Rating	Code
Normally closed (1NC)	Single	Break contact	230VAC/1A; 48VDC/0.5A	CD1
Normally open (1NO)	Single	Make contact	230VAC/1A; 48VDC/0.5A	CD2
Normally closed (2NC)	Double	Break contact	230VAC/1A; 48VDC/0.5A	CD3
Normally open (2NO)	Double	Make contact	230VAC/1A; 48VDC/0.5A	CD4
Normally closed + Normally open (1NC+1NO)	Double	Break contact + Make contact	230VAC/1A; 48VDC/0.5A	CD5
Normally open + Normally closed (1NO+1NC)	Double	Make contact + Brake contact	230VAC/1A; 48VDC/0.5A	CD6
SPDT	Single		230VAC/1A; 48VDC/0.5A	CD7
DPDT	Double		230VAC/1A; 48VDC/0.5A	CD8
Normally closed (1NC)	Single	Break contact	220VAC/0.4A	CI1
Normally open (1NO)	Single	Make contact	220VAC/0.4A	CI2
Normally closed (2NC)	Double	Break contact	220VAC/0.4A	CI3
Normally open (2NO)	Double	Make contact	220VAC/0.4A	CI4
Normally closed + Normally open (1NC+1NO)	Double	Break contact + Make contact	220VAC/0.4A	CI5
Normally open + Normally closed (1NO+1NC)	Double	Make contact + Brake contact	220VAC/0.4A	CI6

NOTES

- Codes starts with "CD" denomination are magnetic contacts and "CI" are Inductive contacts.
- Inductive contacts are ATEX approved.

ORDERING CODES

1. DIAL SIZE

04	100 mm / 4"
06	160 mm / 6"

2. RANGE

XXX	Refer "Range Table"
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3. MOUNTING PATTERN

B0	Direct, Bottom connection
B1	Wall/Surface/Projection mounting, Bottom connection
B2	2" Pipe/Yoke mounting, Bottom connection
B3	Panel/Front flange mounting, Bottom Connection

4. PROCESS CONNECTION

02N	1/4" NPT (F) x 2 Nos.
13B	3/8" BSP (M) x 2 Nos.
14B	1/2" BSP (M) x 2 Nos.
14M	M20 X 1.5 mm (M) x 2 Nos.
14N	1/2" NPT (M) x 2 Nos.

* Male threads through adaptors

5. INGRESS PROTECTION

ER	IP 65
----	-------

6. EXECUTION

EA	Dry
EB	Dry but fillable
EF	Dry but fillable, dielectric oil ²
EK	Dampening liquid, dielectric oil ²

7. STATIC PRESSURE

040	40 bar
100	100 bar
250	250 bar
400	400 bar

8. SWITCH CATEGORY

RS	Precision contacts (magnetic)
RT	ATEX / CE approved contacts (inductive)

9. ELECTRIC CONTACT

CD1	Break contact (1NC)
CD2	Make contact (1NO)
CD3	2 x Break contact (2NC)
CD4	2 x Make contact (2NO)
CD5	1 Break + 1 Make (1NC+1NO)
CD6	1 Make + 1 Break (1NO+1NC)
CD7	SPDT
CD8	DPDT
CI1	Break contact (1NC)
CI2	Make contact (1NO)
CI3	2 x Break contact (2NC)
CI4	2 x Make contact (2NO)
CI5	1 Break + 1 Make (1NC+1NO)
CI6	1 Make + 1 Break (1NO+1NC)
CI9	Booster relay for current up to 5A

10. OTHER OPTIONS

DM	Monel diaphragm
DO	Hastelloy C-276 diaphragm
GW	Maximum reading pointer
GZ	External zero adjustment (Standard for filled versions)
NM	Monel chambers
NO	Hastelloy C-276 chambers
OF	Food grade oil filled chamber
TA	5 - point calibration certificate
TC	Material test certificate 3.1
TM	Material test certificate 2.2
TN	Tested to NACE standards
TO	Certificate of Oxygen service
TX	ATEX certificate
XF	SS tag plate
XR	Custom designed dial
XT	Dial tag marking

Ordering Example : P301-04-XXX-B0-02N-ER-EA-040

COMPATIBLE ACCESSORIES

Diaphragm seal
5 Valve Manifolds
3 Valve manifolds

NOTES

- For other connections, please contact factory.
- Rubber parts shall be in Viton.

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