

APPROVALS



FEATURES

- Single side static sustainable
- Static pressure 400 bar max.
- External Zero adjustment
- CE marked, ATEX approved contacts
- Dry / liquid filled
- ATEX certified
- Diaphragm seals application

APPLICATION

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

**Double Diaphragm
DN100 & DN160
(Previous code : DP800 & DP800-CE)**



STANDARD PARAMETERS

Accuracy	: 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 filled, glycerin]
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 compliant [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
ΔP 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/ Dry but fillable

Filled and Electric contact version on next page.

TEMPERATURE EFFECT

The variation of indication caused by effects of temperature is to be calculated as per the below formula; which is to be added in the specified accuracy while measurement :-

$$\text{Formula: } \pm 0.04 \times (t_2 - t_1) \% \text{ of Full Scale Value}$$

Where t_1 = reference temperature (+20°C) & t_2 = ambient temperature in °C.

STANDARD SPECIFICATIONS : FILLED VERSION

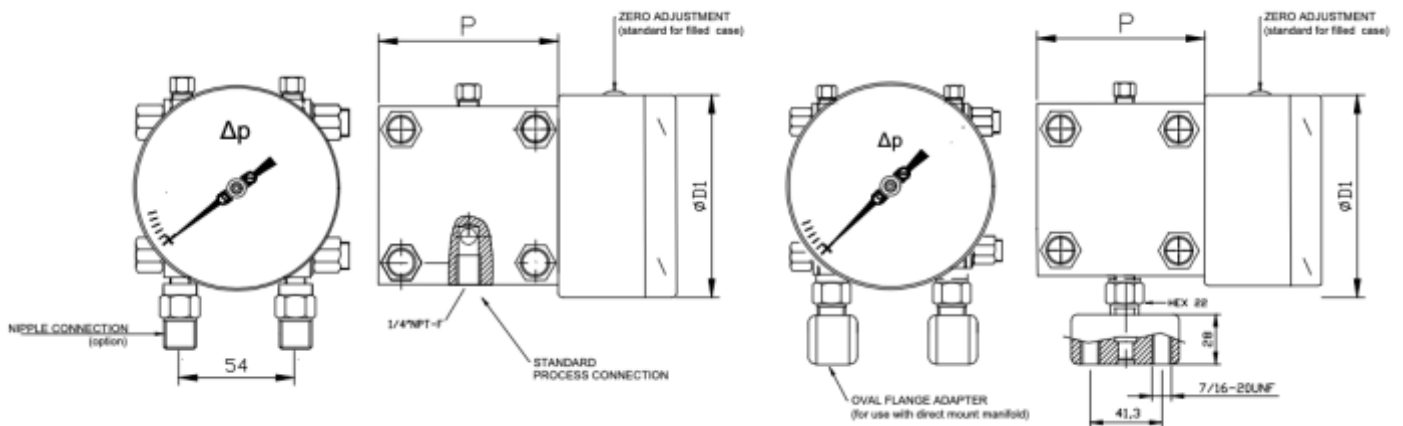
Accuracy	: CL 2.5
Window	: Safety glass
Dampening liquid	: Glycerin 99.7% / Silicon oil 47V50

STANDARD SPECIFICATIONS : ELECTRIC CONTACT VERSION

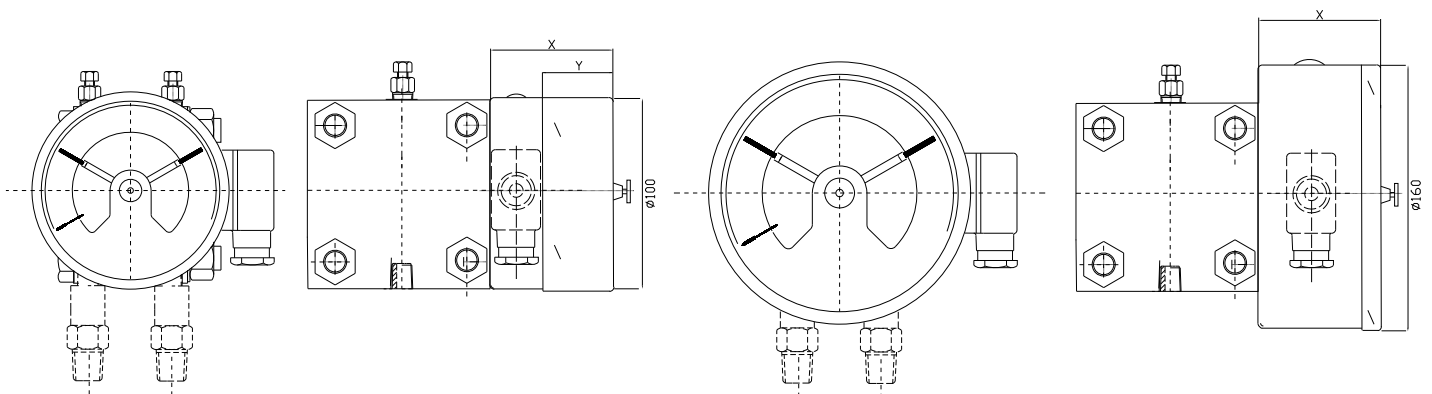
Accuracy	: CL 2.5
Window	: Shatterproof Safety Glass, 4mm thickness
Electric contacts	: See ordering codes, page 6
Dampening liquid	: Dielectric oil (Optional)

DIMENSIONAL DRAWING

Type B0



DN	Range mbar	P□ (PN40/100)	P□ (PN250)	P□ (PN400)	b	D1
100	60	140			51	100
100	100 to 250	100			51	100
100	≥400	88	88	100	51	100
160	60	140			51	100
160	100 to 250	100			51	100
160	≥400	88	88	100	51	160

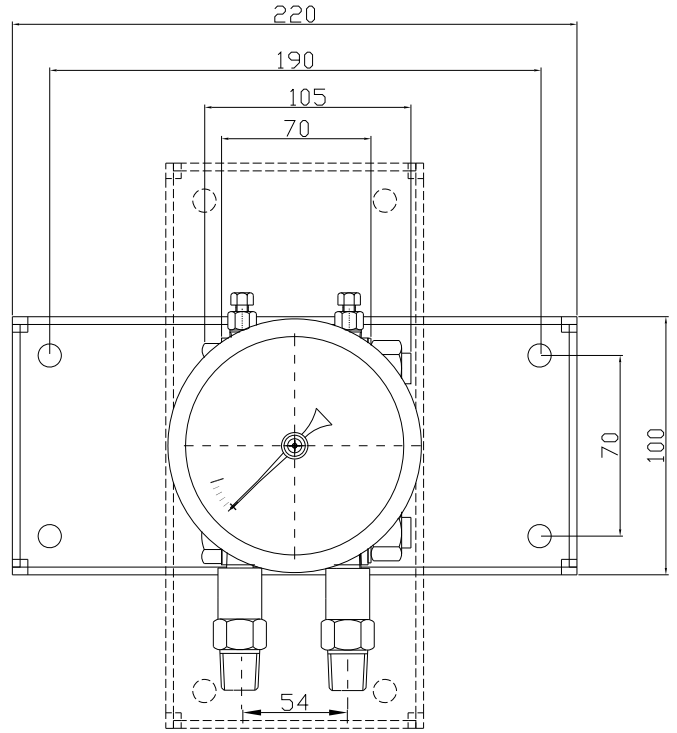
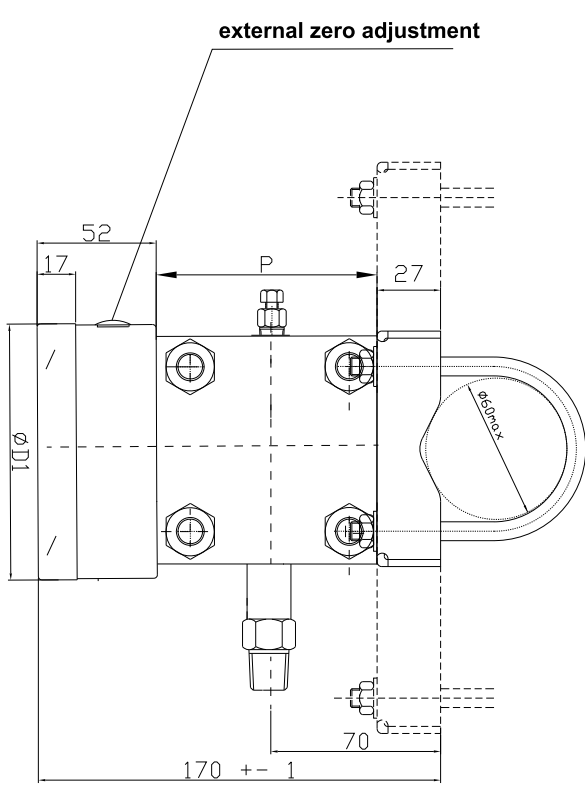


DN	Type of contact	X	Y
100	Single or double contact / SPDT	100	60
160	DPDT	110	-
160	Single or double contact / SPDT	102	-

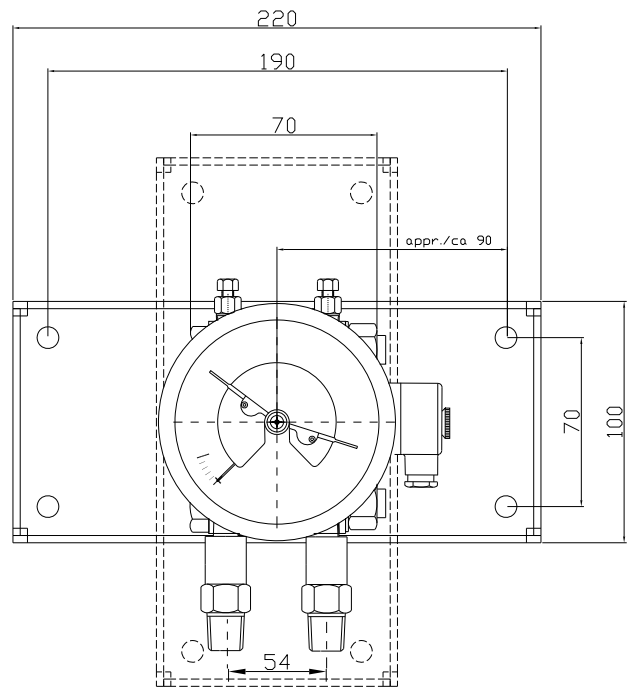
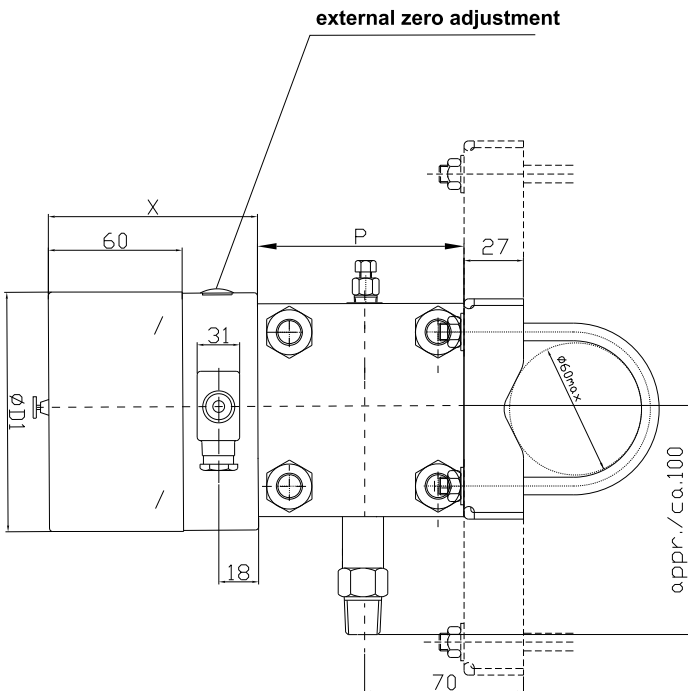
All dimensions are in mm.

DIMENSIONAL DRAWING

Type B2



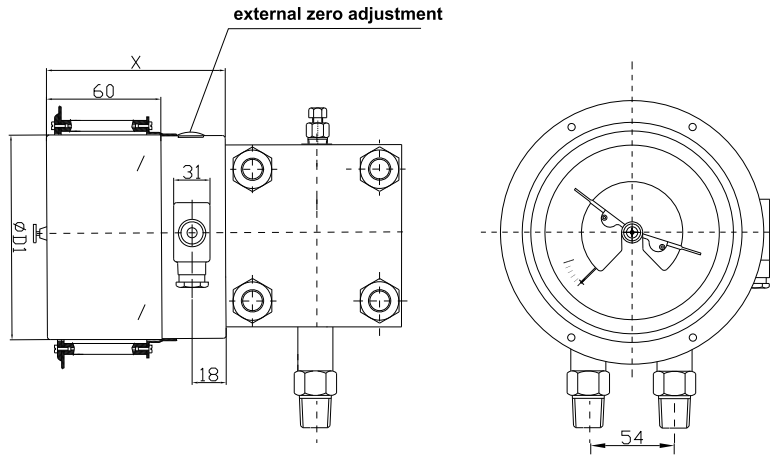
Type B2
With Electric Contact



All dimensions are in mm.

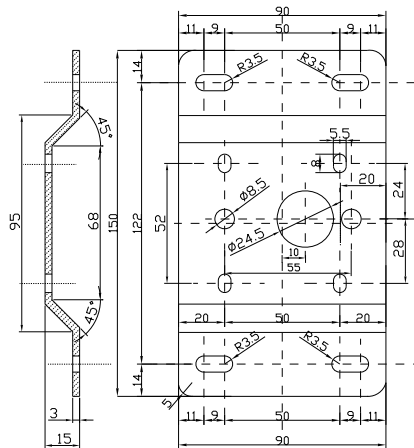
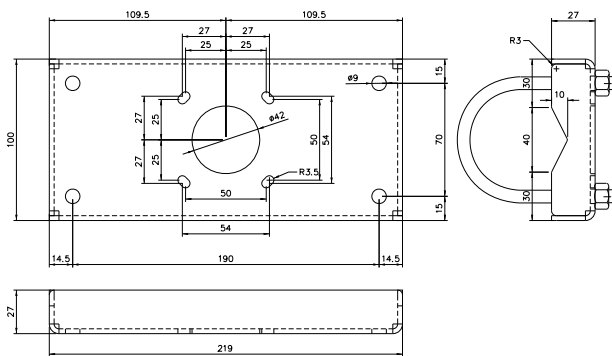
DIMENSIONAL DRAWING

Type B3



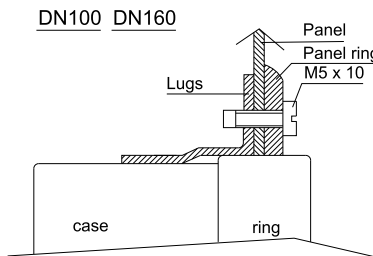
2" pipe bracket

Back flange surface mounting

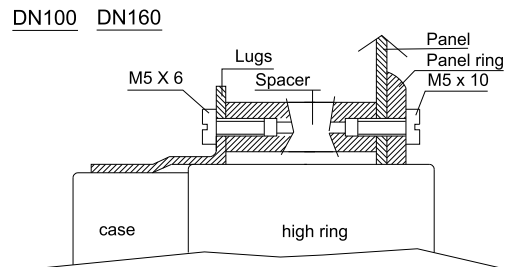


Panel Mounting (*)

Panel Mounting with electrical contacts (*)

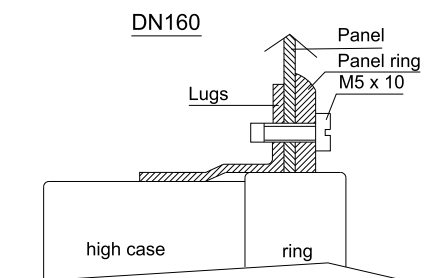


The assembly consist of:
Panel ring
4 screws M5



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

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



The assembly consist of:
Panel ring
4 screws M5

All dimensions are in mm.

RANGE TABLE

GUIDE TO MAKE RANGE CODE

1. **Approximate unit conversion;** 1 bar = 1.019 kg/cm² = 14.503 psi = 100 kPa = 750.061 mmHg = 1000 mbar = 10197 mmWC
2. For custom dial design, contact **ITEC**.

UOM : SINGLE SCALE

UOM	UOM
bar	mbar
psi	mmWC
kPa	Inch WC
kg/cm ²	

SPECIAL SCALE : FLOW / LEVEL

Contact ITEC.

RANGES : ΔP in bar or in kg/cm²

RANGE	RANGE
0...0.6	0...6
0...1	0...10
0...1.6	0...16
0...2	0...20
0...2.5	0...25
0...4	0...40

RANGES : ΔP in mbar

RANGE	RANGE
0...60	0...250
0...100	0...400
0...160	0...600
0...200	

ORDERING CODES

1. DIAL SIZE

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

04

2. ΔP RANGE

XXXX Refer "Range Table"

XXXX

3. MOUNTING PATTERN

B0 Direct, Bottom connection
B1 Wall/Surface/Projection mounting, Bottom connection
B2 2" Pipe bracket, bottom connection
B3 Panel front flange, bottom connection

B0

4. PROCESS CONNECTION [2 ports: HIGH/LOW]

12B 1/4" BSP (M) **12N** 1/4" NPT (M)
13B 3/8" BSP (M) **13N** 3/8" NPT (M)
14B 1/2" BSP(M) **14N** 1/2" NPT(M)
14M M20 x1,5 (M)

02N

Other thread sizes and standards are available.

DM Oval flanges for use with direct mount manifold

5. INGRESS PROTECTION

ER IP 65

ER

6. EXECUTION

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

EA

7. STATIC PRESSURE

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

040

8. OPTION: ELECTRIC CONTACTS & RELAYS

MAGNETIC CONTACTS [STANDARD] - RR
RATING: 230VAC@1A / 48VDC@0.5A
CS1 Break contact (1NC)
CS2 Make contact (1NO)
CS3 2 x Break contact (2NC)
Cs4 2 x Make contact (2NO)
CS5 1 Break + 1 Make (1NC+1NO)
CS6 1 Make + 1 Break (1NO+1NC)

XXX

MAGNETIC CONTACTS [PRECISION] - RS
RATING: 230VAC@1A / 48VDC@0.5A

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

INDUCTIVE CONTACTS [ATEX / CE Approved] - RT
RATING: 8VDC@3mA

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)

RELAY [FOR RATING UP TO 5A]

CI9 Booster relay

Gauge accuracy shall be CL 1 & switching accuracy shall be CL 5

9. 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
TX ATEX certificate
XF SS tag plate
XR Custom designed dial
XT Dial Tag marking
TF PMI test

XX

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

COMPATIBLE ACCESSORIES

CODE	DESCRIPTION
DXXX	Diaphragm seals
M103	Three valve manifolds

CODE	DESCRIPTION
M105	Five valve manifolds
A635	Capillary extension / Impulse tube