



### SPECIAL FEATURES

- C & ATEX APPROVED ELECTRICAL CONTACTS
- STAINLESS STEEL CASE & MEASURING SYSTEM
- FILLED VERSION AVAILABLE
- STANDARD FOLLOWED IN GENERAL EN 837-1

### APPLICATIONS

TO CONTROL THE ELECTRICAL OPERATION OF COMPRESSORS, PUMPS, MOTORS, PRESSES, HYDRAULIC & PNEUMATIC EQUIPMENTS, CHEMICALS & PETROCHEMICAL PLANTS.



### SPECIFICATIONS

#### STANDARD VERSION : 100 mm & 150 mm

<b>Accuracy</b>	: ±1.0% of F. S.
<b>Ambient temperature</b>	: - 20°C to + 65°C
<b>Process temperature</b>	: Max. 100°C
<b>Electric Wiring</b>	: DIN Connector
<b>Contact Setting</b>	: Over on arc of 270° through a knob placed on front of lens
<b>Operating pressure range</b>	: 75% of Scale Value
<b>Over pressure limit</b>	: Not Suitable

<b>Case &amp; Bezel</b>	: AISI 304 SS (Bayonet Type)
<b>Bourdon</b>	: AISI 316L SS
<b>Socket</b>	: AISI 316L SS (Directly Welded to Case)
<b>Movement</b>	: AISI 304 SS
<b>Joints</b>	: Tig Argon Arc Welding

<b>Protection</b>	: IP 65
<b>Dial</b>	: Aluminum, black graduation on white background
<b>Pointer</b>	: Aluminum, black coloured micrometer zero adjustable
<b>Window</b>	: Polycarbonate Dome
<b>Electrical Contacts*</b>	: Refer How to Order
<b>Blow off Disc</b>	: Neoprene
<b>Gasket &amp; Filling Plug</b>	: Neoprene

\* Please specify contact set points while ordering.

#### FILLED VERSION - DIELECTRIC OIL (OPTION - ZZ)

<b>Accuracy</b>	: ±1.6% of F. S.
<b>Ambient Temperature</b>	: Maximum 65°C
<b>Process Temperature</b>	: +15°C / 65° C
<b>Window</b>	: Polycarbonate Dome
<b>Blow off Disc*</b>	: NBR
<b>Gasket &amp; Filling Plug*</b>	: NBR
<b>Dampening Liquids</b>	: Dielectric Oil
<b>Other Features</b>	: Refer Specification of Standard Version

\*BOD, Gasket & Filling plug of NBR. Refer Price List for Viton.

#### Temperature effect:

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

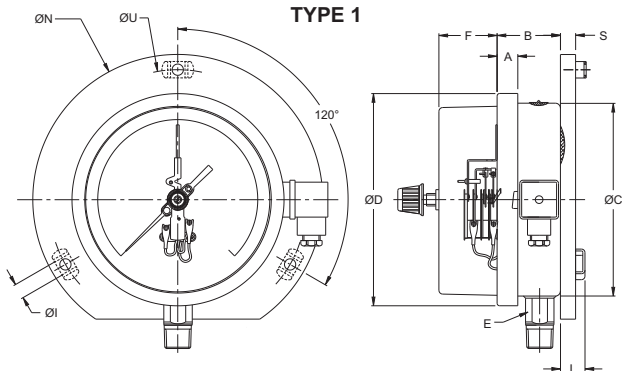
Formula :  $\pm 0.04 \times (t_2 - t_1) \% \text{ of F. S.}$

where  $t_1$  = reference temperature (+20°C) and  $t_2$  = ambient temperature in °C.

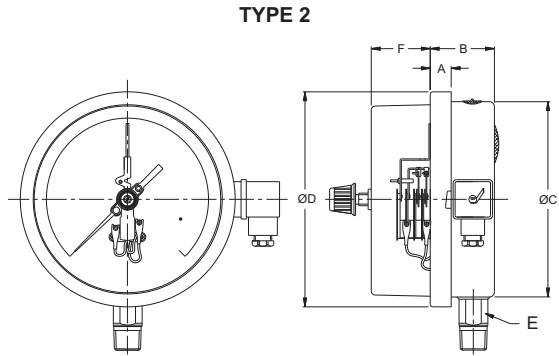
**Note :** The addition of mechanical electric contacts affects the accuracy of instruments such that 1% becomes 1.5%, 1.6% becomes 2.4% etc. (Add the 50% of accuracy; If the contact is of the magnetically assisted type, this value can't be added within the ±5% of setting point.)

Notes : • Drawings are not to scale. • All Dimensions are in mm

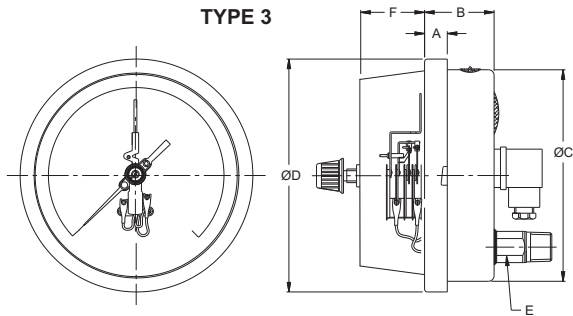
DIMENSIONS - STANDARD VERSION



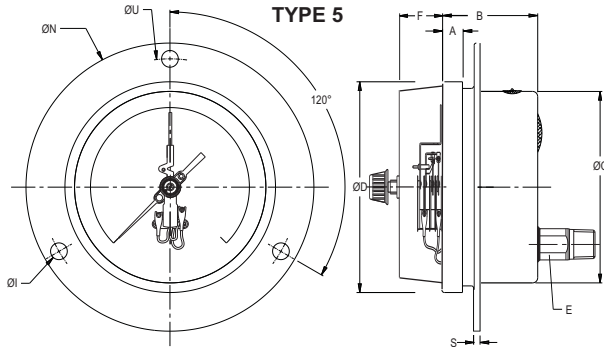
NS	A	B	ØC	ØD	E	F	ØI	ØN	ØU	L	S	Weight in gram (With Box)
100	12.5	45	100	111	22	44	6	134	118	14.5	6	890.0
150	15	46.5	149	161	22	44	6	186	168	14.5	6	1370.0



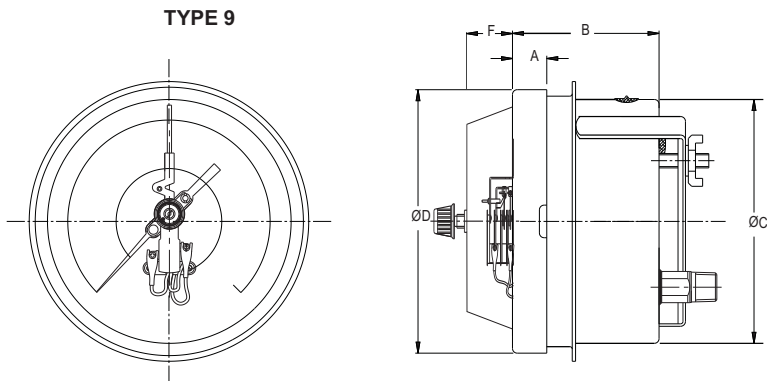
NS	A	B	ØC	ØD	E	F	Weight in gram (With Box)
100	12.5	47	100	111	22	44	800.0
150	15	49	149	161	22	44	1200.0



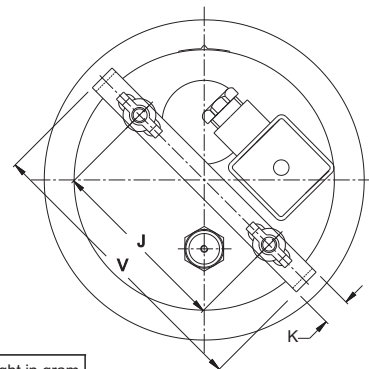
NS	A	B	ØC	ØD	E	F	Weight in gram (With Box)
100	12.5	47	100	111	22	44	790.0
150	15	49	149	161	22	44	1140.0



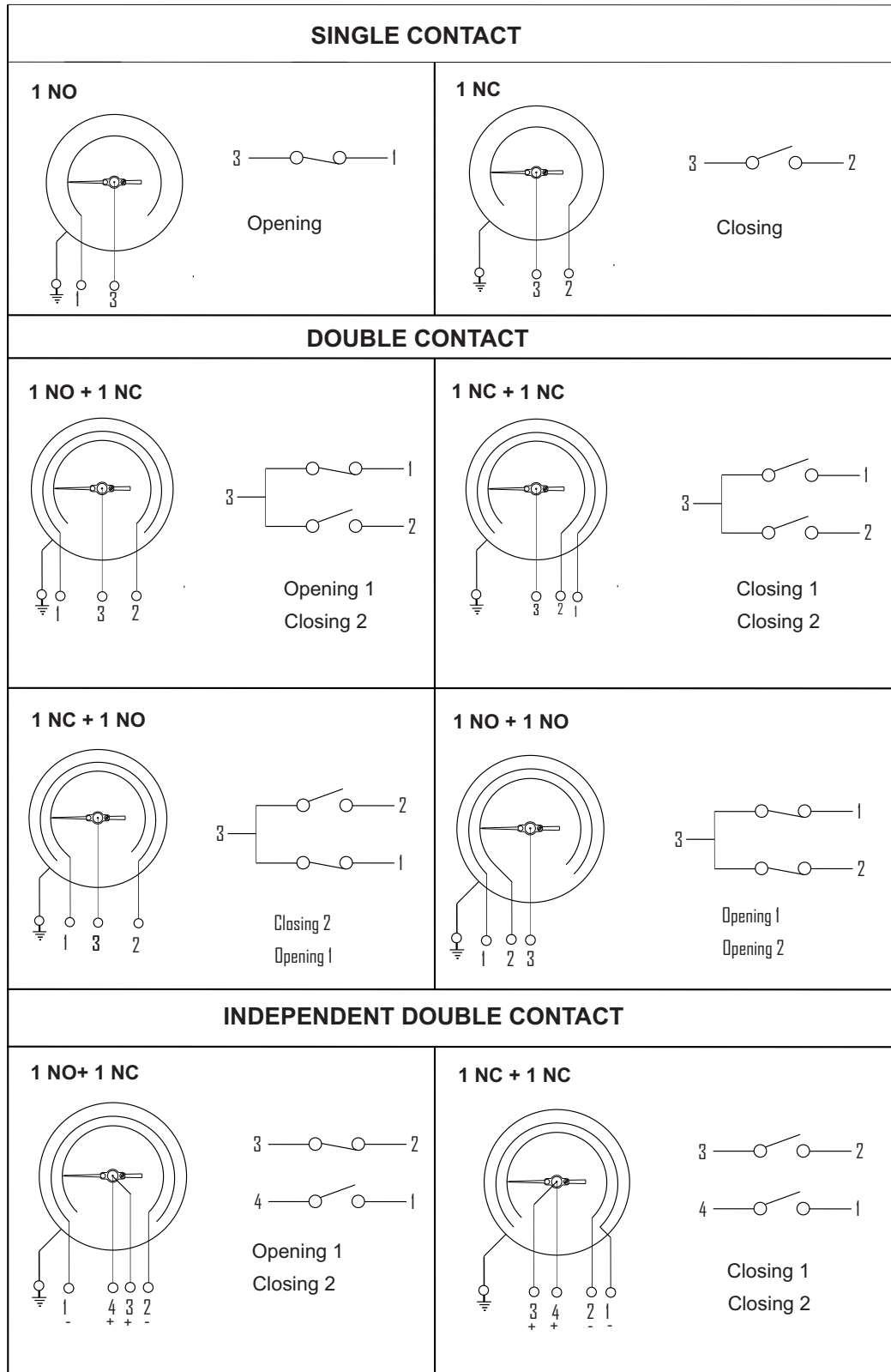
NS	A	B	ØC	ØD	E	F	ØI	ØN	ØU	Weight in gram (With Box)
100	12.5	47	100	111	A/F 22	44	6	134	118	860.0
150	15	49	149	161	A/F 22	44	6	186	168	1300.0



NS	A	B	ØC	ØD	E	F	J	K	V	Weight in gram (With Box)
100	12.5	47	100	111	A/F 22	44	72	16	108	870.0
150	15	49	149	161	A/F 22	44	106.5	16	166	1240.0



WIRING DIAGRAMS FOR ELECTRIC CONTACTS



## RANGE TABLE

Note : Waaree offers National / International Scales like kPa, MPa, bar, psi, kg/cm<sup>2</sup> & Dual Scale like kPa with psi, kPa with bar, bar with psi or Equivalent scales as per the requirement can be provided on request.

Following are the example tables for kg/cm<sup>2</sup> & psi scales

## PRESSURE &amp; COMPOUND

PRESSURE - SINGLE SCALE (kg/cm <sup>2</sup> or bar)				COMPOUND - SINGLE SCALE (kg/cm <sup>2</sup> or bar)			
0/1.6	0/10	0/60	0/400				
0/2.5	0/16	0/100	0/600			-1/5	
0/4	0/25	0/160	0/1000			-1/9	
0/6	0/40	0/250	0/1600			-1/15	
DUAL SCALE (psi with kg/cm <sup>2</sup> )							
psi	kg/cm <sup>2</sup>	psi	kg/cm <sup>2</sup>	psi	kg/cm <sup>2</sup>	psi	kg/cm <sup>2</sup>
0/25	0/1.6	0/220	0/16	0/1500	0/100	0/10000	0/700
0/35	0/2.5	0/300	0/20	0/2200	0/160	0/15000	0/1000
0/60	0/4	0/400	0/28	0/3000	0/200	0/22000	0/1600
0/100	0/7	0/600	0/40	0/4000	0/280		
0/150	0/10	0/1000	0/70	0/6000	0/400		

Note: Range above 1600 kg/cm<sup>2</sup>, consult factory.

## ACCESSORIES (Refer Datasheet for complete specifications)

EB COOLING TOWER	ED OVER LOAD PROTECTOR (GAUGE SAVER)	EG SNUBBER
EC GAUGE COCK	* NEEDLE VALVE	EH SIPHON

\* Refer catalogue for Valves & Manifolds.

## HOW TO ORDER

## BASIC MODEL

## CODE

## NOMINAL SIZE

F H  
100 mm 150 mm

## TYPE OF MOUNTING

- |  |  |
|--|--|
| 1 WALL, SURFACE, PROJECTION MOUNTING WITH BOTTOM ENTRY | 5 FLUSH PANEL BACK ENTRY WITH FRONT FLANGE |
| 2 DIRECT BOTTOM ENTRY                                  | 9 BACK ENTRY WITH MOUNTING BRACKET         |
| 3 DIRECT LOWER BACK ENTRY                              |  |

## ELECTRIC CONTACTS (CE &amp; ATEX APPROVED)

A) SINGLE INSULATED MAGNETIC SNAP ACTION TYPE\*  
(230 V AC, 1 Amp.)(48 V DC, 0.5 Amp.)

- RJ Single; NORMALLY CLOSED (1 NC)  
RK Double; NORMALLY CLOSED + NORMALLY OPEN (1 NC + 1 NO)  
RL Single; NORMALLY OPEN (1 NO)  
RM Double; NORMALLY OPEN + NORMALLY CLOSED (1 NO + 1 NC)  
RN Double; NORMALLY CLOSED (BOTH NC)  
RO Double; NORMALLY OPEN (BOTH NO)  
RU BOOSTER WITH RELAY FOR CURRENT UPTO 5 Amp.  
RA SPDT  
RC DPDT \* FOR DOUBLE INSULATED ELECTRICAL CONTACTS, CONSULT FACTORY FOR PRICE & DELIVERY.

## B) INDUCTIVE TYPE (220 V AC, 0.4 Amp.)

- YW Single; NORMALLY OPEN (1 NO)  
YV Single; NORMALLY CLOSED (1 NC)  
YX Double; NORMALLY CLOSED + NORMALLY OPEN (1 NC + 1 NO)  
YY Double; NORMALLY OPEN (BOTH NO)  
YZ Double; NORMALLY CLOSED (BOTH NC)  
ZA Double; NORMALLY OPEN + NORMALLY CLOSED (1 NO + 1 NC)

## GAUGE CONNECTION

- |                           |                           |                  |
|---------------------------|---------------------------|------------------|
| 3BM 3/8" BSP (M) STANDARD | 2NM 1/4" NPT (M)          | 2BM 1/4" BSP (M) |
| 4BM 1/2" BSP (M) STANDARD | 4NM 1/2" NPT (M) STANDARD | 4MM M20 x1.5 (M) |

Note : Connections like Metric/ PT/ PF/ Flaired/ UNF/ G/ R etc can be provided on request.

## RANGE

## REFER RANGE TABLE

## OPTIONAL EXTRAS

- |   |   |
|---|---|
| TI MONEL BOURDON & SOCKET (MONEL VERSION)** | TF CONFORMITY AS PER NACE MR 0175         |
| PS AISI 316 SS CASE & BEZEL*                | RH CUSTOM DESIGNED DIAL                   |
| PW FIVE POINT CALIBRATION CERTIFICATE       | QB INTEGRAL DAMPENING SCREW (AISI 316 SS) |
| ZZ DIELECTRIC OIL FILLED#                   | FL INTEGRAL DAMPENING SCREW (MONEL)**     |
| SX SS TAG PLATE                             | SA INTERNAL OVER PRESSURE STOP            |
| SW DIAL TAG MARKING                         | SB INTERNAL VACUUM STOP                   |
| TB HELIUM LEAK TEST                         | SF MOVEMENT WITH DAMPENING JELLY          |
|   | GH MATERIAL TEST CERTIFICATES***          |

\* CONSULT FACTORY FOR MINIMUM ORDER QUANTITY & DELIVERY.

\*\*INTEGRAL DAMPENING SCREW WILL BE IN MONEL IF ORDERED. REFER OPTION FL. #BOD, Gasket & Filling plug of NBR. Refer Price List for Viton.

\*\*\* MATERIAL TEST CERTIFICATES WILL BE PROVIDED FOR WETTED PARTS ONLY WITH CHEMICAL COMPOSITION TESTING. FOR OTHERS, PLEASE CONSULT FACTORY.

Ordering Example: BJ - X - X - XX - XXX - 0/10kg/cm<sup>2</sup> - XX

FOR OTHER OPTIONAL ITEMS, PLEASE CONTACT FACTORY FOR DELIVERY AND MINIMUM QUANTITY OF ORDER.

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing.  
Modifications may take place and materials specified may be replaced by others without prior notice.

Example

BJ

X

X

XX

XXX

0/10  
kg/cm<sup>2</sup>

XX