

## BOURDON TYPE

AL

### SPECIAL FEATURES

- STAINLESS STEEL CASE & MEASURING SYSTEM
- SOCKET & CASE WELDED
- DRY OR LIQUID FILLED
- ACCURACY UPTO 0.5%
- STANDARD FOLLOWED IN GENERAL EN 837-1 / & ANSI / ASME B40.1 FOR NS 125 MM

### APPLICATIONS

FOOD & BEVERAGE, PHARMACEUTICAL, CRYOGENICS, CHEMICAL & PETROCHEMICAL INDUSTRIES, CONVENTIONAL & NUCLEAR POWER PLANTS, PUMPS, HYDRO-CLEANING MACHINES, PRESSES, ENGINE COMPRESSORS, TURBINES, DIESEL ENGINES & REFRIGERATING PLANTS.

### SPECIFICATIONS

**STANDARD VERSION : 100mm, 125mm, 150mm**



Accuracy	: ± 1.0% of F.S.
Ambient temperature	: - 25°C to + 65°C
Process temperature	: Max 300°C
Operating pressure	: 75% of the Scale Value
Over pressure limit	: 30% for Pressure Ranges upto 600 kg / cm <sup>2</sup> 15% for Pressure Ranges above 600 kg / cm <sup>2</sup>
Case	: AISI 304 SS
Ring	: AISI 304 SS, Bayonet Type
Bourdon	: AISI 316L SS
Socket	: AISI 316L SS (Directly Welded to Case)
Movement	: AISI 304 SS
Joints	: Tig Argon Arc Welding
Protection	: IP 65
Dial	: Aluminium, black graduation on white background
Pointer	: Aluminium, black coloured Micrometer zero adjustable
Window	: Sheet Glass
Blow off Disc	: Neoprene
Gasket	: Neoprene

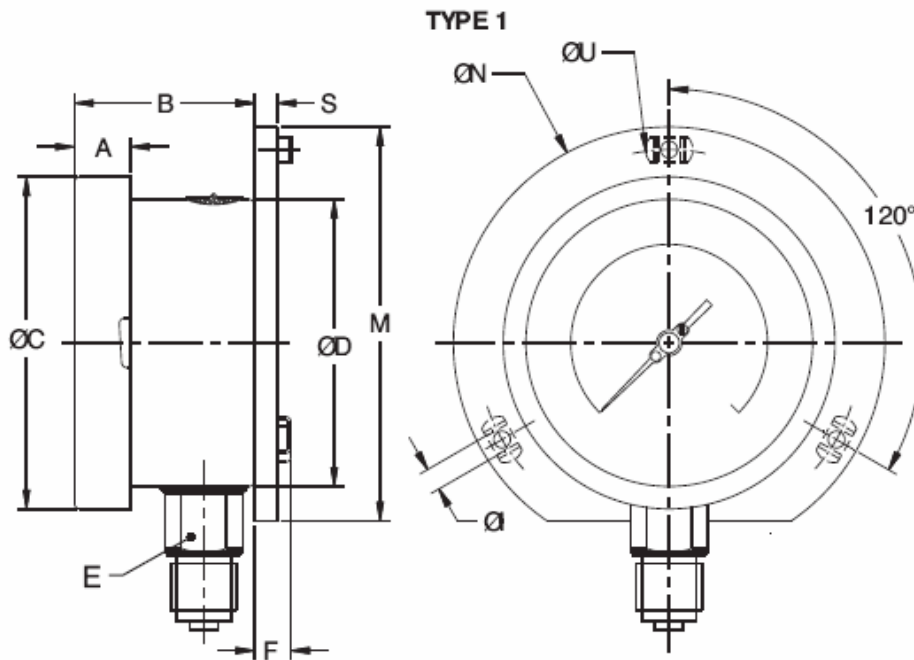
### GLYCERINE FILLED VERSION (OPTION PY)

Accuracy	: ± 1.0% of F.S.
Ambient Temperature	: Maximum 65°C
Process Temperature	: + 15°C / 65° C
Window	: Plexi Glass
Dampening Liquids	: Glycerine 98% (others available as option)
Other Features	: Refer Specification of Standard Version

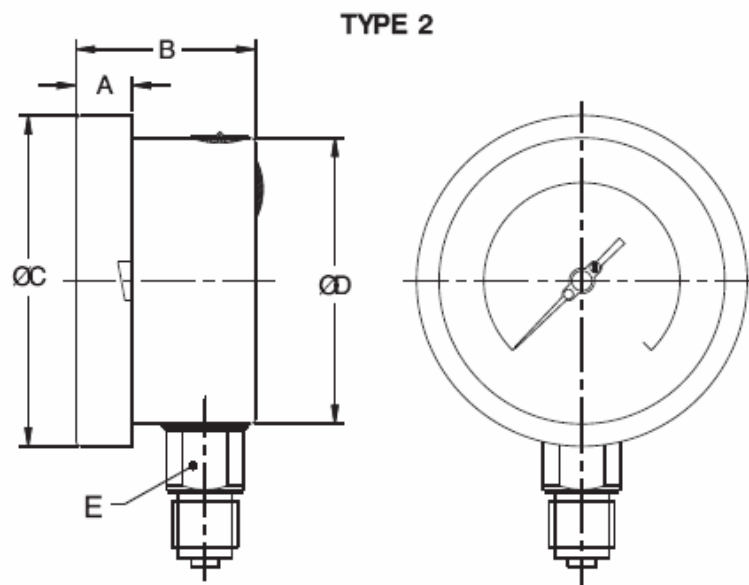
### DRY BUT FILLABLE VERSION

Option Code	: <b>Fillable Dampening Liquid</b>
FG	: Fillable Glycerine 98%
FS	: For Silicon Oil

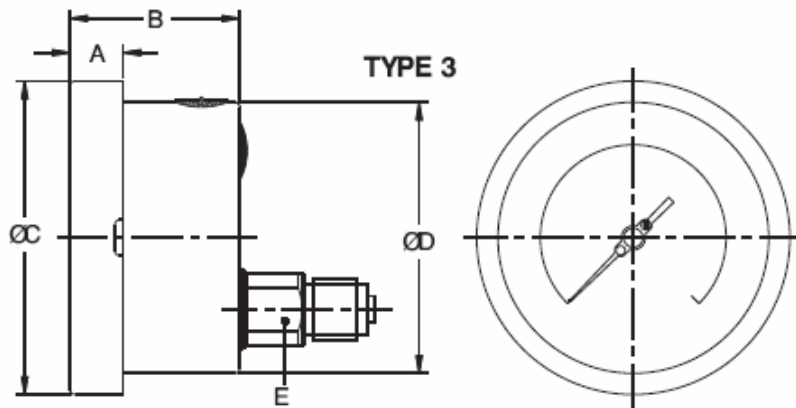
## DIMENSIONS - STANDARD VERSION



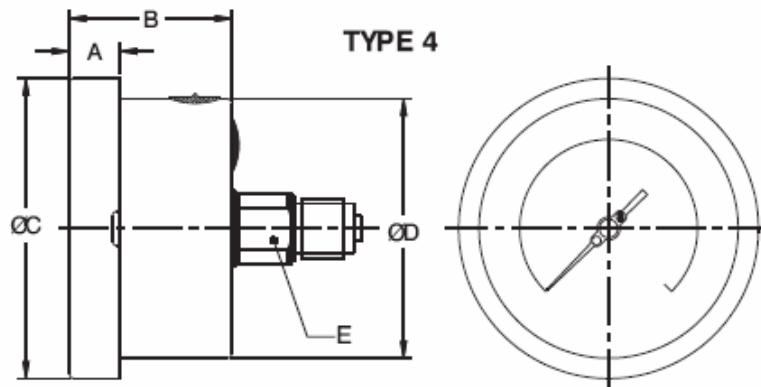
NS	A	B	ØC	ØD	E	M	S	F	ØI	ØN	ØU	Weight in gram (With Box)
100	12.5	48	110	100	22	128	6	14.5	6	134	118	715.0
125	11	48	131	119	22	-	4	15	6	152	138	820.0
150	15	49	161	149	22	177	5.5	15	6	186	168	1240



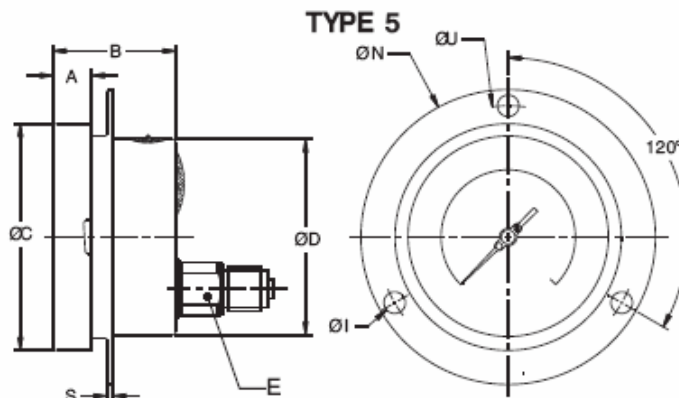
NS	A	B	ØC	ØD	E	Weight in gram (With Box)
100	12.5	48	110	100	22	630.0
125	11	48	131	119	22	732.0
150	15	49	161	149	22	1060



NS	A	B	ØC	ØD	E	Weight in gram (With Box)
100	12.5	48	110	100	22	625.0
125	11	48	131	119	22	734.0
150	15	49	161	149	22	998.0

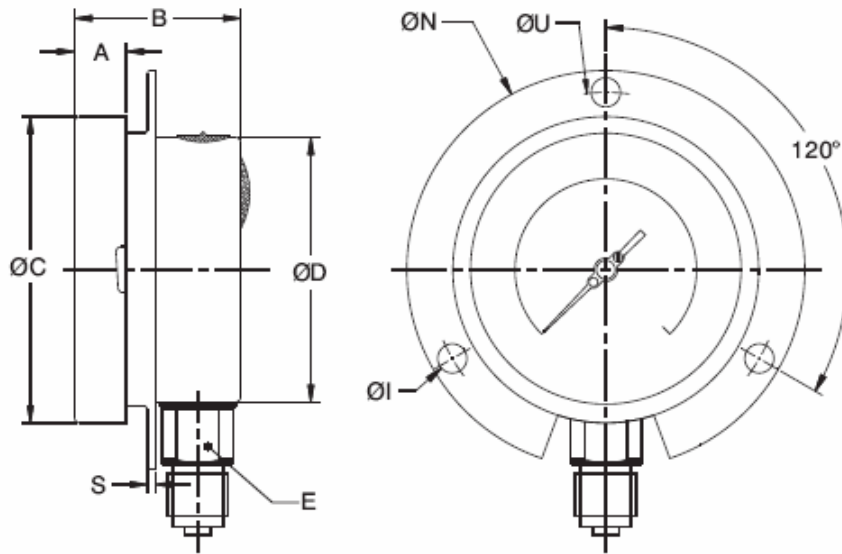


NS	A	B	ØC	ØD	E	Weight in gram (With Box)
100	12.5	48	110	100	22	640.0



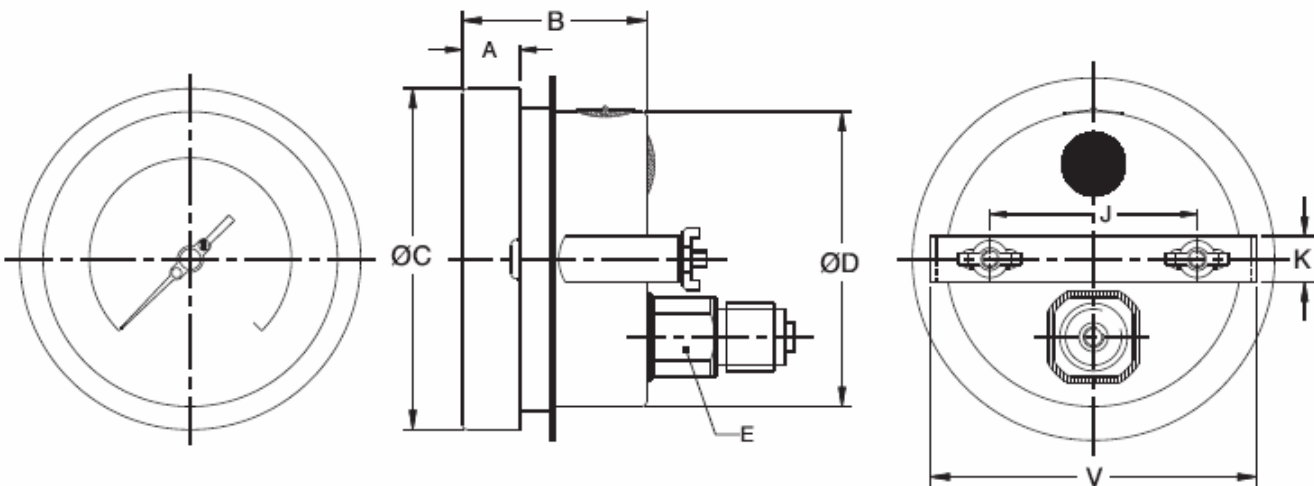
NS	A	B	ØC	ØD	E	S	ØI	ØN	ØU	Weight in gram (With Box)
100	12.5	48	110	100	22	1	6	134	118	710.0
125	11	48	131	119	22	4	6	152	138	815.0
150	15	49	161	149	22	5	6	186	168	1160.0

## TYPE 11



NS	A	B	ØC	ØD	E	S	ØI	ØN	ØU	Weight in gram (With Box)
100	12.5	48	110	100	22	1	6	134	118	731.0
125	11	48	131	119	22	4	6	152	138	815.0
150	15	49	161	149	22	5	6	186	168	1217.0

## TYPE 9



NS	A	B	ØC	ØD	E	J	K	V	Weight in gram (With Box)
100	12.5	48	110	100	22	66.5	16	106	750.0
125	11	48	131	119	22	80	16	129.5	891.0
150	15	49	161	149	22	103.5	16	158	1220.0

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

## RANGE TABLE

Note : Manufacturer 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

SINGLE SCALE (kg/cm <sup>2</sup> or bar)					
RANGE	RANGE	RANGE	RANGE	RANGE	RANGE
0/0.6	0/4	0/25	0/160	0/1000	
0/1	0/6	0/40	0/250	0/1400	
0/1.6	0/10	0/60	0/400	0/1600	
0/2.5	0/16	0/100	0/600		

DUAL SCALE (PSI with kg/cm <sup>2</sup> ) or PSI with bar					
RANGE (PSI)	RANGE (kg/cm <sup>2</sup> )	RANGE (PSI)	RANGE (kg/cm <sup>2</sup> )	RANGE (PSI)	RANGE (kg/cm <sup>2</sup> )
0/15	0/1	0/400	0/28	0/4000	0/280
0/30	0/2	0/500	0/35	0/5000	0/350
0/60	0/4	0/600	0/40	0/6000	0/400
0/100	0/7	0/1000	0/70	0/10000	0/700
0/150	0/10	0/1500	0/100	0/15000	0/1000
0/200	0/14	0/2000	0/140	0/20000	0/1400
0/300	0/20	0/3000	0/200	0/23000	0/1600

\* Note: For ranges above 1600kg/cm<sup>2</sup>, please consult factory.

### VACUUM & COMPOUND

DUAL SCALE (inHg with PSI & mmHg with kg/cm <sup>2</sup> )					
RANGE	RANGE	RANGE	RANGE	RANGE	RANGE
inHg with PSI	mmHg with kg/cm <sup>2</sup>	inHg with PSI	mmHg with kg/cm <sup>2</sup>	inHg with PSI	mmHg with kg/cm <sup>2</sup>
-30/0	-760/0	-30/60	-760/3	-30/200	-760/15
-30/15	-760/1	-30/100	-760/6	-30/300	-760/20
-30/30	-760/2	-30/150	-760/9	-30/350	-760/24

SINGLE SCALE (kg/cm <sup>2</sup> )			
RANGE	RANGE	RANGE	RANGE
-1/0	-1/1.5	-1/5	-1/15
-1/0.6	-1/3	-1/9	-1/24

### RECEIVER

LINEAR SCALE	SQUARE ROOT SCALE
(0 - 100% Internal Scale)	(0 - 10 Sq - Root Internal Scale)
External Scale	External Scale
0.2 - 1 kg/cm <sup>2</sup> or 3 - 15 psi	0.2 - 1 kg/cm <sup>2</sup> or 3 - 15 psi
(0-100% linear scale)	(0.2 - 1 kg/cm <sup>2</sup> )

### FREON (WITH TEMPERATURE SCALE)

DUAL SCALE (Inch Hg to PSI)	
RANGE	RANGE
-30/150	0-300
-30/300	0-500

### AMMONIA (WITH TEMPERATURE SCALE)

RANGE (kg/cm <sup>2</sup> )	RANGE (psi)
-1 to 12.5	-30 - 150
-1 to 16	-30 - 300
-1 to 25	0 - 300

### ACCESSORIES †

EB COOLING TOWER	ED GAUGE SAVER	EG SNUBBER
EC GAUGE COCK	* NEEDLE VALVE	EH SIPHON
		DX DIAPHRAGM SEAL

† Refer Datasheet for complete specifications \* Refer catalogue for Valves & Manifolds

## HOW TO ORDER

### BASIC MODEL

CODE	F	G	H
NOMINAL SIZE (mm)	100	125	150

### TYPE OF MOUNTING

- 1 WALL / SURFACE / PROJECTION MOUNTING WITH BOTTOM ENTRY
- 2 DIRECT BOTTOM ENTRY
- 3 DIRECT LOWER BACK ENTRY
- 4 DIRECT CENTER BACK ENTRY (FOR NS 100 mm ONLY)
- 5 FLUSH PANEL BACK ENTRY WITH FRONT FLANGE
- 6 2" PIPE / YOKE MOUNTING \*
- 9 BACK ENTRY WITH MOUNTING BRACKET
- 11 BOTTOM ENTRY WITH FRONT FLANGE

\* ASK FACTORY FOR DRAWINGS, IF REQUIRED.

(OTHER TYPES OF MOUNTING CAN BE PROVIDED ON REQUEST)

### GAUGE CONNECTION

2BM 1/4" BSP (M)	3NM 3/8" NPT (M)	4TM 1/2" BSPT (M)
3BM 3/8" BSP (M) STANDARD	4NM 1/2" NPT (M) STANDARD	2MM M 12 X 1 (M)
4BM 1/2" BSP (M) STANDARD	2TM 1/4" BSPT (M)	3MM M 16 X 1.5 (M)
2NM 1/4" NPT (M)	3TM 3/8" BSPT (M)	4MM M 20 X 1.5 (M)

**Note :** Connections like PT/PF/Flaired /UNF/G/R etc.can be provided on request.  
Non standard connections can be provided through adaptors.

### RANGE

REFER TABLES

### OPTIONS

FOR NON STANDARD PRODUCTS/OPTIONAL ITEMS, PLEASE CONTACT FACTORY FOR DELIVERY AND MINIMUM QUANTITY OF ORDER.

<b>OA</b> ACCURACY ± 0.5% OF F.S. (EXCEPT WITH OPTION DAMPENING LIQUID, MAXIMUM READING POINTER)	<b>SX</b> SS TAG PLATE
<b>TI</b> MONEL BOURDON & SOCKET (MONEL VERSION)	<b>SW</b> DIAL TAG MARKING
<b>PS</b> AISI 316 SS CASE & BEZEL	<b>TB</b> HELIUM LEAK TEST
<b>PW</b> FIVE POINT CALIBRATION CERTIFICATE	<b>TF</b> TESTED TO NACE STANDARDS
<b>FS</b> FILLABLE LIQUID SILICON OIL*	<b>RH</b> CUSTOM DESIGNED DIAL
<b>FG</b> FILLABLE LIQUID GLYCERINE	<b>PZ</b> DAMPENING LIQUID MINERAL LIQUID FILLED
<b>RR</b> ENCLOSURE PROTECTION IP 66	<b>PX</b> DAMPENING LIQUID FLOUROLUBE FILLED
<b>RW</b> PLEXI GLASS	<b>PY</b> DAMPENING LIQUID GLYCERINE FILLED
<b>RX</b> SHATTERPROOF / SAFETY GLASS	<b>QA</b> DAMPENING LIQUID SILICON OIL FILLED*
<b>RZ</b> TOUGHENED GLASS	<b>QB</b> DAMPENING SCREW IN AISI 316 SS
<b>SF</b> MOVEMENT WITH DAMPENING JELLY	<b>SA</b> INTERNAL OVERPRESSURE STOP
<b>SG</b> OXYGEN SERVICE (WITHOUT OPTION DAMPENING LIQUID)	<b>SB</b> INTERNAL VACUUM STOP
<b>SI</b> KNIFE EDGE POINTER	<b>ZB</b> RECEIVER RANGE
<b>SJ</b> MAXIMUM READING POINTER (WITHOUT OPTIONS : FILLED VERSION GAUGES)	<b>ZC</b> FREON RANGE (WITH TEMPERATURE SCALE)
<b>SQ</b> CASE WITH ROLLING TYPE BEZEL	<b>ZD</b> AMMONIA RANGE (WITH TEMPERATURE SCALE)
<b>SL</b> ZERO ADJUSTABLE POINTER	<b>ZZ</b> EPOXY PAINTED CASE & BEZEL
<b>RE</b> ENCLOSURE PROTECTION IP 67	<b>ZF</b> CASE WITH BALL BURNISHING FINISH
	<b>ZK</b> CASE WITH BUFFING FINISH
	<b>KA</b> ON - OFF TYPE VENT PLUG
	<b>SH</b> FIXED POINTER
	<b>ZL</b> OVER RANGE PROTECTION 150% OF F. S.
	<b>ZM</b> ELECTROPOLISHED CASE & BEZEL

\* GASKET, BOD & PLUG OF VITON /NBR

### Ordering Example:

**AL- G - 2 - 4NM - 0/10kg/cm<sup>2</sup> - QA**

**Note :** ● Due to continuous improvement, the specification may vary from time to time.

AL

G

2

4NM

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

QA