



CE

Special Features

- External zero adjustment (optional)
- Stainless steel case & measuring system
- Socket directly welded to case
- Dry and liquid filled version
- Standard followed EN 837-1 (for NS 100, 150)
- CE marking (as per PED 97/23/EC) (for NS 100 mm & 150 mm)
- The diaphragm is welded to the body to ensure separation of the filling fluid from the process medium

Application

- Diaphragm seals are designed to isolate the sensing element of pressure gauges and pressure switches from process fluids that they may be corrosive, viscous, sedimentous and / or with a high temperature.
- Chemical & Petrochemical industries
- For aggressive, hot, corrosive, environmentally hazardous or toxic media
- Food & beverage
- Pharmaceutical
- Process industry

Gauge Specifications

Standard Version : 100 mm, 125 mm & 150 mm

Accuracy	: ±1.0% of F. S.
Ambient temperature	: -25°C to +65°C
Process temperature	: -40°C to 200°C or as per fill fluid
Operating pressure range	: 75% of Scale Value
Over pressure limit	: < 100 bar : 125% of Max. Scale Value
	: > 100 to < 250 bar : 115% of Max. Scale Value

Case & Bezel	: AISI 304 SS (Bayonet Type)
Bourdon	: AISI 316 SS or AISI 316L SS if NACE Option Select
Socket	: AISI 316 SS (Directly Welded to Case) or AISI 316L SS if NACE Option Select
Movement	: AISI 304 SS
Joints	: Tig Argon Arc Welding

Protection	: IP 68
Dial	: Aluminium, black graduation on white background
Pointer	: Aluminium, black coloured Micrometer zero adjustable
Window	: Toughened Glass
Blow off Disc	: Neoprene
Gasket & Filling Plug	: Neoprene

Sealed Unit Specifications

Seal type & Range	: S53 = -1 to 0 kg/cm² & 0 to 70 kg/cm² (Standard) Metal Flange
	: P53 = -1 to 0 kg/cm² & 0 to 70 kg/cm² For Lined Flange
Instrument connection	: 3/8" BSP (F)
Process connection	: Flange
Fill fluid	: Silicon Oil - DC 200
Mounting	: Direct (without capillary) or Remote Mounting With Capillary Option

Diaphragm	: AISI 316L SS
Top Flange / Top Chamber	: AISI 304 SS
Bottom Flange	: AISI 316 SS
Nuts / bolts	: AISI 304 SS
Sealing gasket	: PTFE

Dry But Fillable Version (Option DFG)

Fillable Dampening Liquid	: Glycerine 99.7% (Option - DFG)
Ambient Temperature	: Maximum 65°C
Process Temperature	: Maximum 65°C
Window	: Plexi Glass
Other Features	: Refer Specification of Standard Version

Glycerine Filled Version (Option LFG)

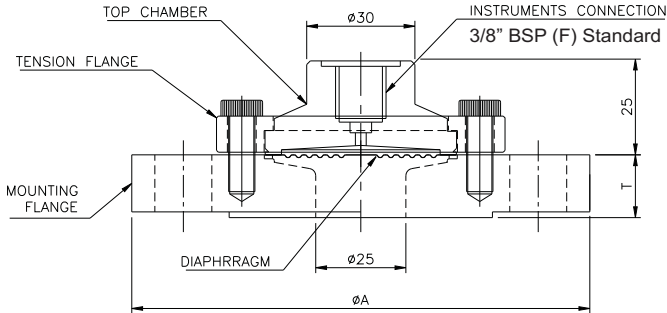
Accuracy	: ±1.0% of F.S.
Ambient Temperature	: Maximum 65°C
Process Temperature	: Maximum 65°C
Window	: Plexi Glass
Dampening Liquids	: Glycerine 99.7% (others available as option)
Other Features	: Refer Specification of Standard Version

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.

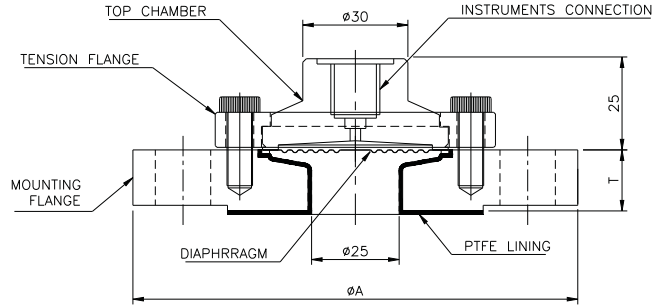
Dimensions - Flanged Seal Type

SEAL TYPE : S53



WITHOUT PTFE LINED

SEAL TYPE : P53

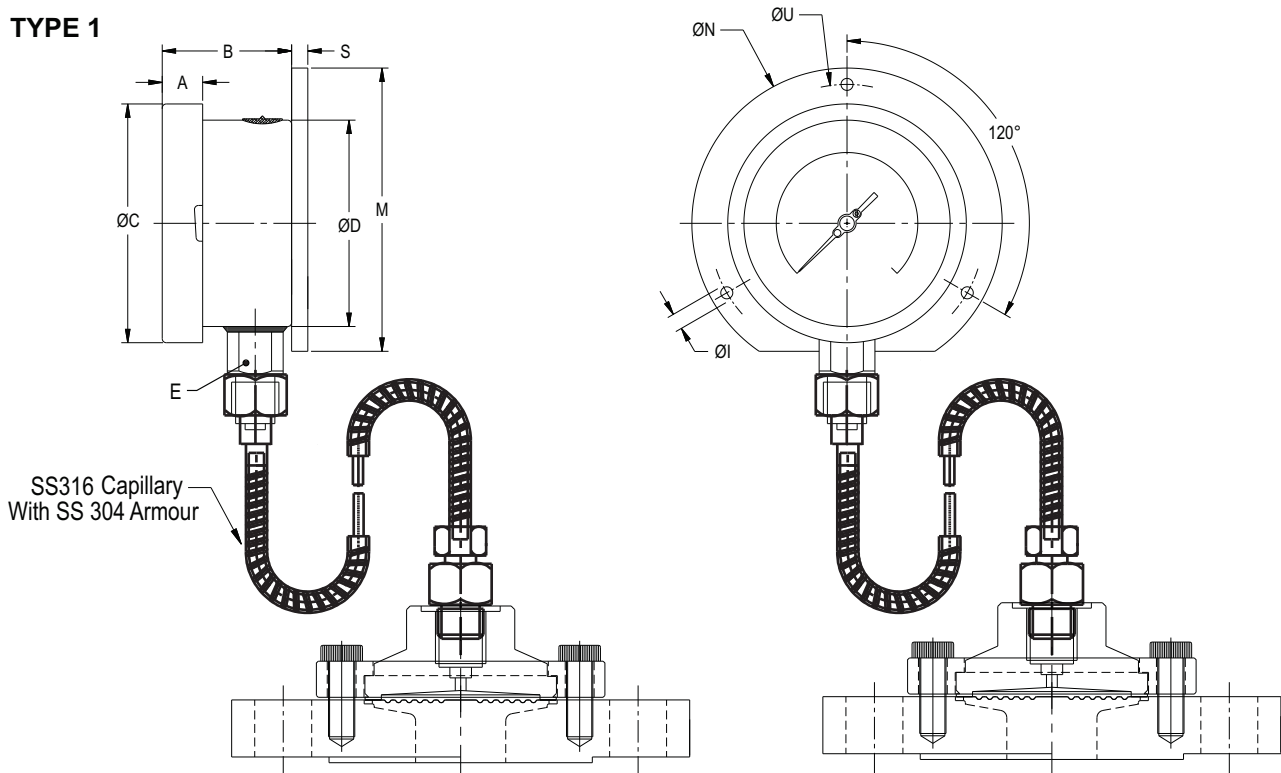


PTFE LINED

** As per standard flange table ANSI, DIN, BS, JIS, Etc.,

Dimensions - Standard Version

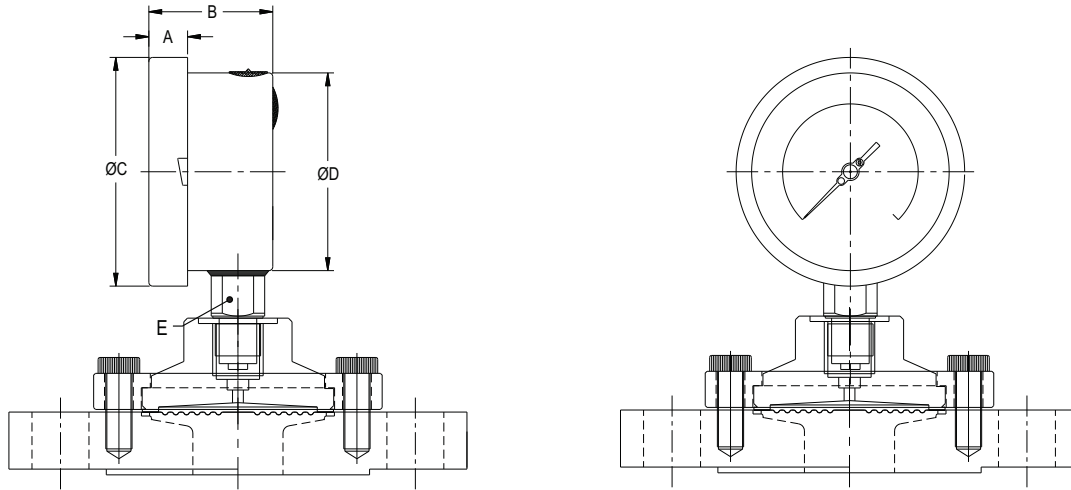
TYPE 1



NS	A	B	ϕC	ϕD	E	M	S	ϕI	ϕN	ϕU	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
100	12.5	45	111	100	22	128	5	6	134	118	2400.0	2750.0
125	15	46	129	119	22	143	5	6	150	137	2500.0	3450.0
150	15	47	161	149	22	174.5	5	6	186	168	2800.0	3950.0
200	18	49	216	200	22	229	1.5	7	245	230	3500.0	4450.0
250	18	55	262	247	22	286.5	1.5	7	290	276	3950.0	4950.0

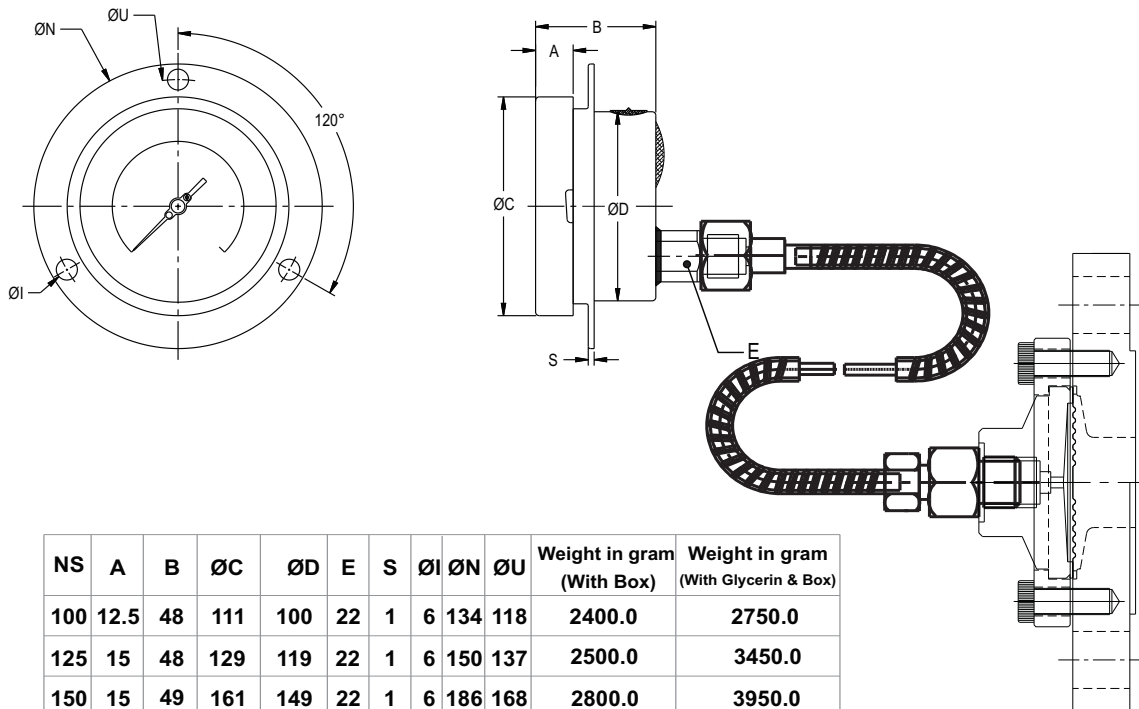
Dimensions - standard version

TYPE 2



NS	A	B	ØC	ØD	E	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
100	12.5	48	111	100	22	1950.0	2300.0
125	15	48	129	119	22	2050.0	3000.0
150	15	49	161	149	22	2350.0	3500.0
200	18	49	216	200	22	3050.0	4000.0
250	18	55	263	248	22	3500.0	4500.0

TYPE 5



NS	A	B	ØC	ØD	E	S	ØI	ØN	ØU	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
100	12.5	48	111	100	22	1	6	134	118	2400.0	2750.0
125	15	48	129	119	22	1	6	150	137	2500.0	3450.0
150	15	49	161	149	22	1	6	186	168	2800.0	3950.0
200	18	49	216	200	22	1.5	7	245	230	3500.0	4450.0
250	18	52	263	248	22	1.5	7	290	276	3950.0	4950.0

Notes : • Drawings are not to scale. • All Dimensions are in mm . • NS = Nominal size
• Weights mentioned are approximate and for standard product. Weight can be different after selection of options.

Flange Table With Ordering Codes

How To Select

E.g. For flange size of 1-1/2" as per BS-10 table e with raised face : C10 - FF

RF Raised Face

FF Flat Face

Flange Finish shall be 125 - 250 AARH as a standard. For other finish, please consult factory.

As Per DIN 2527

DN	PN	CODE	DN	PN	CODE
40	6	A41	65	6	A61
	10	A42		10	A62
	16	A43		16	A63
	25	A44		25	A64
	40	A45		40	A65
	64	A46		64	A66
	100	A47		100	A67
	160	A48		160	A68
	250	A49		250	A69
	400	A50		400	A70
50	6	A51	80	6	A71
	10	A52		10	A72
	16	A53		16	A73
	25	A54		25	A74
	40	A55		40	A75
	64	A56		64	A76
	100	A57		100	A77
	160	A58		160	A78
	250	A59		250	A79
	400	A60		400	A80

As Per DIN 2642

DN	PN	CODE
40	10	A95
50		A96
65		A97
80		A98

As Per DIN 2633

DN	PN	CODE
40	16	A86
50		A87
65		A88
80		A89

As Per DIN 2635

DN	PN	CODE
40	40	B05
50		B06
65		B07
80		B08

As Per JIS - B 2210

NOMINAL SIZE	RATING / CLASS	CODE
40A	5K	B72
	10K	B73
	40K	B74

As Per BS - 10

NOMINAL SIZE	TABLE	CODE
1 1/2"	D	C09
	E	C10
	F	C11
	H	C12
	J	C13
	K	C14
	2"	D
E		C16
F		C17
H		C18
J		C19
3"	K	C20

NOMINAL SIZE	RATING / CLASS	CODE
50A	5K	B75
	10K	B76
	40K	B77
65A	5K	B78
	10K	B79
	40K	B80
80A	5K	B81
	10K	B82
	40K	B83

As Per ANSI B 16.5

NOMINAL SIZE	RATING / CLASS	CODE	NOMINAL SIZE	RATING / CLASS	CODE
1 1/2"	150	B33	2 1/2"	150	B45
	300	B34		300	B46
	600	B35		600	B47
	900	B36		900	B48
	1500	B37		1500	B49
2"	2500	B38	3"	2500	B50
	150	B39		150	B51
	300	B40		300	B52
	600	B41		600	B53
	900	B42		900	B54
	1500	B43		1500	B55
2500	B44	2500	B56		

NOMINAL SIZE	TABLE	CODE
2 1/2"	D	C21
	E	C22
	F	C23
	H	C24
	J	C25
	K	C26
3"	D	C27
	E	C28
	F	C29
	H	C30
	J	C31
	K	C32

Range Table

Note : We offer National / International Scales like kPa, MPa, bar, psi, kg/cm² & 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/cm² & psi scales.

Pressure

Single Scale (kg/cm² or bar)

0/0.6	0/4	0/25	0/160
0/1	0/6	0/40	0/250
0/1.6	0/10	0/60	
0/2.5	0/16	0/100	

Dual Scale (psi with kg/cm²)

psi	kg/cm ²	psi	kg/cm ²	psi	kg/cm ²
0/15	0/1	0/400	0/28	0/3500	0/250
0/30	0/2	0/500	0/35		
0/60	0/4	0/600	0/40		
0/100	0/7	0/1000	0/70		
0/150	0/10	0/1500	0/100		
0/230	0/16	0/2300	0/160		
0/300	0/20	0/3000	0/200		

Vacuum & Compound

Dual Scale (inHg with psi & mmHg with kg/cm²)

inHg with psi	mmHg with kg/cm ²	inHg with psi	mmHg with kg/cm ²	inHg with psi	mmHg with kg/cm ²
- 30/0	- 760/0	- 30/60	- 760/4	- 30/200	- 760/14
- 30/15	- 760/1	- 30/100	- 760/7	- 30/300	- 760/21
- 30/30	- 760/2	- 30/150	- 760/10	- 30/350	- 760/25

Single Scale (kg/cm²)

- 1/0	- 1/1.5	- 1/5	- 1/15
- 1/0.6	- 1/3	- 1/9	- 1/24

Accessories (refer datasheet for complete specifications)

CT Cooling tower **GS** Over load protector (gauge saver)** **SN** In-Built Snubber

Note : For Any Non Standard or Special Scale Marking Consult Factory

HOW TO ORDER

Example

Basic Model				Ds2
Code				
Nominal Size	40	45	60	XX
	100 mm	125 mm	150 mm	
Type of Mounting				
1	Wall / surface / projection mounting with bottom entry			X
2	Direct bottom entry			
5	Lower back entry with front flange			
Range				0/10 ² kg/cm ²
Refer range table				
Flange Seal Type				
S53 Metal Flange Without Lining	P53 Metal Flange With Polymer Lining			XX
Top Chamber				
S4 AISI 304 SS (Standard)	SL AISI 316L SS	S6 AISI 316 SS	TI Titanium	XX
Diaphragm (* Range up to 21 kg/cm ²)				
SL AISI 316L SS (Standard)	HC Hastelloy 'C'	TI Titanium	IN Inconel 600	XX
MO MONEL	SL Silver*	TN Tantalum		

How To Order

Example

Sealing Gasket

TF PTFE (Standard)

MT Metal

XX

Flange Material

(Refer Pressure v/s Temperature table below.)

			MOC OF BOTTOM CHAMBER	PRESSURE V/S TEMPERATURE						
				20 °C	40 °C	60 °C	80 °C	100 °C	120 °C	
S4	AISI 304 SS	HC	Hastelloy 'C'	PVDF	10 kg/cm ²	10 kg/cm ²	10 kg/cm ²	7 kg/cm ²	4 kg/cm ²	2 kg/cm ²
S6	AISI 316 SS (Standard)	TN	Tantalum	PP	10 kg/cm ²	10 kg/cm ²	6 kg/cm ²	4 kg/cm ²	1 kg/cm ²	NA
SL	AISI 316L SS	PV	PVC*	PVC	10 kg/cm ²	10 kg/cm ²	4 kg/cm ²	1 kg/cm ²	NA	NA
TI	TITANIUM	PD	PVDF*							
MO	MONEL	PP	Polypropelene*							

XX

Process Connection

As Per DIN / BS / ANSI / JIS (select Code From Flange Table)

XXX

Polymer Lining On Flange (Optional)

PL PTFE Lining On Bottom Chamber - 2 to 3 mm THICK (Max. Up to 150°C) (Diaphragm PTFE Coated is Standard)

PT PTFE Protection Only For Diaphragm (Max. Up to 150°C) (Suitable for Pressure Ranges only)

PC PTFE Coating Only Diaphragm (Max. Up to 315°C)

FC PTFE Coating on Flange & Diaphragm Both (Max. Up to 315°C)

XX

Filling Fluids (* Consult factory for specifications, price and delivery.)

S1 Silicon DC 200 [-40 to 205°C] (Standard)

S3 Silicon DC 710 [7 to 371°C]

FG Food Grade OIL [-20 to 140°C]

SY Syltherm 800 [-40 to 315°C]

S2 Silicon DC 704 [10 to 337°C]

XX

Remote Mounting (With capillary of Max. Up to 6 Mtrs.) Please Consult Factory if Required Length Above 6 Meter)

Specify In Meters (e.g. 1.5 = 1.5 METERS 2.0 = 2 METERS)

3Mtr.

Capillary

S4 AISI 304 SS

S6 AISI 316 SS

XX

Capillary Covered With Armour (Applicable with Capillary is Selected)

S4 AISI 304 SS

S6 AISI 316 SS

PC PVC (Ambient Temp. Max. 60°C)

XX

Optional Extras

AC5 Accuracy ±0.5% of F. S. (for dry version)

MTC Material test certificates***

OXS Oxygen service (for dry version)

MBS Monel bourdon & socket (Monel version)**

VPO ON - OFF type vent plug

CDD Custom designed dial

LGF Dampening liquid glycerine filled

APM Anti parallax mirror band dial ##

IOS Internal over pressure stop

LSI Dampening liquid silicon oil filled*

EZA External zero adjustment

IVS Internal vacuum stop

EP8 Enclosure protection IP 68

STP SS tag plate

CBS AISI 316 SS case & bezel

PLG Plexi glass

TND Tag No. marking on Dial

MOS AISI 316 SS movement

STG Shatterproof/safety glass

HLT Helium leak test

DFG Dry But Fillable Version (Glycerin)

MDJ Movement with dampening jelly

CNS Conformity as per NACE Standard

DFS Dry But Fillable Version (Silicon)

KEP Knife edge pointer

PED CE marking (as per PED 97/23/EC)◆

XXX

* Gasket & Filling plug of for Viton. **Integral dampening screw will be in monel if ordered. Refer option DSM.

***Material test certificates will be provided for wetted parts only with chemical composition testing. For others, please consult factory.

Scale shall be marked in kg/cm² or bar single Scale Only Consult factory for any Other scale requirement.

For NS 150 mm & Above. ◆ For NS 100 mm to 150 mm.

Ordering Example: Ds2 -XX - X - 0/10 kg/cm² - XX - XX - XX - XX - XX - XXX - XX - XX - 3Mtr - XX - XX - XXX

For other optional items, please contact factory for delivery and minimum order quantity.

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.