

DS1

All SS Pressure Gauge
With Threaded Diaphragm Seals



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 837-3 (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 316L SS
Socket	: AISI 316 SS (Directly Welded to Case)
Movement	: AISI 304 SS
Joints	: Tig Argon Arc Welding

Protection	: IP 68 as per IS/IEC 60529:2001
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 Standard Version

Seal type & Range	: D85 = -1 to 0 kg/cm ² & 0 to 70 kg/cm ² (Standard)
	: D65 = 100 kg/cm ² to 250 kg/cm ²
Instrument connection	: 3/8" BSP (F)
Process connection	: 1/2" BSP (M) Standard or As Required as per Model Coding List.
Fill fluid	: Silicon Oil - DC 200
Mounting	: Direct (without capillary) or Remote Mounting With Capillary Option

Diaphragm	: AISI 316L SS
Top chamber	: AISI 304 SS
Bottom chamber	: 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 150°C
Window	: Toughened Glass
Other Features	: Refer Specification of Standard Version

Glycerine Filled Version (Option LFG)

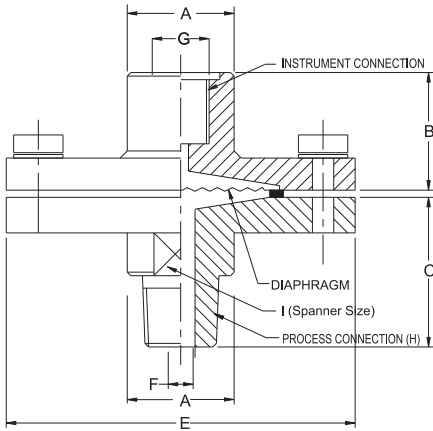
Accuracy	: ±1.0% of F.S.
Ambient Temperature	: Maximum 65°C
Process Temperature	: Maximum 150°C
Window	: Toughened Glass
Dampening Liquids	: Glycerine 99.7% (others available as option)
Other Features	: Refer Specification of Standard Version

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 - Sealed Unit

TYPE "D85" (STANDARD VERSION)



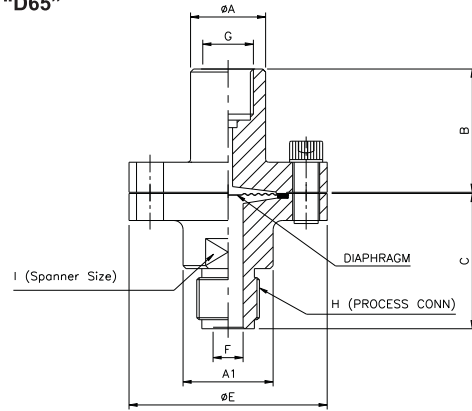
Suitable for Ranges : -1 to 0 kg/cm² & 0 to 70 kg/cm²

A	~B	~C	E	F	G	H	I	Approx. Wt. #
30	31	44	85	Ø10	3/8" BSP(F)	1/2" BSP (M)	26	1300.0

(# Weight in grams with box for Standard Model.)

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

TYPE "D65"



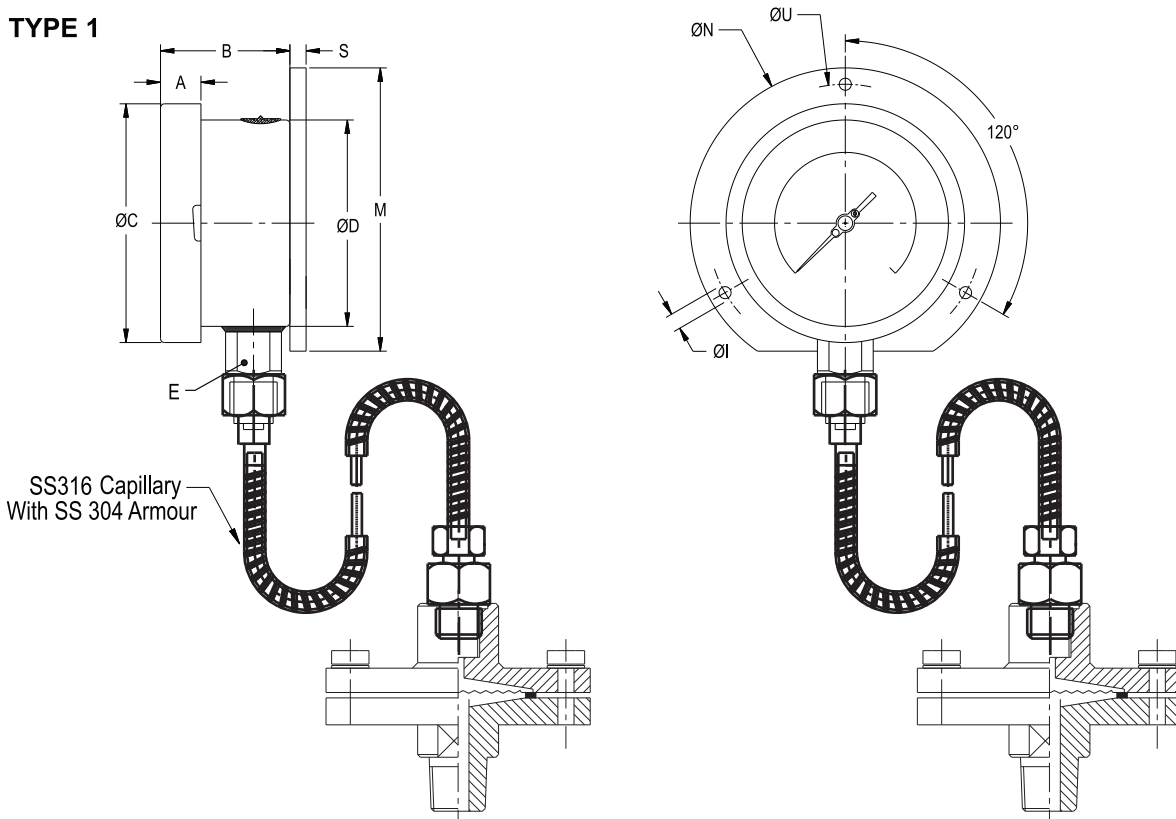
Suitable for Ranges : 100 kg/cm² to 250 kg/cm²

A	A1	~B	~C	E	F	G	H	I	Approx. Wt. #
25	30	41	45	66	Ø10	3/8" BSP(F)	1/2" BSP (M)	25	900.0

(# Weight in grams with box for Standard Model.)

Dimensions - Standard Version

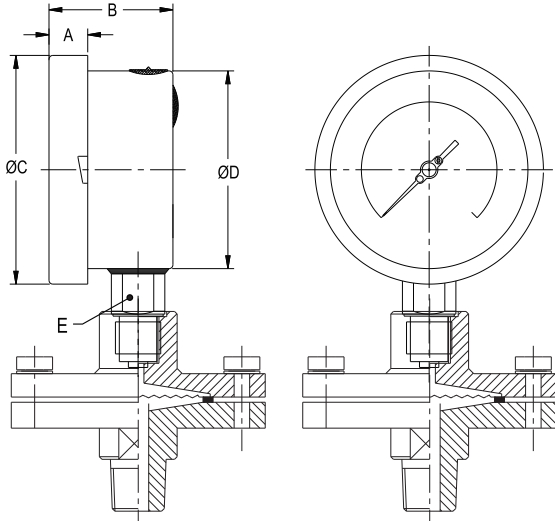
TYPE 1



NS	A	B	ØC	ØD	E	M	S	ØI	ØN	ØU	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

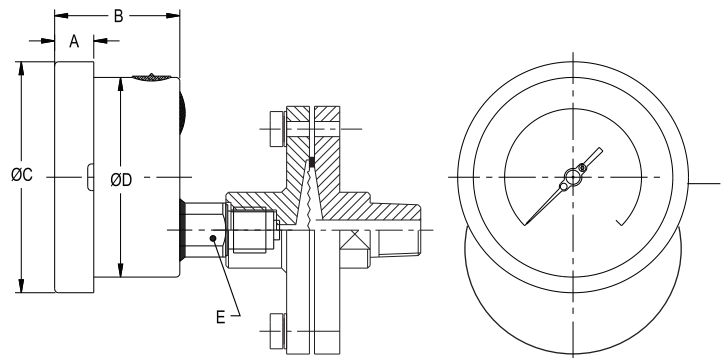
Dimensions - standard version

TYPE 2



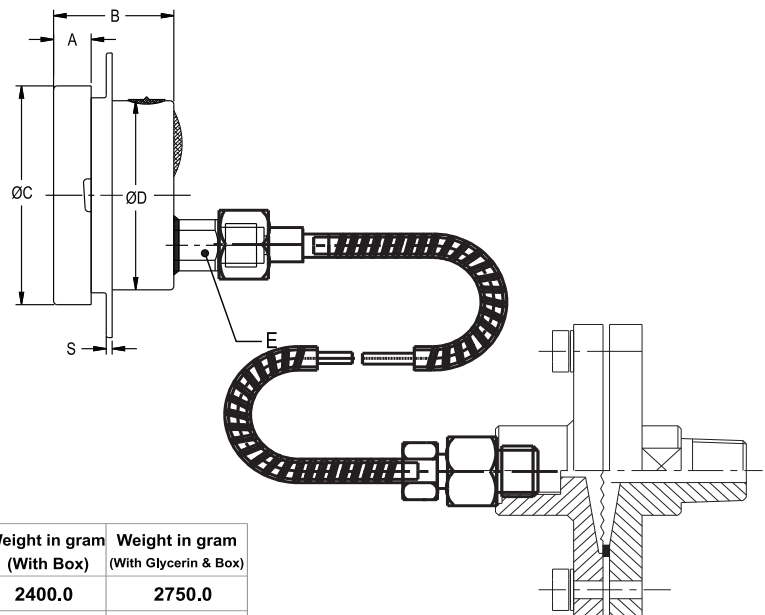
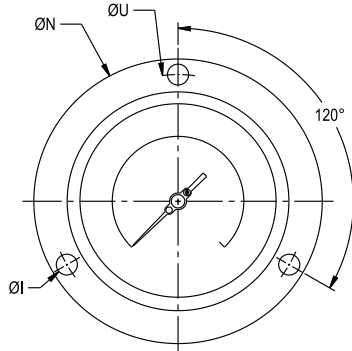
NS	A	B	ØC	ØD	E	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
100	12.5	48	111	100	22	1950.0	2300.0
125	15	48	129	119	22	2050.0	3000.0
150	15	49	161	149	22	2350.0	3500.0
200	18	49	216	200	22	3050.0	4000.0
250	18	55	263	248	22	3500.0	4500.0

TYPE 3



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.

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
* Needle valve	SP Siphon	

* Refer catalogue for Valves & Manifolds.

** For Pressure Ranges.

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

HOW TO ORDER				Example
Basic Model				DS1
Code				
Nominal Size		40	45	60
		100 mm	125 mm	150 mm
Type of Mounting				
1	Wall / surface / projection mounting with bottom entry	3	Direct lower back entry	X
2	Direct bottom entry	5	Lower back entry with front flange	
Process Connection				
2BF ¼" BSP (F)	2NF ¼" NPT (F)	2NM ¼" NPT (M)	2BM ¼" BSP (M)	XXX
3BF 3/8" BSP (F)	4NF ½" NPT (F)	4NM ½" NPT (M)	3BM 3/8" BSP (M)	
4BF ½" BSP (F)	5NF ¾" NPT (F)	5NM ¾" NPT (M)	4BM ½" BSP (M) (Standard)	
				5BM ¾" BSP (M)
Standard Option for Sealed Unit				
IF Any Other MOC Required Use Options given on Next Page & DO NOT USE THIS OPTION "STD" In Model Coding				STD
Top Chamber : SS 304, Diaphragm : SS 316L, Bottom Chamber : SS 316, Gasket : PTFE				
Range : Refer range table				0/10 kg/cm ²

How To Order		OPTIONAL ONLY IF REQUIRED						Example
Top Chamber								
SL AISI 316L SS	S6 AISI 316 SS	TI Titanium						XX
Diaphragm								
HC Hastelloy 'C'	TN Tantalum	TI Titanium						XX
MO MONEL	IN Inconel 600	SI Silver (Range up to 21 kg/cm ²)						
Sealing Gasket								
MT Metal							XX	
Bottom Chamber (* Refer Pressure v/s Temperature table below.)								
SL AISI 316L SS	PV PVC*	MOC OF BOTTOM CHAMBER	PRESSURE V/S TEMPERATURE					XX
TI TITANIUM	PD PVDF*		20 °C	40 °C	60 °C	80 °C	100 °C	
MO MONEL	PP Polypropelene*	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
HC Hastelloy 'C'		PP	10 kg/cm ²	10 kg/cm ²	6 kg/cm ²	4 kg/cm ²	1 kg/cm ²	NA
TN Tantalum		PVC	10 kg/cm ²	10 kg/cm ²	4 kg/cm ²	1 kg/cm ²	NA	NA
Protection On Wetted Parts (*With bore diameter 10 mm minimum & for connection size ½" & above only)								
PL PTFE Lining On Bottom Chamber - 2 mm THICK (Max. Up to 150°C) (Diaphragm PTFE Coated is Standard)							XX	
PT PTFE Protection For Only Diaphragm (Max. Up to 150°C) (Suitable for Pressure Ranges only)								
PC PTFE Coating On Diaphragm (Max. Up to 315°C)								
BC PTFE Coating On Bottom Chamber & Diaphragm (Max. Up to 315°C)								
Filling Fluids (* Consult factory for specifications, price and delivery.)								
FG Food Grade OIL [-20 to 140°C]	SY Syltherm 800 [-40 to 315°C]							XX
S2 Silicon DC 550 [10 to 400°C]								
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)						XXX
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						
PLG Plexi glass	STP SS tag plate	CBS AISI 316 SS case & bezel						
STG Shatterproof/safety glass	TND Tag No. marking on Dial	MOS AISI 316 SS movement						
MDJ Movement with dampening jelly	HLT Helium leak test	DFG Dry But Fillable Version (Glycerin)						
KEP Knife edge pointer	CNS Conformity as per NACE Standard	DFS Dry But Fillable Version (Silicon)						
	PED CE marking (as per PED 97/23/EC)◆							

* Gasket & Filling plug of Viton.

**Integral dampening screw will be in monel if ordered. Refer option MBS.

***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: DS1 - XX - X - XXX - STD- 0/10 kg/cm² + Options if any Required.

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.