

DS2

All SS Diaphragm Sealed Pressure Gauge
With Direct Flange Insert Type



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) or AISI 316L SS if NACE Option Select
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

Seal type & Range	: -1 to 0 kg/cm² & 0 to 70 kg/cm²
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	: Toughened Glass
Other Features	: Refer Specification of Standard Version

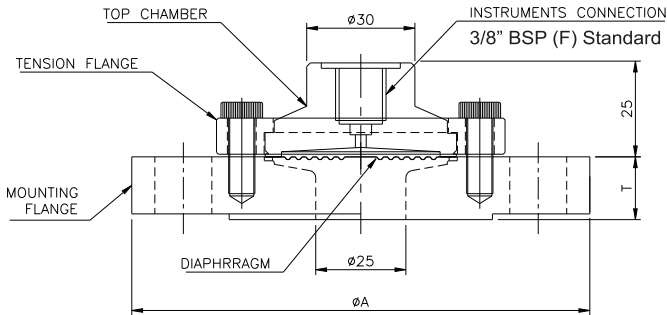
Glycerine Filled Version (Option LFG)

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

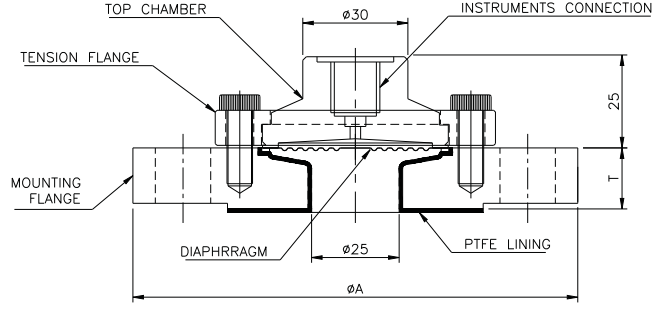
Temperature effect:

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 - Flanged Seal Type



WITHOUT PTFE LINED

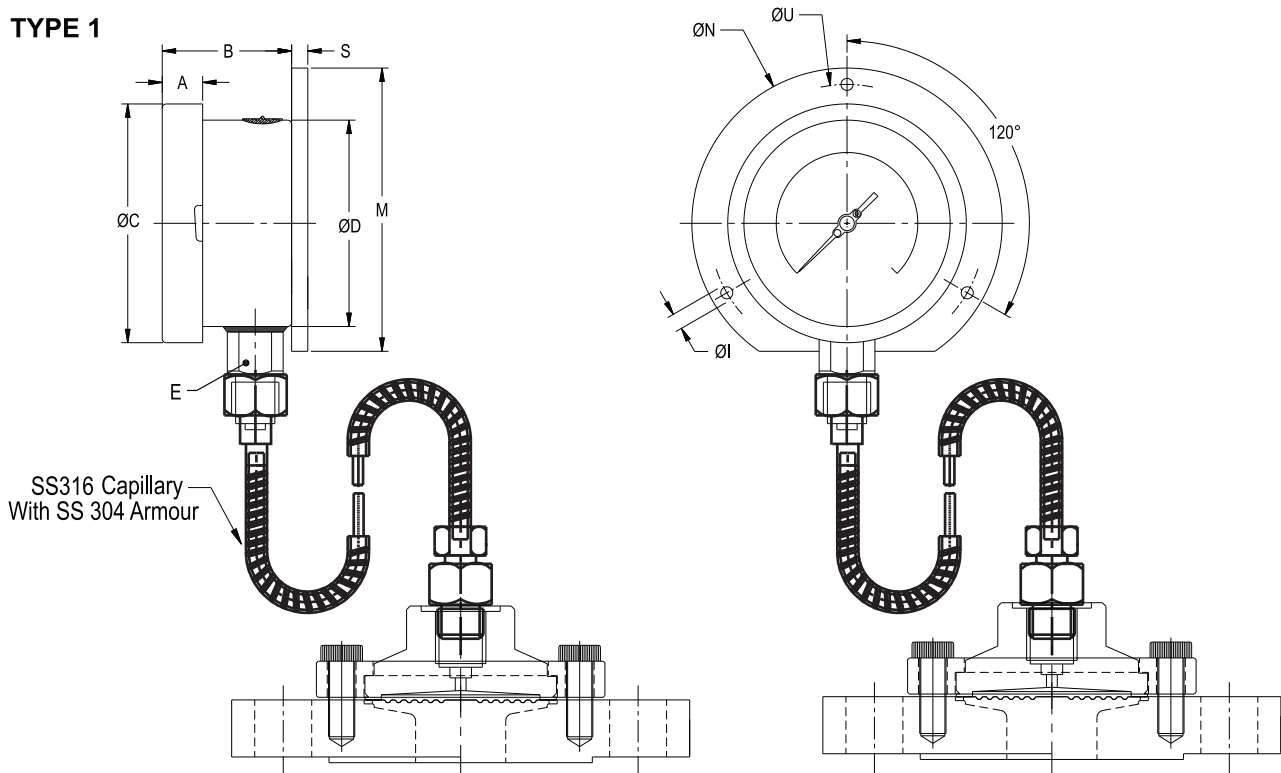


PTFE LINED

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

Dimensions - Standard Version

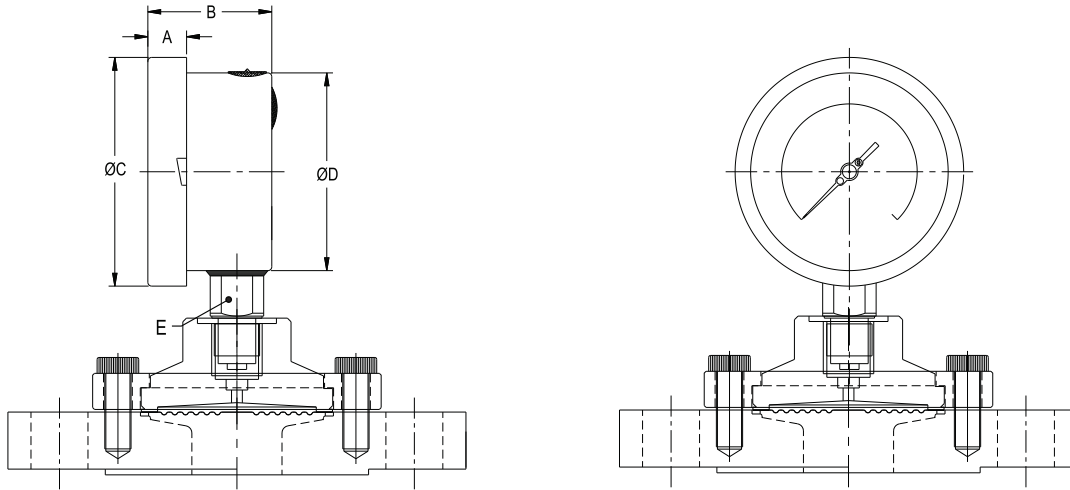
TYPE 1



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

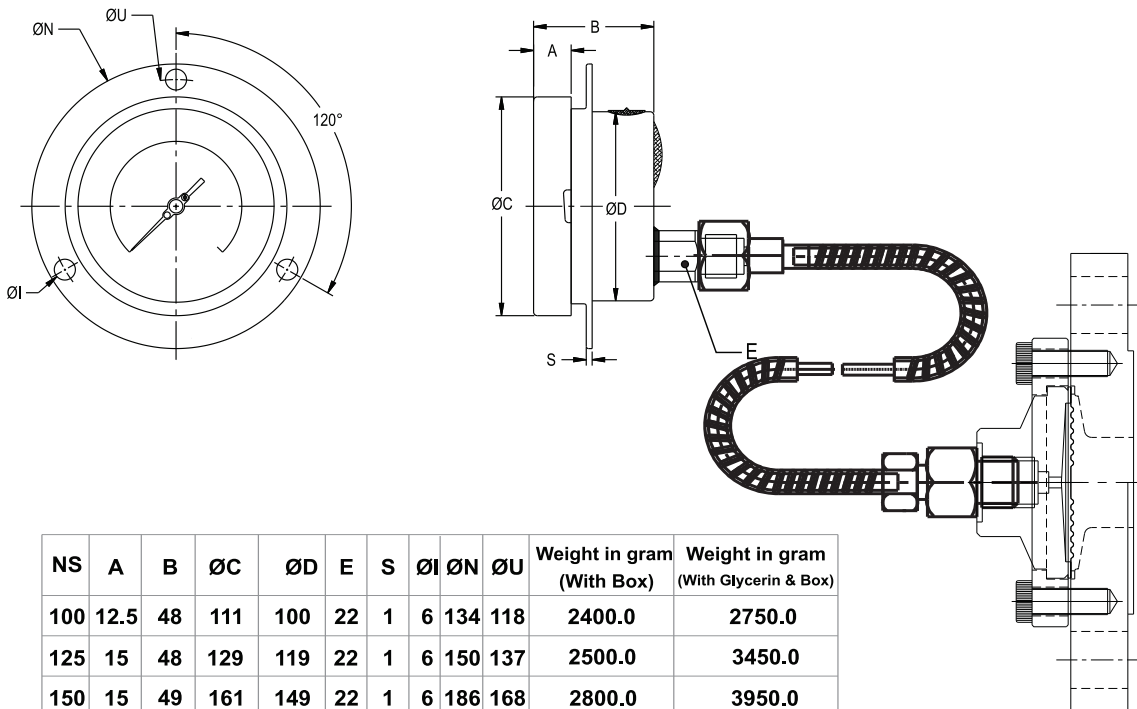
Dimensions - standard version

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 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	
10	6	A01	
	10	A02	
	16	A03	
	25	A04	
	40	A05	
	64	A06	
	100	A07	
	160	A08	
	250	A09	
	400	A10	
15	6	A11	
	10	A12	
	16	A13	
	25	A14	
	40	A15	
	64	A16	
	100	A17	
	160	A18	
	250	A19	
	400	A20	
20	6	A21	
	10	A22	
	16	A23	
	25	A24	
	40	A25	
25	6	A26	
	10	A27	
	16	A28	
	25	A29	
	40	A30	
	64	A31	
	100	A32	
160	A33		
250	A34		
400	A35		
32	6	A36	
	10	A37	
	16	A38	
	25	A39	
	40	A40	
	40	6	A41
		10	A42
		16	A43
		25	A44
		40	A45
64		A46	
100		A47	
160		A48	
250		A49	
400		A50	
50	6	A51	
	10	A52	
	16	A53	
	25	A54	
	40	A55	
	64	A56	
	100	A57	
	160	A58	
	250	A59	
	400	A60	

DN	PN	CODE
65	6	A61
	10	A62
	16	A63
	25	A64
	40	A65
	64	A66
	100	A67
	160	A68
	250	A69
	400	A70
80	6	A71
	10	A72
	16	A73
	25	A74
	40	A75
	64	A76
	100	A77
	160	A78
	250	A79
	400	A80

AS PER JIS - B 2210

NOMINAL SIZE	RATING /CLASS	CODE
10A	5K	B57
	10K	B58
	40K	B59
15A	5K	B60
	10K	B61
	40K	B62
20A	5K	B63
	10K	B64
	40K	B65
25A	5K	B66
	10K	B67
	40K	B68
	5K	B69
32A	10K	B70
	40K	B71
	5K	B72
40A	10K	B73
	40K	B74
	5K	B75
50A	10K	B76
	40K	B77
	5K	B78
65A	10K	B79
	40K	B80
	5K	B81
80A	10K	B82
	40K	B83

AS PER DIN 2642

DN	PN	CODE
10	10	A90
		A91
		A92
		A93
		A94
		A95
		A96
		A97
		A98

AS PER DIN 2633

DN	PN	CODE
10	16	A81
		A82
		A83
		A84
		A85
		A86
		A87
		A88
		A89

AS PER DIN 2635

DN	PN	CODE
10	40	A99
		B01
		B02
		B03
		B04
		B05
		B06
		B07
		B08

AS PER ANSI B 16.5

NOMINAL SIZE	RATING/ CLASS	CODE
1/2"	150	B09
	300	B10
	600	B11
	900	B12
	1500	B13
	2500	B14
3/4"	150	B15
	300	B16
	600	B17
	900	B18
	1500	B19
	2500	B20

NOMINAL SIZE	RATING /CLASS	CODE
1"	150	B21
	300	B22
	600	B23
	900	B24
	1500	B25
1 1/4"	2500	B26
	150	B27
	300	B28
	600	B29
	900	B30
1 1/2"	1500	B31
	2500	B32

NOMINAL SIZE	RATING /CLASS	CODE
1 1/2"	150	B33
	300	B34
	600	B35
	900	B36
	1500	B37
	2500	B38
2"	150	B39
	300	B40
	600	B41
	900	B42
	1500	B43
	2500	B44

NOMINAL SIZE	RATING /CLASS	CODE
2 1/2"	150	B45
	300	B46
	600	B47
	900	B48
	1500	B49
	2500	B50
3"	150	B51
	300	B52
	600	B53
	900	B54
	1500	B55
	2500	B56

AS PER BS - 10

NOMINAL SIZE	TABLE	CODE
1/2"	D	B84
	E	B85
	F	B86
	H	B87
	J	B88
	K	B89
3/4"	D	B90
	E	B91
	F	B92
	H	B93
	J	B94
	K	B95

NOMINAL SIZE	TABLE	CODE
1"	D	B96
	E	B97
	F	B98
	H	B99
	J	C01
	K	C02
1 1/4"	D	C03
	E	C04
	F	C05
	H	C06
	J	C07
	K	C08

NOMINAL SIZE	TABLE	CODE
1 1/2"	D	C09
	E	C10
	F	C11
	H	C12
	J	C13
	K	C14
2"	D	C15
	E	C16
	F	C17
	H	C18
	J	C19
	K	C20

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
0/1	0/6	0/40
0/1.6	0/10	0/60
0/2.5	0/16	

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		
0/30	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				
0/230	0/16				
0/300	0/20				

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

Code

DS2

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	

Process Connection

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

XXX

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, Flange : SS 316, Gasket : PTFE, Filling Fluid : Silicon DC 200

Range

Refer range table

0/10₂
kg/cm²

How To Order		OPTIONAL ONLY IF REQUIRED				Example				
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								
Sealing Gasket										
TF PTFE (Standard)	MT Metal					XX				
Flange Material (Refer Pressure v/s Temperature table below.)										
S4 AISI 304 SS	HC Hastelloy 'C'	MOC OF BOTTOM CHAMBER	PRESSURE V/S TEMPERATURE				XX			
S6 AISI 316 SS (Standard)	TN Tantalum		20 °C	40 °C	60 °C	80 °C		100 °C	120 °C	
SL AISI 316L SS	PV PVC*		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
TI TITANIUM	PD PVDF*		PP	10 kg/cm ²	10 kg/cm ²	6 kg/cm ²		4 kg/cm ²	1 kg/cm ²	NA
MO MONEL	PP Polypropylene*	PVC	10 kg/cm ²	10 kg/cm ²	4 kg/cm ²	1 kg/cm ²	NA	NA		
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)						XX				
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)										
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]					XX				
FG Food Grade OIL [-20 to 140°C]	SY Syltherm 800 [-40 to 315°C]									
S2 Silicon DC 704 [10 to 337°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.										
***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/cm ² 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 - 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.