

SPECIAL FEATURES

- STAINLESS STEEL CASE & MEASURING SYSTEM
- FULL BOURDON TUBE SIZE
- SOCKET WELDED DIRECTLY TO CASE
- PROTECTION IP 65 / IP 66 / IP 67
- DRY OR FILLABLE VERSION
- STANDARD FOLLOWED IN GENERAL EN 837-1

APPLICATIONS

For: CHEMICAL, PETROCHEMICAL PHARMACEUTICAL,
FOOD & BEVERAGE, POWER STATION
PLANTS, PUMPS, PRESSES, COMPRESSORS, TURBINES
DIESEL ENGINES, REFRIGERATING PLANTS, & PROCESSING INDUSTRIES.



SPECIFICATIONS

STANDARD VERSION : 40 mm, 50 mm, 63 mm, 100 mm & 150 mm

Accuracy	: ± 0.5, 1.0% of F.S. for NS 100 mm & 150 mm
	: ± 1.6% of F.S. for NS 63 mm
Ambient temperature	: - 25°C to + 65°C
Process temperature	: Max 300°C
Operating pressure	: 90% of Scale Value
Over pressure limit	: < 100 bar: 125% of F.S
	: OPTION: 50%, 150%, 400% of F.S

Case & Bezel	: AISI 304, 316 (BAYONET TYPE)
Bourdon	: AISI 316L
Socket	: AISI 316L (Directly Welded to Case)
Movement	: AISI 304, 316
Joints	: Tig Argon Arc Welding

Protection	: IP 65, IP 66, IP 67
Dial	: Aluminum, black graduation on white background
Pointer	: Aluminum, black colored Micrometer zero adjustable
Window	: Safety Glass
Blow of Disc	: Neoprene
Gasket	: Neoprene



DRY BUT FILLABLE VERSION (OPTION FG)

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

GLYCERINE FILLED VERSION (OPTION PY)

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

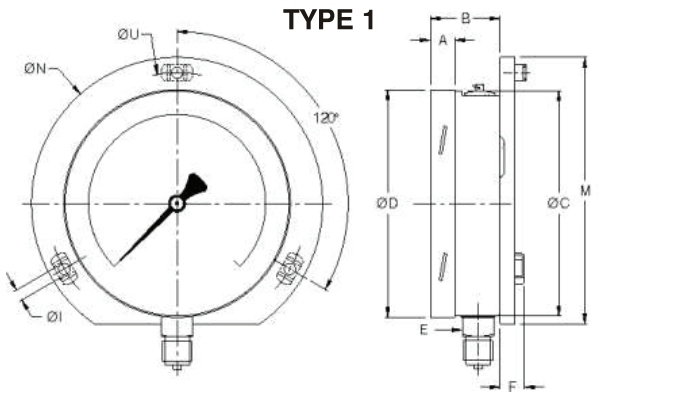
Temperature effect:

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 :

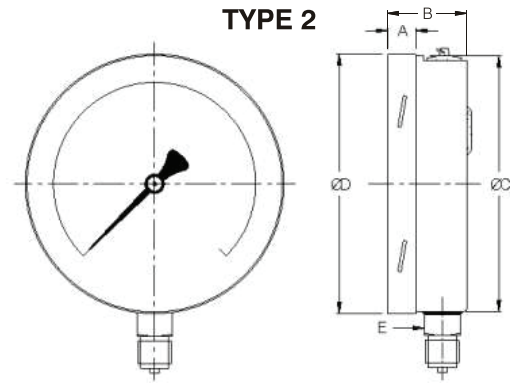
Formula : $\pm 0.04 \times (t_2 - t_1) \% \text{ of F.S.}$

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

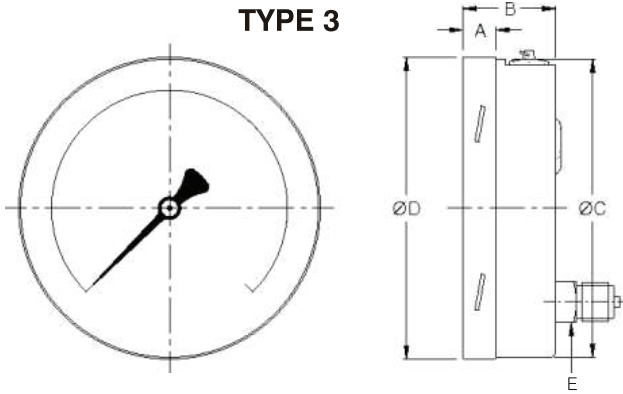
DIMENSIONS - STANDARD VERSION



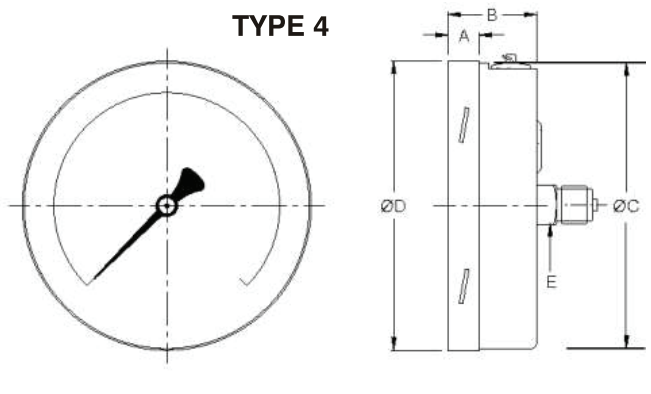
NS	A	B	ØC	ØD	E	F	ØI	ØN	ØU	M	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
63	12	32	61.7	64	14	10	3.6	86	75	80	260.0	370.0
100	17.5	49	99	101	22	15	4.8	132	116	126	645.0	885.0
150	17.5	51.5	159	162	22	15	5.8	196	178	188	1280.0	1920.0



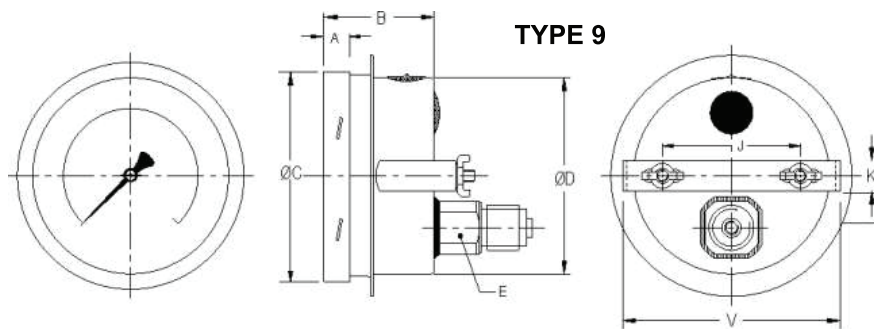
NS	A	B	ØC	ØD	E	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
63	12	32	61.7	64	14	200.0	310.0
100	17.5	49	99	101	22	560.0	800.0
150	17.5	51.5	159	162	22	1100.0	1740.0



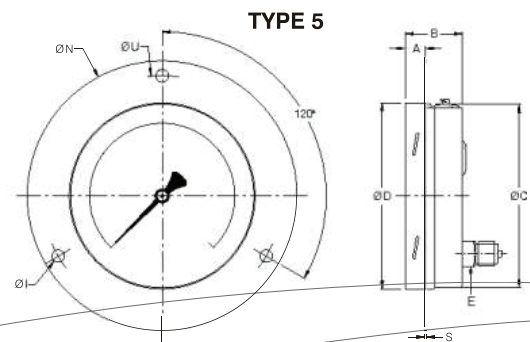
NS	A	B	ØC	ØD	E	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
63	12	32	61.7	64	14	200.0	310.0
100	17.5	49	99	101	22	550.0	790.0
150	17.5	51.5	159	162	22	1060.0	1700.0



NS	A	B	ØC	ØD	E	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
63	12	32	61.7	64	14	200.0	310.0
100	17.5	49	99	101	22	550.0	790.0
150	17.5	51.5	159	162	22	1060.0	1170.0



NS	A	B	ØC	ØD	E	J	K	V	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
63	12	32	61.7	64	14	46.5	15	74	280.0	390.0
100	12.5	49	101	99	22	72	16	108	750.0	990.0
150	17.5	51.5	162	159	22	106.5	16	166	1220.0	1860.0



NS	A	B	ØC	ØD	E	ØI	ØN	ØU	S	Weight in gram (With Box)	Weight in gram (With Glycerin & Box)
63	12	32	61.7	64	14	3.6	86	75	1	250.0	360.0
100	17.5	49	99	101	22	4.8	132	116	1	630.0	870.0
150	17.5	51.5	159	162	22	5.8	196	178	1	1180.0	1820.0

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 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/cm ² or bar)				
0/0.6	0/4	0/25	0/160	0/1000
0/1	0/6	0/40	0/250	0/1600
0/1.6	0/10	0/60	0/400	0/2100
0/2.5	0/16	0/100	0/600	

DUAL SCALE (psi with kg/cm ²) or psi with bar					
psi	kg/cm ²	psi	kg/cm ²	psi	kg/cm ²
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
0/220	0/16	0/2200	0/160	0/22000	0/1600 *
0/300	0/20	0/3000	0/200	0/30000	0/2000 *

(* For NS 100 mm & 150 mm)

VACUUM & COMPOUND

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

DUAL SCALE (inHg with psi & mmHg with kg/cm ²)					
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	- 760/3	- 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

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 ² or 3 - 15 psi	0.2 - 1 kg/cm ² or 3 - 15 psi
(0-100% linear scale)	(0.2 - 1 kg/cm ²)

FREON (WITH TEMPERATURE SCALE)

Note : For temperature scales, please provide refrigerant name.

AMMONIA (WITH TEMPERATURE SCALE)

RANGE (psi)		(kg/cm ²)	(psi)
-30 inHg - 150	0-300	-1 to 12.5	-30 inHg - 150
-30 inHg - 300	0-500	-1 to 16	-30 inHg - 300
		-1 to 25	0 ~ 300

ACCESSORIES (Refer Datasheet for complete specifications)

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

* Refer catalogue for Valves & Manifolds

** For Pressure Ranges.



HOW TO ORDER MP-323 - N - X/XX - YYY - R - ZZ

BASIC MODEL

CODE

323

NOMINAL SIZE

A	B	D	F	H
40 mm	50 mm	63 mm	100 mm	150 mm

N

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
- 5 LOWER BACK ENTRY WITH FRONT FLANGE
- 9 BACK ENTRY WITH MOUNTING BRACKET

X

GAUGE CONNECTION (# Applicable for NS 63 mm)

2BM 1/4" BSP (M) STANDARD #	2NM 1/4 " NPT (M) STANDARD #	4TM 1/2" BSPT (M) *
3BM 3/8" BSP (M) STANDARD *	4NM 1/2" NPT (M) STANDARD *	4MM M20 x 1.5 (M) *
4BM 1/2" BSP (M) STANDARD *		

YYY

* These connections will be provided through adaptors for NS 63 mm. Consult factory for minimum order quantity, price & delivery.

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

RANGE

REFER RANGE TABLE

R

OPTIONAL EXTRAS

OA ACCURACY $\pm 0.5\%$ OF F. S. (FOR DRY VERSION)	SX SS TAG PLATE
TI MONEL BOURDON & SOCKET (MONEL VERSION) **#	SW DIAL TAG MARKING #
FL INTEGRAL DAMPENING SCREW (MONEL) **	TB HELIUM LEAK TEST
FS FILLABLE LIQUID SILICON OIL *	TF TESTED TO NACE STANDARDS
FG FILLABLE LIQUID GLYCERINE	PW FIVE POINT FACTORY CALIBRATION CERTIFICATE
PZ DAMPENING LIQUID MINERAL LIQUID FILLED	SG OXYGEN SERVICE (DRY VERSION)
PX DAMPENING LIQUID FLOUROLUBE FILLED	RH CUSTOM DESIGNED DIAL
PY DAMPENING LIQUID GLYCERINE FILLED	QB INTEGRAL DAMPENING SCREW (AISI 316 SS)
QA DAMPENING LIQUID SILICON OIL FILLED *	SA INTERNAL OVERPRESSURE STOP
RR ENCLOSURE PROTECTION IP 66	SB INTERNAL VACUUM STOP
RE ENCLOSURE PROTECTION IP 67	ZB RECEIVER RANGE
RZ TOUGHENED GLASS	ZC FREON RANGE (WITH TEMPERATURE SCALE)
SF MOVEMENT WITH DAMPENING JELLY	ZD AMMONIA RANGE (WITH TEMPERATURE SCALE)
SJ MAXIMUM READING POINTER WITH PLEXI GLASS (FOR DRY VERSION)	CK EPOXY PAINTED CASE & BEZEL
ZL OVER RANGE PROTECTION 150% of F.S	ZM ELECTRO POLISHED CASE & BEZEL
OP OVER RANGE PROTECTION 400% of F.S	KA ON - OFF TYPE VENT PLUG
SL POINTER SLOTTED ZERO ADJUSTABLE	GH MATERIAL TEST CERTIFICATES ***
AI MAGNETIC ALARM CONTACT	PU CALIBRATION CERTIFICATE TRACEABLE TO INTERNATIONAL STANDARDS
AM INDUCTIVE ALARM CONTACT	SM S.S 316 MOVEMENT
SS CASE AND RING S.S 316 MADE	

ZZ

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

** INTEGRAL DEMPENING SCREW WILL BE IN ONEL IF ORDERED, REFER OPTION FL.

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

Ordering Example: MP-323 - F - 3 - 3BM - 0/10 - BAR - OA

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.

8 Hagavish st., P.O.B. 1951 Holon 58117, Israel

Tel. 972-3-6508585 Fax. 972-3-6508586

Email: info@michshur.com www.michshur.com



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