

- Bimetal Thermometers
- Gas/Liquid Expansion Thermometers
- Electric Contact Thermometer
- Bourden Tube Pressure Gauges
- Sealed Diaphragm Pressure Gauges
- Compact Sealed Diaphragm Pressure Gauges
- Schaffer Diaphragm Pressure Gauges
- Capsule Diaphragm Pressure Gauges
- Master Gauge
- Homogenizer Gauge
- Mud Pressure Gauge
- Electric Contact Pressure Gauges

Temperature & Pressure Gauges



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INSTRUMENTS

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BMT - (BIMETALLIC THERMOMETER)



Technical Specifications

Dial Size	: 63 / 100 / 150 mm
Range	: -40°C...400°C
Reference Standard	: EN13190 / IS13211 / ASME B40.3
Sensing Elements	: Bi-Metal Helix
Stem Length	: As per customer requirement (Refer Table-2 for minimum stem length)
Stem Diameter	: 6, 8, 10, 12 mm
Connection	: 1/4", 3/8", 1/2" BSP/NPT (M) adjustable throughout stem length
Mounting	: Lower(Bottom), Back, Every angle
Case & Bezel	: SS304 with bayonet bezel
Stem	: SS316
Window	: Shatterproof / Safety Glass, Toughened glass,
Pointer	: Aluminum
Dial	: Aluminum, Black graduation on white background
Protection class	: IP55/IP65

The temperature is measured with a bimetal system inside the thermometer stem. The bimetal system consists of two metal strips bonded together that have different thermal expansion coefficients. Therefore, one strip will expand faster than the other causing the bimetal strip to curl in proportion to its temperature.

The bimetal system is helically wound and heat treated for long term stability. Temperature variations cause the bimetal strip to unwind or wind tighter, which in turn rotates the pointer.

Features

- Fast response, High repeatability, Low hysteresis
- Rugged stainless steel construction
- With or without thermowell
- Accuracy : Class 1 as per EN13190

Optional Extras

- External zero adjustment
- Scale °F, K, Dual Scale °C/°F
- Over range protection 130% FSD

Applications

- Water & Steam industries, Boiler, Gas & wood fire equipments
- Wine Industries

GET/LET - (GAS/LIQUID EXPANSION THERMOMETER)



Technical Specifications

Dial Size	: 100 / 150 mm
Range	: -40°C...600°C
Reference Standard	: EN13190/IS13211
Sensing Elements	: Gas/Mercury-in-Steel
Stem Length	: As per customer requirement (Refer Table-2 for minimum stem length)
Stem Diameter	: 6, 8, 10, 12 mm
Connection	: 1/4", 3/8", 1/2" BSP/NPT (M) adjustable throughout stem length
Mounting	: Lower(Bottom), Back, Back Panel, Bottom Surface Mount, Back Bracket
Case & Bezel	: SS304, With bayonet bezel
Movement	: SS304
Stem	: SS316
Capillary	: SS316
Capillary Length	: As per customer requirement
Capillary Diameter	: Min. 6 mm
Window	: Shatterproof / Safety Glass, Toughened glass, Acrylic
Pointer	: Aluminum
Dial	: Aluminum, Black graduation on White background
Protection Class	: IP55/IP65

A gas expansion thermometer is made of a cylindrical bulb filled with inert gas & uses the volume expansion of gases at temperature changes. Gas pressure changes inside the bulb due to temperature changes, are sensed by a special helicoil bourdon tube, which, connected to an amplifying device will give the pointer, movement proportional to the temperature.

The physical properties used will enable linear readings on the dial from the origin to full scale. When the reading is remote from the sensing point, a capillary is then used for transmission between the bulb and the thermometer head. Capillary armoring is common practice in industrial environments.

Features

- Use of inert gas
- Rigid stem or capillary type
- Rugged stainless steel construction
- Dry or liquid (Glycerin/Silicon Oil) filled
- With or without thermowell
- Suitable for sanitary application
- Accuracy: Class 1 as per EN13190

Optional Extras

- External zero adjustment
- Scale °F, K, Dual Scale °C/°F
- Capillary SS Armored
- Capillary SS Armored with PVC Coverage
- Over range protection 130% FSD

Applications

- Process and Petrochemical Industries
- Machine & apparatus construction
- Food & Beverage Industries

TEMPERATURE GAUGE ORDERING CODE



Type

BMT - (Bi Metallic Thermometer)
 GET - (Gas Expansion Thermometer)
 LET - (Liquid Expansion Thermometer)

Connection Orientation

L - (Lower)
 B - (Back)
 E - (Every angle)

Size

063 - (63mm)
 100 - (100mm)
 150 - (150mm)

Range

-40/60	-20/40	0/250
-40/40	0/60	0/300
-30/70	0/80	0/400
-30/50	0/100	0/500
-30/30	0/120	0/600
-20/120	0/160	
-20/60	0/200	

Measuring Unit

C - (Degree Celsius)
 F - (Degree Fahrenheit)

Stem Diameter

06 (6mm)	10 (10mm)
08 (8mm)	12 (12mm)

Optional Extras

EZ (External Zero Adjustment)
 GC (Dampening liquid glycerin filled)
 SO (Dampening liquid silicon oil filled)
 DS (Dual Scale)
 OS (316SS Case & bezel)
 EC (Electric contacts)

Process Connection

1/4" (BSP/NPT) M/F
 3/8" (BSP/NPT) M/F
 1/2" (BSP/NPT) M/F

Process Connection Type

Ad - (Adjustable)
 Fx - (Fixed)

Capillary Length

N - (Not required)
 S - (Capillary SS armored)
 P - (Capillary SS armored with PVC covering)
 Capillary length 1 meter to 20 meter

Stem Length

65 to 600
 (For minimum length refer Table-2)

Example

BMT-B-100-0/200-C-08-150-N-Fx-1/2" NPT M-SO

GET-L-100-0/500-C-08-500-S4-Ad1/2" NPT M-SO/EC

Table - 1

Nominal Range, Measuring Ranges & Limits of Error as per EN 13190

Nominal Range (°C)	Scale Spacing (°C)	Measuring Range (°C)	Limits of Error (°C)
-40 to +60	1°C	-30 to +50	1
-40 to +40	1°C	-30 to +30	1
-30 to +70	1°C	-20 to +60	1
-30 to +50	1°C	-20 to +40	1
-30 to +30	1°C	-20 to +20	1
-20 to +120	2°C	-10 to +110	2
-20 to +60	1°C	-10 to +50	1
-20 to +40	1°C	-10 to +30	1
0 to 60	1°C	10 to 50	1
0 to 80	1°C	10 to 70	1
0 to 100	1°C	10 to 90	1
0 to 120	2°C	10 to 110	2
0 to 160	2°C	20 to 140	2
0 to 200	2°C	20 to 180	2
0 to 250	5°C	30 to 220	2.5
0 to 300	5°C	30 to 270	5
0 to 400	5°C	50 to 350	5
0 to 500	5°C	50 to 450	5
0 to 600	10°C	100 to 500	10

Table - 2

Range, Stem Outer Dia & Stem Length Selection Table

This table indicates the minimum and maximum stem lengths per stem diameter per range. Lower values indicated the minimum immersion length selection. (Required stem length out of this table-Consult with us)

Nominal Range (°C)	Stem Length for $\phi S = 6mm$		Stem Length for $\phi S = 8,10mm$		Stem Length for $\phi S = 12mm$	
	Min.	Max.	Min.	Max.	Min.	Max.
-40 to +60	90	600	80	600	80	600
-40 to +40	100	600	80	600	80	600
-30 to +70	90	600	65	600	65	600
-30 to +50	100	600	80	600	80	600
-30 to +30	120	600	100	600	100	600
-20 to +120	65	600	65	600	65	600
-20 to +60	100	600	80	600	80	600
-20 to +40	120	600	100	600	100	600
0 to 60	120	600	100	600	100	600
0 to 80	100	600	80	600	80	600
0 to 100	65	600	65	600	65	600
0 to 120	65	600	65	600	65	600
0 to 160	65	600	65	600	65	600
0 to 200	65	600	65	600	65	600
0 to 250	65	600	65	600	65	600
0 to 300	65	600	65	600	65	600
0 to 400	65	600	65	600	65	600
0 to 600	65	600	65	600	65	600

PB1 - (UTILITY PRESSURE GAUGE)

BOURDEN GAUGES



Technical Specifications

Dial Size	: 40 / 50 / 63 / 80 / 100 / 150 / 250 mm
Range	: Vacuum, Compound, 0....1Kg/cm ² to 0....1000 Kg/cm ²
Ambient Temperature	: -40 to 80 °C
Standard	: IS:3624, EN 837
Configuration	: Bourdon Tube
Shape of Bourdon	: 'C' Type / Helix Type
Connection	: 1/8", 1/4", 3/8". 1/2" BSP/NPT (M/F)
Mounting	: Bottom / Back direct, Bottom Surface, Back Panel, Back Bracket Mounting
Joint	: Soldering
Case & Bezel	: Drawn Steel Black Coated
Movement	: Brass
Bourdon	: Brass
Socket	: Brass
Window	: Shatterproof / Safety Glass, Toughened glass, Acrylic
Pointer	: Aluminum
Dial	: Aluminum, Black Graduation on White background

Features

- Accuracy : ±1.6% FSD
- Over-range Protection : 130% FSD
- Ingress Protection : IP55, IP65 (filled)

Optional Extras

- Ranges in other Units like Kpa, Mpa, PSI, MWC
- Dampening Liquid Glycerin/Silicon Oil filled
- Special dial design
- NACE & IBR Certifications

Applications

- Machine & apparatus construction
- Water, air & gas, OEM low cost

PB2 - (INDUSTRIAL HEAVY DUTY PRESSURE GAUGE)



Technical Specifications

Dial Size	: 40 / 50 / 63 / 80 / 100 / 150 / 250 mm
Range	: Vacuum, Compound, 0....1 Kg/cm ² to 0....1500 Kg/cm ²
Ambient Temperature	: -40 to 300 °C
Standard	: IS3624, EN 837
Configuration	: Bourdon Tube
Shape of Bourdon	: 'C' Type / Helix Type
Connection	: 1/8", 1/4", 3/8". 1/2" BSP/NPT (M/F)
Mounting	: Bottom / Back direct, Bottom Surface, Back Panel, Back Bracket Mounting
Dampening Liquid	: Glycerin/ Silicon Oil
Joint	: Argon Arc Welded/tig welded
Case & Bezel	: AISI SS304, Self Color Finish
Movement	: AISI SS304
Bourdon	: AISI SS316
Socket	: AISI SS316
Window	: Shatterproof / Safety Glass, Toughened glass, Acrylic
Pointer	: Aluminum Black Colored Micrometer zero adjustable
Dial	: Aluminum, Black Graduation on White background
Blow off Disc	: Neoprene

Features

- Accuracy : ±1.6% FSD
- Over-range Protection : 130% FSD
- Ingress Protection : IP55, IP65 (filled)

Optional Extras

- Ranges in other Units like Kpa, Mpa, PSI, MWC
- Dampening Liquid Glycerin/Silicon Oil filled
- Special dial design
- NACE & IBR Certifications
- PTFE Coating

Applications

- Machine & apparatus construction
- Chemical & petrochemical industries
- Food stuff & beverage industries
- Plastics & paper industries

PD SERIES - (DIAPHRAGM TYPE PRESSURE GAUGES)



Technical Specifications

Dial Size	: 100/150 mm
Range	: Vacuum, Compound, 0...1 Kg/cm ² to 0...14 Kg/cm ² , 0...500mmWC to 0...10000mmWC
Standard	: IS3624, EN837
Configuration	: Sealed Diaphragm, Compact Sealed Diaphragm, Schaffer Diaphragm, Cap-sule Diaphragm
Optional	: PTFE/Teflon coating / lining
Connection	: 1/4", 3/8", 1/2" BSP/NPT (M/F), Flanged
Mounting	: Bottom/Back Direct/Flanged, Triclover clamp
Joint	: Argon Arc Welded
Case & Bezel	: AISI SS304, Self Color Finish
Movement	: AISI SS304
Diaphragm	: AISI SS316
Socket	: AISI SS316
Window	: Shatterproof / Safety Glass, Toughened glass, Acrylic
Pointer	: Aluminum Black Colored Micrometer zero adjustable
Dial	: Aluminum, Black graduation on White background
Blow off Disc	: Neoprene

Features

- Ambient Temperature : -40 to 300°C
- Over-range Protection : upto 130% FSD
- Ingress Protection : IP55, IP65 (filled)
- Accuracy ±1.6% FSD or ±1% FSD

Optional Extras

- Ranges in other Units like Kpa, Mpa, PSI, MWC
- Dampening Liquid Glycerin/Silicon Oil filled
- Special dial design
- NACE & IBR Certification

Variants

- PD1 (Sealed Diaphragm Pressure Gauge)
- PD2 (Compact Sealed Diaphragm Pressure Gauge)
- PD3 (Schaffer Diaphragm Pressure Gauge)
- PD4 (Triclover Pressure Gauge)
- PD5 (Flanged Diaphragm Pressure Gauge)
- PD6 (Capsule Diaphragm Pressure Gauge)

Applications

- Chemical & Petrochemical Industries
- Food Stuff & Beverage Industries
- Plastic & Paper Industries
- Machine & Apparatus Industries

MA - (MASTER GAUGE)



HO - (HOMOGENIZER GAUGE)



MU - (MUD PRESSURE GAUGE)



Technical Specifications

Dial Size	: 150/250 mm
Range	: Vacuum to 1500 Kg/cm ²
Accuracy	: ±0.25%, ±0.50% FSD
Ambient Temp.	: -40 to 300 °C
Standard	: IS:3624, EN 837
Enclosure Protection	: IP55, IP65 (filled)
Configuration	: Bourdon Tube
Connection	: 1/4", 3/8", 1/2" BSP /NPT (M/F)
Mounting	: Bottom/Back Direct

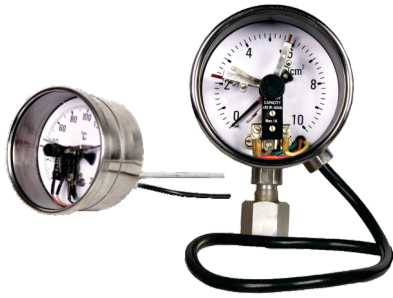
Technical Specifications

Dial Size	: 100/150 mm Range: 0...1000 Kg/cm ²
Configuration	: Diaphragm
Diaphragm	: SS316L Tig Welded Bright Finish
Pointer	: Leaded brass, black coated
Gasket	: Nitril (Food Grade) Seal
	flange: SS316
Mounting	: Direct, Square Clamp type, Tung type direct/Capillary SMS mounting

Technical Specifications

Nominal Dia	: 100/150 mm
Range	: 0... 1000 Kg/cm ²
Accuracy	: 1% FSD (1.6% in case of filled)
Construction	: Heavy duty steel construction
Connection	: 1", 3/2" and 2" BSP, API and NPT connections
Mounting	: Bottom connection direct mounting
Element	: Bourdon Tube SS 316
Wetted parts	: SS316
Case	: SS304
Bezel	: SS304

ELECTRIC CONTACT GAUGES



Technical Specifications

- Electric Contacts are available in both kind of Gauges:
 - Electric Contact Pressure Gauge
 - Electric Contact Temperature Gauge
- **Electric Contacts Available** : 1 NO, 1 NC, 1NO + 1NC, 2 NO, 2 NC, 1NO + 2NC, 2NO + 1NC
- **(NO** : Normally Open; **NC** : Normally Closed)
- **Contacts Rating** : 220 VAC/DC, 1 Amp Max **Color Codes of wire** : Green, Red and Yellow
- All the specifications same as heavy duty pressure gauge & mercury filled temperature gauge for electric contact pressure & temperature gauge respectively.

MRP GAUGE



Technical Specifications

- **MRP GAUGE** (Maximum Reading Pointer Pressure Gauge) is designed to show highest Pressure Value of measurement throughout its operation.
- All the specifications as per Heavy duty pressure gauge

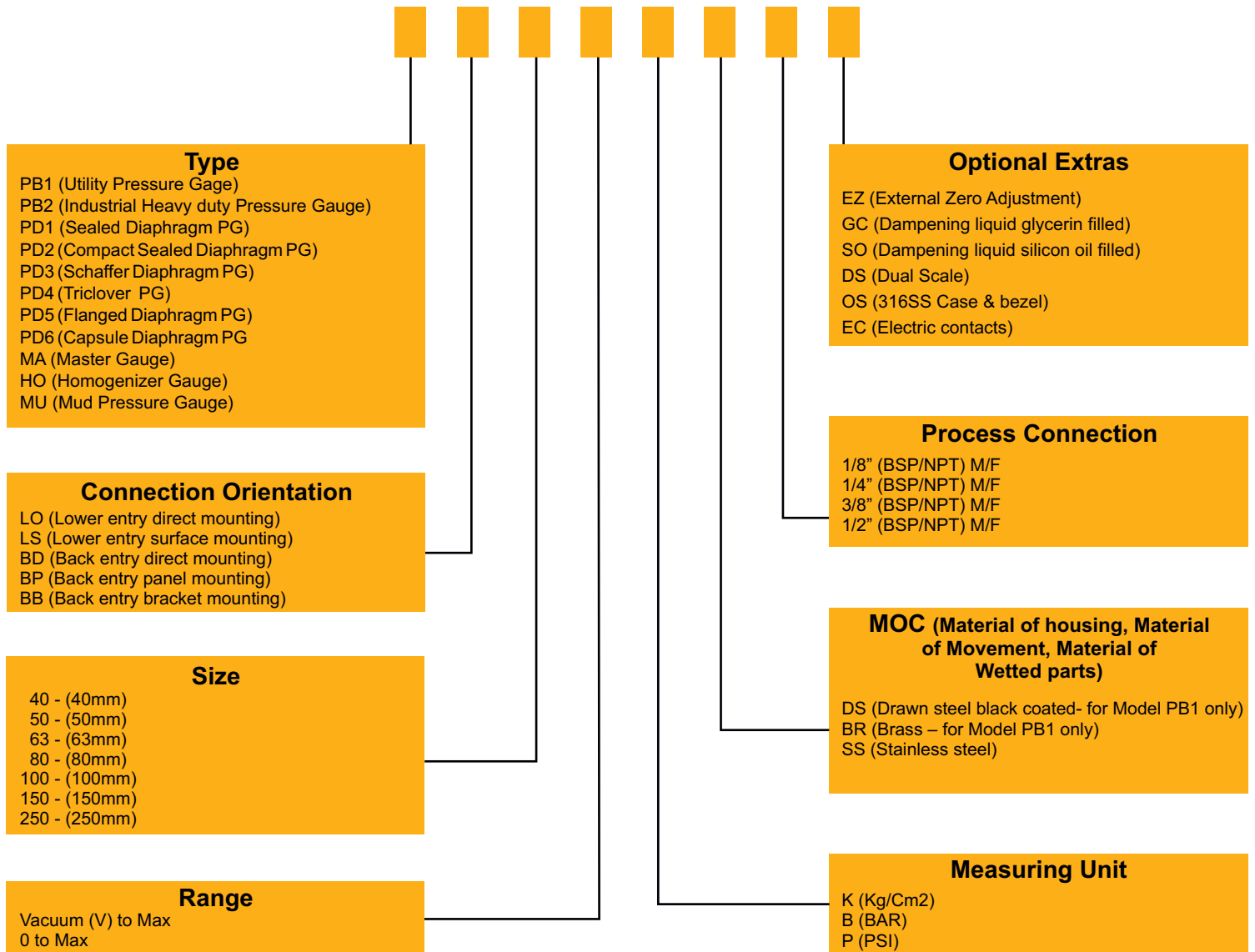
COMPARISON TEST PUMP



Technical Specifications

- Stainless Steel Construction
- An Ideal Tester to calibrate Pressure Gauges for up to 2000 Kg/cm²
- An Ideal Tester to calibrate Vacuum Pressure Gauges
- Can be used for Pneumatic and Hydraulic mediums
- Heavy Duty material construction, Low Weight and Compact Design makes it Portable Tester

PRESSURE GAUGE ORDERING CODE



Example PB1-LO-100-0/21-K-DS-1/2" NPT M-GC

NEEDLE VALUE



Technical details

Connection : Provided threads as per stranded thread and also can be provided female to female or male to male and specified thread requirement

Material : SS316, SS304 Brass (Can be provided specific requirement)

Ordering Information : Material, thread connection and type

Pressure : 0 to 25-400kg/cm² (Can be provided specific requirement)

Temperature : up to 300°C

GAUGE COCK

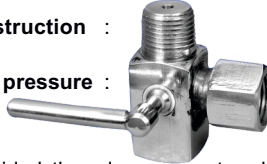
Technical details

Material of construction : SS316/304 Brass

Nominal working pressure : 210 bar

Seal : Teflon

Connection : Provided threads as per strander thread and also can be provided female to female, male to male specified requirement



Features

Both round and square models available, Teflon seals (PTFE), available in 2-way vent hole type and 3-way cock

SYPHON TUBE

Technical details

Shape : Q or U

Material : Carbon steel, SS304/316 (In 1/2" and 3/8" NB with Schedule NB & 80)



Temperature : 500°C (Subject to pressure and schedule of the pipe)

Connection : 1/2" BSP, 1/2" NPT, 3/8" BSP, M-20 x 1.5. (Can be provided specified requirement)

Pressure : up to 600 kg/cm²

SNUBBER

Technical details



Nominal pressure : 0 to 10---1000 kg/cm²

Models : SN-01, SN-02, SN-03

Model : SN-01 for 1/4" BSP, M-10 Up to M-14 mm size (Can be provided specified thread requirement)

Model : SN-02 for 3/8" BSP, 1/2"NPT, 16 up to 200 mm size(Can be provided specified thread requirement)

Model : SN-03 cnd be provided specified requirement up to 1000 kg/cm² on specified requirement

Material : SS304/316 Brass (Can be provided specified requirement)

GAUGE SAVER

Technical details



Connection : Normally 1/2"NPT or BSP process connection male and 1/2" NPT or BSP instrument connection female (can be provided according to the specified requirement), Reliable over pressure protection, Simple use

Material : Stainless steel 316 and 304, Viton seals at special request

THERMOWELL

Technical details



Connection : Standard thread and flange

Material : As per requirement

Ordering Information : SS316, SS304 and other, bar stock drilled and welded material, connection and flange

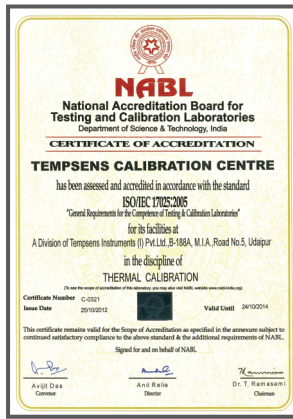
DIAPHRAGM ASSEMBLY



PRESSURE UNIT CROSS REFERENCE CHART

PSI	atms	in H ₂ O	mm H ₂ O	cm H ₂ O	oz/in ²	kg/cm ²	in Hg	mm Hg	cm Hg	mbar	bar	Pa	kPa	mPa
1	0.06805	27.68	703.1	70.31	16.00	0.0731	2.036	51.72	5.172	68.95	0.06895	6895	6.895	0.006895
14.70	1	406.8	10332	1033	23.1	1.033	29.92	760.0	76.00	1013	1.013	101325	101.3	0.1013
0.03613	0.002458	1	25.40	2.540	0.5780	0.002540	0.07356	1.868	0.1868	2.491	0.002491	249.1	0.2491	0.00025
0.001422	9.678E-05	0.03937	1	0.1000	0.02276	1.00E-04	0.002896	0.07355	0.007355	0.09806	9.806E-05	9.806	0.009806	0.000010
0.01422	0.000968	0.3937	10.00	1	0.2276	0.0010	0.02896	0.7356	0.07356	0.9807	0.0009807	98.07	0.09807	0.00010
0.0625	0.004253	1.730	43.94	4.394	1	0.004394	0.1273	3.232	0.3232	4.309	0.004309	430.9	0.4309	0.0004309
14.22	0.9678	393.7	10000	1000	227.6	1	28.96	735.6	73.56	980.7	0.9807	980.66	98.07	0.098066
0.49115	0.03342	13.59	345.3	34.53	7.858	0.03453	1	25.40	2.540	33.86	0.03386	3386	3.386	0.003386
0.01934	0.001316	0.5352	13.60	1.360	0.3094	0.001360	0.03937	1	0.1000	1.33	0.001333	133.3	0.1333	0.0001333
0.1934	0.01316	5.352	136.0	13.60	3.094	0.01360	0.3937	10	1	13.33	0.01333	1333	1.333	0.001333
0.0145	0.0009869	0.4015	10.20	1.020	0.2321	0.001020	0.02953	0.7501	0.07501	1	0.001000	100.0	0.10000	0.0001
14.50	0.9869	401.5	10197	1020	232.1	1.020	29.53	750.1	75.01	1000	1	100000	100.0	0.1000
0.000145	9.867E-06	0.004014	0.1019	0.01019	0.002320	1.019E-05	0.0002952	0.007499	0.000750	0.01000	9.9974E-06	1	0.0009997	0.000001
0.1450	0.009869	4.015	102.0	10.20	2.321	0.01020	0.2953	7.501	0.7501	10.00	0.01000	1000	1	0.001
145.0	9.869	4014	101968	10197	2321	10.20	295.3	7500	750.0	10000	10.00	1000000	1000	1

CERTIFICATES



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