



NESS

Quality • Dependability • Durability

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CHINO

CHINO Corporation India Private Limited

WHO WE ARE?

“**NESSTECH INSTRUMENTS PVT. LTD. (NIPL)**”- is a manufacturing and distribution venture of NESSTECH INC., Japan. In year 2006, Nesstech Inc., Japan started its own manufacturing facility in the non polluted zone near Vapi, Gujarat (India).

Established in the year 1956, Nesstech Inc., Japan, has over 50 years of experience in manufacturing of various process control instruments for Pressure , Temperature, flow and other allied accessories and product related to Instrumentation Industry.

We are backed by Nesstech Inc., Japan which has expertise of over 5 decades in manufacturing of Gearless Pressure and Temperature Gauges. All our products are well accepted in Japanese and other market of Asia, Africa, Middle East, North/South America and Europe.

NIPL is an ISO 9001:2008 Certified company. We follow a stringent Quality Policy as per Japanese standards. All our products are manufactured under the direct supervision, guidance and control of engineers from Nesstech Inc., Japan

To adhere to Quality prerequisite of Japan; well experienced Engineers from Japan are stationed at our manufacturing facilities to check and control the Quality prerequisite.

VISION & MISSION

Over the year, we have earned proficiency and expertise in Instrumental Engineering through continues innovation and dedication. With Knowledge on side, we work closely with Business Partners to understand their needs and consistently provide customized solution to fit their specific requirements.

Our motto is to build long-term relationships with our Business Partners taking into account their needs as well as the changing market dynamics.

Our vision to become the company with quality standards which will be the standards of the Industries.

Our mission is to be the preferred provider of the highest quality to the Industries we serve.

INDIA



JAPAN





About Nesstech

We Develop and manufacture high-durable Instruments with rich creativity as a top brand of analogue measurement instruments.

Nesstech Inc. is a top brand manufacturing, developing and providing instruments measuring temperature, pressure and flow. We have fulfilled many customer's demands as a leading company especially in respects of gearless temperature and pressure gauges.

Our products are supporting not only business, but also infrastructure worldwide being used in many fields such as power, oil and gas, chemical and petrochemical, ship building, machinery, food production, pharmaceutical, factory and building automation, etc. The strongest point of our products is to have high-durability. Our customers are satisfied with our products which carry long life span even when used under severe vibration or pulsation.

Also, we provide products against various customer requirements by making use of our overseas partners, distinguished engineering skills and creativity.

We will continue developing high reliable measurement instruments in order to provide maximum support for the success of our customer's business.

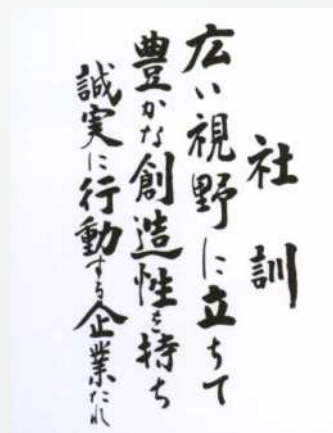
President and CEO Shuro Tsukioka

PHILOSOPHY

We aim at realization of a heartwarming company on the basis of "JO" spirit.

The motto of NESSTECH is the spirit of "JO" which means to care for and be faithful to others. Our goal is for all the staffs of NESSTECH to have gentle mind on the basis of this spirit, which will indeed improve and develop both the company and individuals.

We, as a manufacturer with rich creativity, will keep developing new products as per customer requirements.



Quality Parameters

To maintain top quality of the various products handled by us, we have adopted system of mandatory inspection and testing, as well as to conduct periodic quality audits and system evaluations. All the components passes through rigorous inspection before they are put in production line. Thorough in-process and final tests of each and every product enables us to maintain best quality products.

To implement and achieve high accuracy and quality of product, highly precision machines like Gun Drill Machine for Drilling, CNC Machine, Power Saw, Induction Brazing Machine, Pressure Controller, Temperature Bath, Laser and TIG Welding machine, Ultra Sonic tester etc. are installed.

All the machinery and equipments are maintained and calibrated periodically.

Production of Pressure Gauge and Temperature Gauge is done under closed and controlled environment to manufacture dependable and durable product.

QUALITY POLICY

It is the policy of Nesstech Instruments Pvt. Ltd. to achieve and sustain a reputation for total satisfaction of the customer in the domestic and global markets for all our Products . All our commitments, actions and products must be recognised as an expression of desired quality of customer with continual improvement in **"Total Quality Management System"**. It is recognized that implementation of such a policy requires, amongst other things.

- A state of quality mindedness amongst all our employees and their participation in the company quality assurance programme, fully supported with commitment and participation from the senior management.
- Involvement of our vendors in our quality programme.
- Provide total satisfaction to our customers by supplying products that are technically complete, reasonably priced and delivered on schedule. Our goal is to exceed customer's expectations by way of our dealing.
- Consistency, "Do it first time, on time, every time"

SHURO TSUKIOKA
CHAIRMAN

DATE :- 01.01.2012
PLACE:- VAPI

DET NORSKE VERITAS
MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 120464-2012-AQ-IND-RVA

This is to certify that

NESSTECH INSTRUMENTS PVT. LTD.

at

Global Industrial Park, "G" Type, Survey No.26/2, Near Naholi Railway Crossing,
Village: Valvaada 396 105, Taluka: Umbergaon, Dist:Valsad, Gujarat, INDIA

has been found to conform to the Quality Management System Standard:

ISO 9001:2008

This certificate is valid for the following scope:

**MANUFACTURE, MARKETING AND SUPPLY OF TEMPERATURE
INSTRUMENTS, PRESSURE INSTRUMENTS AND ALLIED ACCESSORIES
LIKE THERMOWELLS, VALVES AND MANIFOLDS**

Initial Certification date:
21 August 2012

This Certificate is valid until:
20 August 2015

The audit has been performed under the supervision of:
Manish Trivedi
Lead Auditor

Place and date of issue:
Chennai, 23 August 2012

for the Accredited Unit:
DET NORSKE VERITAS CERTIFICATION, B.V.,
THE NETHERLANDS

Bhupalam Ajit
Management Representative

RVA C 0274

Lack of fulfillment of conditions as set out in the Certification Agreement & the annexes to this certificate may render this Certificate invalid.
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 Det Norske Veritas AS, P.O. Box 100, N-2007 Kjeller, Norway, TEL: +47 22 44 00 00, DNVAS - www.dnv.com - www.dnv.no

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Gearless TG, Features

The NESS temperature gauge is superior compared to other temperature gauge because of its unique and distinguished GEARLESS mechanism using no Geared segments, Pinions or hair Springs, which enables the pointer movement to be direct drive with no multiplying mechanism. NESS gearless temperature gauge is the most suitable construction against applications with Shock and severe vibration.

RIGID STEM TYPE

Mounting	:	Bottom / Back / Every Angle / Side Mounted
Dial Size	:	75, 100, 150mm
Case	:	Aluminum Die Cast / AISI 304 SS
Case Colour	:	Black
Range	:	-200 to 600°C
Stem Diameter	:	6, 8, 10, 12, 14, 16mm
Stem Material	:	AISI 304 SS / AISI 316 SS
Connection Size	:	1/2", 3/4", M22 x 1.5
Connection Type	:	NPT, BSP, G, R, Metric etc
Option	:	Glycerine filled



REMOTE READING TYPE

Mounting	:	Bottom / Back / Top with Panel
Dial Size	:	75, 100, 150mm
Case	:	Aluminum Die Cast
Case Colour	:	Black
Range	:	-200 to 600°C
Stem Diameter	:	6, 8, 10, 12, 14, 16mm
Stem Material	:	AISI 304 SS / AISI 316 SS
Connection Size	:	1/2", 3/4", M22 x 1.5
Connection Type	:	NPT, BSP, G, R, Metric etc
Capillary Length	:	Up to 50 Mtrs
Option	:	Glycerine filled



ELECTRIC CONTACT TYPE

Mounting	:	Bottom / Back / Top with Panel
Dial Size	:	100mm
Case	:	Aluminum Die Cast
Case Colour	:	Black
Range	:	-200 to 600°C
Stem Diameter	:	6, 8, 10, 12, 14, 16mm
Stem Material	:	AISI 304 SS / AISI 316 SS
Connection Size	:	1/2", 3/4", M22 x 1.5
Connection Type	:	NPT, BSP, G, R, Metric etc
Capillary Length	:	Up to 50 Mtrs
Set Point	:	Up to 2 Set Point
Terminal Box Position	:	Top / Bottom / Side
Option	:	Glycerine filled



GEARLESS TEMPERATURE GAUGES

Made in Japan

EXPLOSION PROOF TYPE

Mounting	:	Bottom / Back / Top with Panel
Dial Size	:	75mm, 100mm
Case	:	Alluminum Die Cast
Case Colour	:	Black
Range	:	-200 to 600°C
Stem Diameter	:	6, 8, 10, 12, 14, 16mm
Stem Material	:	AISI 304 SS / AISI 316 SS
Connection Size	:	1/2", 3/4", M22 x 1.5
Connection Type	:	NPT, BSP, G, R, Metric etc
Capillary Length	:	Up to 50 Mtrs
Set Point	:	Up to 2 Set Point
Terminal Box Position	:	Up to 2
Option	:	Bottom / Side



HIGH EXHAUST GAS TEMPERATURE GAUGE FOR DIESEL ENGINE

Designed by Japan Manufacturing in India

Dial Size (mm)	:	50, 75
Scale Color	:	White with black figure
Range	:	0~600°C, 50~650°C
Thermobulb O.D. (mm)	:	12, 13
Thermobulb Material	:	SUS316
Accuracy	:	±2.0%F.S.
Ambient Temperature	:	-10°C~50°C
Option	:	Thermowell Connection size G3/4 or G1/2



Dial Size (mm)	:	50, 75
Scale Color	:	White with black figure
Range	:	0~600°C, 50~650°C
Thermobulb O.D. (mm)	:	12, 13
Thermobulb Material	:	SUS316
Capillary	:	3mtr, SUS316
Accuracy	:	±2.0%F.S.
Ambient Temperature	:	-10°C~50°C
Option	:	Thermowell Connection size G3/4 or G1/2



Gearless PG, Features

The construction of ordinary Pressure Gauge is to use gear for operation, by having such system, those gauges were easily worn out due to high vibration and pulsation. In spite of changing the material of gear parts or filling suitable liquid such as glycerine in the case, the problem was not completely solved. NESS.3D instruments gearless Pressure Gauge has overcome those problems by adopting a gearless mechanism, using Inconel 750X helical Bourdon tube. The simple but unique mechanism has made our gauge the most suitable and reliable gauge against severe vibration and pulsation.

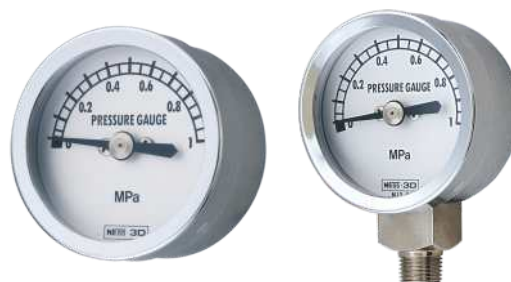
Industrial Gearless Gauge

Dial Size (mm)	: 100
Mounting	: Bottom / Lower Back with Panel / Bottom with Surface
Case	: Alluminum Die Cast / AISI 304 SS
Range	: -1.0 to 0 & 0 to 1000 Kg/cm ²
Accuracy	: $\pm 1.6\%$ of F.S
Bourdon Tube	: Inconel
Connection Size	: 3/8", 1/2"
Connection Type	: NPT, G,R,
Option	: "0" Adjustable Pointer



Mini Gearless Gauge

Dial Size (mm)	: 40, 50
Mounting	: Bottom / Center Back
Case	: Alluminum Die Cast / AISI 304 SS
Range	: 0 to 10 Kg/cm ²
Accuracy	: $\pm 2.0\%$ of F.S
Bourdon Tube	: Inconel
Connection Size	: 1/8", 1/4"
Connection Type	: NPT, R

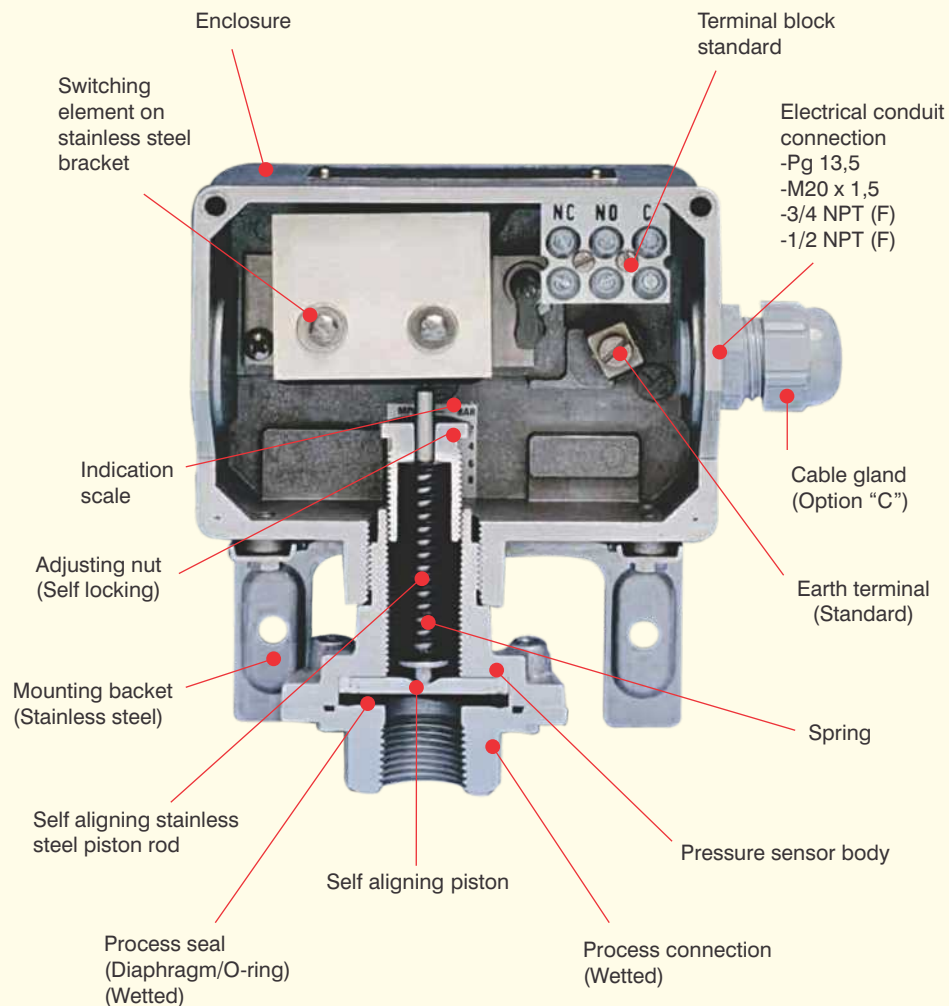


Sealex

Dial Size (mm)	: 100
Mounting	: Bottom / Lower Back with Panel / Bottom with Surface
Case	: Alluminum Die Cast / AISI 304 SS
Range	: -1.0 to 0 & 0 to 150 Kg/cm ²
Accuracy	: $\pm 1.6\%$ of F.S
Bourdon Tube	: Inconel
Sensing Element	: Diaphragm
Capillary	: AISI 304 SS
Connection Size	: 3/8", 1/2", Flange
Connection Type	: NPT, G,R,
Option	: "0" Adjustable Pointer



STAINLESS STEEL SCREWS THROUGHOUT



Pressure / Differential Switch (Spring Loaded)

Enclosure	:	Weather tight (IP65 / Ip66), Explosion Proof (IP66)
Enclosure Material	:	Aluminum, AISI 316 SS
Range	:	2mbar to 5400mbar & 0.3kg/cm ² to 350kg/cm ² , Vacuum
Process Connection	:	1/4", 1/2" - NPT, BSP, G
Material of Construction	:	Brass, Aluminum, AISI 316 SS, Monel
Diaphragm	:	Buna N, EPDM, Viton A, Kalrez, Monel, Neoprene, PTFE, AISI 316 SS, Tantalum
O Ring	:	Buna N, EPDM, Viton A, PTFE, Neoprene, Kalrez
Switch Element	:	Gold Contact, Silver Contact, Explosion Proof, Manual Reset, Adjustable dead bend, pneumatic
Option	:	Cable Gland - Explosion Proof, Epoxy Coating of Switch, Tag Plate

Approved by

- EXIDA SIL3 Capable
- ATEX : W - Z - Series and C-Series Intrinsically Safe
- IECEx : W-Series and C-Series Intrinsically Safe
- PED : TUV certificate CE 0035
- CSA : W-Series, C-Series and C-Series Intrinsically Safe
- FM : W-Series, C-Series Intrinsically Safe

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 100, 125, 150, 250
Range	: -1 to 1600 kg/cm ²
Accuracy	: ±1.0% of F.S / ±1.6% of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4", 3/8", 1/2", M20
Connection Type	: NPT, BSP, G, R, Metric etc
Socket / Bourdon	: AISI 316L SS / Monel
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Zero Adjustable
Movement	: AISI 304 SS / AISI 316 SS
Window (Glass)	: Shatterproof / Plexy / Toughened
Enclosure Protection	: IP 65 / IP 66 / IP 67
Options	: Dampening Liquid Glycerin Filled Conformity as per NACE Standard Ammonia Range (With Temperature scale) Oxygen Service (For Dry Version)



All Stainless Steel - Bourdon Type

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 63
Range	: -1 to 1000 kg/cm ²
Accuracy	: ±1.6% of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4", 3/8"
Connection Type	: NPT, BSP, G, R, Metric etc
Socket / Bourdon	: AISI 316L SS
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Fixed
Movement	: AISI 304 SS / AISI 316 SS
Window (Glass)	: Shatterproof / Plexy / Toughened
Enclosure Protection	: IP 65
Options	: Dampening Liquid Glycerine Filled Ammonia Range (Temperature scale) Oxygen Service (For Dry Version)



All Stainless Steel - Bourdon Type

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 100, 150
Range	: -1 to 1600 kg/cm ²
Accuracy	: ±1.0% of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4", 3/8", 1/2", M20
Connection Type	: NPT, BSP, G, R, Metric etc
Socket / Bourdon	: AISI 316L SS / Monel
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Zero Adjustable
Movement	: AISI 304 SS / AISI 316 SS
Window (Glass)	: Polycarbonate Dome
Enclosure Protection	: IP 65
Electric Wiring	: DIN connector
Options	: Conformity as per NACE Standard Die Electric oil Filled Movement with Dampening Jelly



All Stainless Steel - Electric Contact Type

Note : 1. Refer Data sheet for detailed Technical Specification

2. Other connections & sizes are available, contact factory for details.

3. National / International Scales like kPa, MPa, bar, psi, kg/cm & Dual Scale like kPa with psi, kPa with bar, bar with psi etc are available on request

PRESSURE GAUGES

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 50, 63, 100
Range	: -1 to 400 kg/cm ²
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4" , 3/8"
Connection Type	: NPT, BSP, G, R, Metric etc
Socket / Bourdon	: Copper Alloy
Case & Bezel	: AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Fixed
Movement	: Copper Alloy
Window (Glass)	: Plexy
Enclosure Protection	: IP 65
Options	: Dampening Liquid Glycerine Filled Ammonia Range (Temperature scale) Oxygen Service (For Dry Version)



Stainless Steel Case - Brass Internal

PT

Reference Standard	: EN 837-3 / IS 3624
Nominal Dial Size (mm)	: 100, 150
Range	: H.P. : -1 to 0, 0 to 10 kg/cm ² L.P. : -6000mmWC to 0, 0 to 6000mmWC
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4" , 3/8" , 1/2" , M20, Flanged
Connection Type	: NPT, BSP, G, R, Metric etc
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Top / Bottom Chamber	: AISI 304 SS / AISI 316 SS
Diaphragm (Sensing Element)	: AISI 316L SS / Monel / Hastelloy C
Pointer	: Aluminium, Zero Adjustable
Movement	: AISI 304 SS / AISI 316 SS
Window (Glass)	: Shatterproof / Plexy / Toughened
Enclosure Protection	: IP 65
Options	: PTFE Protection on Diaphragm PTFE lining of Flanged Connection



All Stainless Steel - Diaphragm Type

PD

Reference Standard	: EN 837-3 / IS 3624
Nominal Dial Size (mm)	: 63, 100, 125, 150
Range	: -6000mmWC to 0, 0 to 6000mmWC
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4" , 3/8" , 1/2" , M20
Connection Type	: NPT, BSP, G, R, Metric etc
Socket	: AISI 316L SS
Sensing Element	: AISI 316L SS (Capsule)
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Zero Adjustable
Movement	: AISI 304 SS
Window (Glass)	: Shatterproof / Plexy / Toughened
Enclosure Protection	: IP 65
Options	: Oxygen Service (For Dry Version) On-Off Type Vent Plug



All Stainless Steel - Capsule Type

PC

Note : 1. Refer Data sheet for detailed Technical Specification

2. Other connections & sizes are available, contact factory for details.

3. National / International Scales like kPa, MPa, bar, psi, kg/cm & Dual Scale like kPa with psi, kPa with bar, bar with psi etc are available on request

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 100, 150
Range	: -1 to 0, 0 to 0.6, 0 to 600 kg/cm ²
Accuracy	: $\pm 1.0\%$ of F.S / $\pm 1.6\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4" , 3/8" , 1/2", M20
Connection Type	: NPT, BSP, G, R, Metric etc
Socket	: AISI 316L SS / Monel
Sensing Element	: AISI 316L SS / Monel (Bourdon)
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Zero Adjustable
Movement	: AISI 304 SS / AISI 316 SS
Window (Glass)	: Shatterproof / Plexy / Toughened
Enclosure Protection	: IP 65 / IP 66 / IP 67
Options	: Dampening Liquid Glycerine Filled Conformity as per NACE Standard Movement with Dampening Jelly



PS

All Stainless Steel - High Safety Type

Reference Standard	: ANSI B 40.1
Nominal Dial Size (mm)	: 125 (4 1/2")
Range	: -1 to 0, 0 to 0.6, 0 to 1600 kg/cm ²
Accuracy	: $\pm 0.5\%$ of F.S / $\pm 1.0\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4" , 3/8" , 1/2", M20
Socket	: AISI 316L SS / Monel
Sensing Element	: AISI 316L SS / Monel (Bourdon)
Case & Bezel	: Polypropylene
Pointer	: Aluminium, Zero Adjustable
Movement	: AISI 304 SS / AISI 316 SS
Window (Glass)	: Shatterproof / Plexy / Toughened
Enclosure Protection	: IP 65 / IP 66 / IP 67
Options	: Dampening Liquid Glycerine Filled Conformity as per NACE Standard Ammonia Range (Temperature scale) Oxygen Service (For Dry Version)



PP

High Safety - Polypropylene Case

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 150, 250
Range	: 0 to 0.6, 0 to 600 kg/cm ²
Accuracy	: $\pm 0.25\%$ of F.S.
Connection Size	: 1/4" , 3/8" , 1/2", M20
Connection Type	: NPT, BSP, G, R, Metric etc
Socket	: AISI 316L SS
Bourdon Tube	: Beryllium Copper
Case & Bezel	: Bayonet AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Knife Edge Micrometer Adjustable
Movement	: High Precision Jewel Bearing Type
Window (Glass)	: Shatterproof
Enclosure Protection	: IP 65
Mounting Type	: Refer Table on page no - 12
Carrying Case	: Wooden Carrying Case
Calibration Certificate	: Traceable to National / International Standard



PR

TEST GAUGE

Note : 1. Refer Data sheet for detailed Technical Specification

2. Other connections & sizes are available, contact factory for details.

3. National / International Scales like kPa, MPa, bar, psi, kg/cm & Dual Scale like kPa with psi, kPa with bar, bar with psi etc are available on request

PRESSURE GAUGES

Reference Standard	: EN 837-3 / IS 3624
Nominal Dial Size (mm)	: 63, 100
Range	: 25 to 600 MBAR
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4", 3/8", 1/2", M20
Connection Type	: NPT, BSP, G, R, Metric etc
Socket	: Copper Alloy
Sensing Element	: Copper Alloy (Capsule)
Case & Bezel	: AISI 304 SS / AISI 316 SS
Pointer	: Aluminium, Zero Adjustable
Movement	: Copper Alloy
Window (Glass)	: Plain
Enclosure Protection	: IP 55
Options	: Plexy Glass On-Off Type Vent Plug



Stainless Steel Case - Brass Internal - Capsule Type

Reference Standard	: EN 837-1 / IS 3624
Nominal Dial Size (mm)	: 100
Range	: -30inHg to 0, 0 to 400 kg/cm ²
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: Refer Table on page no - 12
Connection Size	: 1/4", 3/8"
Connection Type	: NPT, BSP, G, R, Metric etc
Socket	: Copper Alloy
Sensing Element	: Copper Alloy (Bourdon)
Case & Bezel	: ABS (Screwed)
Pointer	: Aluminium, Fixed
Movement	: Copper Alloy
Window (Glass)	: Plain
Enclosure Protection	: IP 55
Options	: Oxygen Service (For Dry Version) Ammonia Range (Temperature scale)



HVAC Gauge - Brass Internal

Pressure ranges in bar / kg/cm²

0 ... 0.6	0 ... 1	0 ... 1.6	0 ... 2.5	0 ... 4
0 ... 6	0 ... 10	0 ... 16	0 ... 25	0 ... 40
0 ... 60	0 ... 100	0 ... 160	0 ... 250	0 ... 400
0 ... 600	0 ... 1000	0 ... 1600		

Pressure ranges in mbar

0 ... 1	0 ... 10	0 ... 100
0 ... 1.6	0 ... 16	0 ... 106
0 ... 2.5	0 ... 25	0 ... 205
0 ... 4	0 ... 40	0 ... 400
0 ... 6	0 ... 60	0 ... 600

Vacuum ranges in bar / kg/cm²

Vacuum gauges have anti-clockwise pointer travel with increasing vacuum. -0.6 ... 0 -1... 0

Vacuum ranges in mbar

-1 ... 0	-10 ... 0	-100 ... 0
-1.6 ... 0	-16 ... 0	-160 ... 0
-2.5 ... 0	-25 ... 0	-250 ... 0
-4 ... 0	-40 ... 0	-400 ... 0
-6 ... 0	-60 ... 0	-600 ... 0

Combined pressure and vacuum ranges in bar / kg/cm²

-1 ... +0.6	-1 ... +1.5	-1 ... +3	-1 ... +5	-1 ... +9
-1 ... +15	-1 ... +24			

Note : 1. Refer Data sheet for detailed Technical Specification

2. Other connections & sizes are available, contact factory for details.

3. National / International Scales like kPa, MPa, bar, psi, kg/cm & Dual Scale like kPa with psi, kPa with bar, bar with psi etc are available on request

Pressure Gauges - Mounting

Model No.	Dial Size	Surface Bottom Mounting (Type - 14)	Direct Bottom Mounting (Type 11)	Direct Lower Back Mounting (Type 24)	Direct Center Back Mounting (Type 34)	Lower Back with 3 Hole Panel (Type 22)	2" Yoke / Pipe mounting with Bottom (Type 41)	Lower Back with Mounting Bracket (Type 23)	Bottom with 3 Hole Panel (Type 11)	Center Back with 3 Hole Panel (Type 12)	Center Back with Mounting Bracket (Type 13)
PM	63	PM.2.14	PM.2.11	PM.2.21	PM.2.31	PM.2.22	x	x	x	PM.2.12	PM.2.13
PP	4½"	PP.4½.14	x	PP.4½.21	x	PP.4½.22	x	x	x	x	x
PC	63	PC.2.14	PC.2.11	x	PC.2.31	x	x	x	x	x	PC.2.13
PC	100	PC.4.14	PC.4.11	PC.4.21	x	PC.4.22	x	PC.4.23	x	x	x
PC	125	PC.5.14	PC.5.11	PC.5.21	x	PC.5.22	x	PC.5.23	x	x	x
PC	150	PC.6.14	PC.6.11	PC.6.21	x	PC.6.22	x	PC.6.23	x	x	x
PS	100	PS.4.14	PS.4.11	x	x	x	x	x	x	x	x
PS	150	PS.6.14	PS.6.11	x	x	x	x	x	x	x	x
PB	100	PB.4.14	PB.4.11	PB.4.21	PB.4.31	PB.4.22	PB.4.41	PB.4.23	PB.4.11	x	x
PB	125	PB.5.14	PB.5.11	PB.5.21	x	PB.5.22	PB.5.41	PB.5.23	PB.5.11	x	x
PB	150	PB.6.14	PB.6.11	PB.6.21	x	PB.6.22	PB.6.41	PB.6.23	PB.6.11	x	x
PB	250	PB.10.14	PB.10.11	PB.10.21	x	PB.10.22	PB.10.41	PB.10.23	x	x	x
PD	100	x	PD.4.11	x	x	x	PD.4.41	x	x	x	x
PD	150	x	PD.6.11	x	x	x	PD.6.41	x	x	x	x
PR	150	PR.6.14	PR.6.11	PR.6.21	x	PR.6.22	x	PR.6.23	x	x	x
PR	250	PR.10.14	PR.10.11	PR.10.21	x	PR.10.22	x	PR.10.23	x	x	x
PT	63	PT.2.14	PT.2.11	x	PT.2.31	PT.2.22	x	x	x	PT.2.12	PT.2.13
PT	100	PT.4.14	PT.4.11	PT.4.21	x	PT.4.22	x	PT.4.23	x	x	x
PX	63	PX.2.14	PX.2.11	x	PX.2.31	x	x	x	x	x	PX.2.13
PX	100	PX.4.14	PX.4.11	PX.4.21	x	PX.4.22	x	PX.4.23	x	x	x
PX	125	PX.5.14	PX.5.11	PX.5.21	x	PX.5.22	x	PX.5.23	x	x	x
PX	150	PX.6.14	PX.6.11	PX.6.21	x	PX.6.22	x	PX.6.23	x	x	x
PH	100	x	PH.4.11	x	x	x	x	x	x	x	x
PJ	100	PJ.4.14	PJ.4.11	PJ.4.21	PJ.4.31	PJ.4.22	x	PJ.4.23	x	x	x
PJ	150	PJ.6.14	PJ.6.11	PJ.6.21	PJ.6.31	PJ.6.22	x	PJ.6.23	x	x	x

DIFFERENTIAL PRESSURE GAUGES

Standard Follows	: EN 837-3
Nominal Dial Size (mm)	: 150
Range	: 0 to 6000 mmWC & 0 to 6 kg/cm ²
Accuracy	: $\pm 1.0\%$ of F.S
Mounting Type	: Wall / Surface with Bottom
Connection Size	: 2 x 1/2" NPT(M) or BSP(M)
Sensing Element	: Bellow AISI 316L SS
Case & Bezel	: Bayonet AISI 304 SS
Pointer	: Aluminium, Black Zero Adjustable
Movement	: Bayonet AISI 304 SS
Window (Glass)	: Shatterproof Glass
Options	: Available with Filled version Conformity as per NACE Standard Red Follower Pointer



Bellow Operated

PBQ

Standard Follows	: EN 837-3
Nominal Dial Size (mm)	: 100, 150
Range	: 0 to 25 kg/cm ²
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: horizontal or vertical pipe mounting
Connection Size	: 2 x 1/4" NPT(F)
Wetted Part	: Diaphragm (Duratherm)
Case & Bezel	: Bayonet AISI 304 SS
Pointer	: Aluminium, Black
Movement	: AISI 304 SS
Window (Glass)	: Shatterproof Glass
Static Pressure	: Max. 100 kg/cm ²
Overload	: up to 200 kg/cm ²
Options	: Chemical Seal, Manifolds



2 x Diaphragm Operated

POD

Standard Follows	: EN 837-3
Nominal Dial Size (mm)	: 100, 150
Range	: 0 to 16 kg/cm ²
Accuracy	: $\pm 2.5\%$ of F.S
Mounting Type	: Bottom / Back / with Bracket
Connection Size	: 2 x 1/2" NPT or 1/2" BSP
Wetted Part	: Diaphragm (Duratherm) - AISI 316L SS
Case & Bezel	: Bayonet AISI 304 SS
Pointer	: Aluminium, Black
Movement	: Brass Nickel Plated
Window (Glass)	: Shatterproof Glass
Static Pressure	: Max up to 20 kg/cm ²
Overload	: Max up to 20 kg/cm ²
Options	: With Chemical Seal Other connection available With Swivel Adaptors



1 x Diaphragm Operated

PDD

Note : 1. Refer Data sheet for detailed Technical Specification

2. Other connections & sizes are available, contact factory for details.

3. National / International Scales like kPa, MPa, bar, psi, kg/cm & Dual Scale like kPa with psi, kPa with bar, bar with psi etc are available on request

Standard Follows	: EN 837-3
Nominal Dial Size (mm)	: 100, 150
Range	: 0 to 400 mbar
Accuracy	: $\pm 1.6\%$ of F.S
Mounting Type	: Bottom / Back / with Bracket
Connection Size	: 2 x 1/2" NPT(F) or BSP(F)
Wetted Part	: AISI 316L SS
Case & Bezel	: Bayonet AISI 304 SS
Pointer	: Aluminium, Black
Movement	: Brass Nickel Plated
Window (Glass)	: Macrolon 8mm
Static Pressure	: Max. 1.5 kg/cm ²
Options	: With Manifold, Other connection available With Swivel Adaptors



Capsule Operated

PCD

Standard Follows	: EN 837-3
Nominal Dial Size (mm)	: 50, 63, 100, 150
Range	: 0 to 70 kg/cm ²
Accuracy	: $\pm 2.0\%$ of F.S (Ascending)
Mounting Type	: In line / Bottom / Back
Migration	: Minor from High to Low port
Connection Size	: 1/4" NPT(F)
Sensing Element	: Piston
Case & Bezel	: AISI 304 SS
Pointer	: Aluminium, Black
Window (Glass)	: Shatterproof
Body Material	: Aluminum, Brass, AISI 316 SS
Static Pressure	: Max up to 20 bar
Overload	: 4 times of range, Max up to 20 bar
Options	: With Electric Contact, With Liquid Filled Red Follower Pointer



Piston Operated

PHP

Standard Follows	: EN 837-3
Nominal Dial Size (mm)	: 63, 80, 100
Range	: 0 to 2 kg/cm ²
Accuracy	: $\pm 5.0\%$ of F.S (Ascending)
Mounting Type	: In line
Migration	: No Migration : Zero leakage from High to Low port
Connection Size	: 1/4" NPT(F) with center distance of 54mm
Sensing Element	: Diaphragm
Case & Bezel	: AISI 304 SS
Pointer	: Aluminium, Black
Window (Glass)	: Acrylic
Body Material	: Aluminum
Options	: With Electric Contact, With Liquid Filled Red Follower Pointer



Diaphragm Operated

PHD

Note : 1. Refer Data sheet for detailed Technical Specification

2. Other connections & sizes are available, contact factory for details.

3. National / International Scales like kPa, MPa, bar, psi, kg/cm & Dual Scale like kPa with psi, kPa with bar, bar with psi etc are available on request

DIAPHRAGM SEALS

Range	: -1 to 70 kg/cm ² & 100 to 400 kg/cm ²
Instrument Connection	: 1/2" BSP(F)
Process Connection Size	: 1/4" , 3/8" , 1/2" , M20
Process Connection Type	: NPT, BSP, G, R, Metric etc
Diaphragm	: AISI 316L SS, Monel, Hastelloy C
Bottom Chamber	: AISI 316 SS, Monel, Hastelloy C
Sealing Gasket	: P.T.F.E
Filling Fluid	: Silicon Oil
Compatible Models	: PB, PS, PP, PJ, PBQ
Options	: Flushing Ring (FR) for drainage With Capillary (Up to 20 Mtrs) PTFE Protection on Diaphragm



Direct Coupled

CSB

Range	: 4 to 600 kg/cm ²
Instrument Connection	: 1/4" BSP(F)
Process Connection Size	: 3/4" BSP(M)
Diaphragm	: AISI 316L SS
Body	: AISI 316 SS
Filling Fluid	: Silicon Oil
Mounting	: Direct (Without Capillary)
Compatible Models	: PM, PB
Options	: Material Test Certificate



Screwed Flush Type

CSF

Range	: -1 to 600 kg/cm ²
Instrument Connection	: 1/4" or 1/2" BSP(F)
Process Connection Size	: 1/2" BSP(M)
Diaphragm	: AISI 316L SS
Body	: AISI 316 SS
Filling Fluid	: Silicon Oil
Mounting	: With Capillary
Compatible Models	: PB, PP, PS, PJ, PBQ
Options	: Capillary Up to 2 Meter



Heavy Duty mini seal

CSG

Range	: -1 to 70 kg/cm ²
Instrument Connection	: 1/2" BSP(F)
Process Connection Size	: 1/2" BSP(M)
Diaphragm	: AISI 316L SS
Body	: AISI 304 SS / AISI 316 SS
Filling Fluid	: Silicon Oil
Mounting	: With Capillary
Compatible Models	: PP, PS, PB, PJ, PBQ
Options	: Capillary Up to 3 Meter Conformity as per NACE Standard



Slip Ring Coupled Type

CSO

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.

Range	: -1 to 70 kg/cm ² & 100 to 400 kg/cm ²
Instrument Connection	: 1/2" BSP(F)
Process Connection Size	: Flange as per ANSI, JIS, DIN, BS
Diaphragm	: AISI 316L SS, Monel, Hastelloy C
Top Chamber	: AISI 304 SS
Bottom Chamber ("I" Section)	: AISI 316 SS, Monel, Hastelloy C
Filling Fluid	: Silicon Oil
Flange Size	: 1" and below only
Compatible Models	: PP, PS, PB, PJ, PBQ
Options	: Capillary Up to 20 Meter Conformity as per NACE Standard



Flange "I" Section Type

CSI

Range	: -1 to 0 kg/cm ² & 0 to 250 kg/cm ²
Instrument Connection	: 1/2" BSP (F)
Process Connection	: Flange as per ANSI, JIS, DIN, BS
Diaphragm	: AISI 316L SS, Monel, Hastelloy C
Bottom Chamber (Flange)	: AISI 316 SS, Monel, Hastelloy C
Filling Fluid	: Silicon Oil
Flange Size	: 1½" and above only
Compatible Models	: PP, PS, PB, PJ, PBQ
Options	: Capillary Up to 20 Meter Conformity as per NACE Standard



Direct Flanged Insert Type

CSK

Range	: -1 to 40 kg/cm ²
Instrument Connection	: 1/4" or 1/2" BSP(F)
Process Connection	: 1 1/2" Sanitary seal
Diaphragm	: AISI 316L SS
Body	: AISI 316 SS
Filling Fluid	: Silicon Oil
Compatible Models	: PP, PB, PS
Options	: Capillary Up to 2 Meter



Sanitary Seal Clamp type

CSH

Range	: -1 to 40 kg/cm ²
Instrument Connection	: 1/2" BSP(F)
Process Connection	: As per DIN, SMS, RJT
Diaphragm	: AISI 316L SS, Monel, Hastelloy C
Body	: AISI 316 SS
Filling Fluid	: Glycerin
Compatible Models	: PM, PB, PS, PJ
Options	: With Capillary



Flush Diaphragm, Sanitary Type

CSE

TEMPERATURE GAUGES

Standard Follows	: EN 13190
Nominal Dial Size (mm)	: 63, 100, 125, 150
Range	: -50°C to 500°C
Accuracy	: Class 1 as per EN 13190
Sensing Element	: Bi-Metal Strip Coiled
Connection Size	: 1/2"
Connection Type	: NPT, BSP, G, R
Stem & Connection	: AISI 316 SS
Stem Diameter	: 6, 6.35, 8, 10, 12
Case, Bezel & Clamp	: AISI 304 SS
Pointer	: Aluminium, Black
Mounting Type	: Direct Bottom, Direct Back, Every Angle Back
Options	: Available with Thermowell Dampening Liquid Glycerin Filled Dampening Liquid Silicon Filled



TG1

All Stainless Steel : Bi-Metal Type

Standard Follows	: EN 13190
Nominal Dial Size (mm)	: 100, 125, 150
Range	: -50°C to 500°C
Accuracy	: Class 1 as per EN 13190
Sensing Element	: Gas
Connection Size	: 1/2"
Connection Type	: NPT, BSP, G, R
Stem & Connection	: AISI 316 SS
Stem Diameter	: 6, 6.35, 8, 10, 12
Case, Bezel & Clamp	: AISI 304 SS
Pointer	: Aluminium, Black
Capillary (Max 20 Mtrs)	: AISI 304 SS / AISI 316 SS
Armor (Max 20 Mtrs)	: AISI 304 SS / AISI 316 SS
Mounting Type	: Direct Bottom, Direct Back, Every Angle Back
Options	: Dampening Liquid Glycerin Filled Dampening Liquid Silicon Filled Available with Thermowell



TG2

All Stainless Steel : Gas Filled

NOMINAL RANGES, MEASURING RANGES & LIMITS OF ERROR AS PER EN 13190

Nominal Range (°C)	Measuring Range (°C)	Limits of Error (°C) ±
-20 to +40	-10 to +30	1
-20 to +60	-10 to +50	1
-20 to +120	-10 to +110	2
-30 to +30	-20 to +20	1
-30 to +50	-20 to +40	1
-30 to +70	-20 to +60	1
-40 to +40	-30 to +30	1
-40 to +60	-30 to +50	1
-100 to +60	-80 to +40	2
0 to 60	10 to 50	1

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

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.
3. Scales like °F & Dual Scale are available on request

Sensor	: Pt-100
No. Of Element	: Simplex/Duplex
Head Extension type	: Nipple Extension / Nipple Union Extension
Wire Configuration	: 3 Wires
Range	: -200°C up to 400°C
Accuracy	: Class "B" As per IEC - 751 / DIN - 43760
Sheath Diameter	: 6 mm, 4.5mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Enclosure Protection	: IP 65/Flame Proof/Explosion proof
Enclosure Material	: Die-cast Aluminum/ AISI 304 SS
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc
Option	: ATEX, CSA & FM (Enclosure) With Thermowell With Cable Gland



RTD01

Nipple Extension / Nipple Union Extension

Sensor	: Pt-100
No. of Element	: Simplex/Duplex
Head Extension type	: Fixed threaded / Adjustable threaded
Wire Configuration	: 3 Wires
Range	: -200°C up to 400°C
Accuracy	: Class "B" As per IEC - 751 / DIN - 43760
Sheath Diameter	: 6 mm, 4.5mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Enclosure Protection	: IP 65/ Flame Proof/ Explosion proof
Enclosure Material	: Die-cast Aluminum/ AISI 304 SS
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc
Option	: ATEX, CSA & FM (Enclosure) With Thermowell With Cable Gland



RTD02

Fixed threaded / Adjustable threaded

Sensor	: Pt-100
No. of Element	: Simplex/Duplex
Cold End Termination	: Crimp - on Pot Sealed
Wire Configuration	: 3 Wires
Range	: -200°C up to 400°C
Accuracy	: Class "B"
Sheath Diameter	: 6 mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Element Length	: 300mm
Lead Wire Length	: Up to 3000mm
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc



RTD03

Crimp - on Pot Sealed

RTD04

Sensor	: Pt-100
No. of Element	: Simplex/Duplex
Cold End Termination	: Plug & Jack connector
Wire Configuration	: 3 Wires
Range	: -200°C up to 400°C
Accuracy	: Class "B" As per IEC - 751 / DIN - 43760
Sheath Diameter	: 6 mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Element Length	: 300mm
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc



Plug & Jack connector

RTD05

Sensor	: Pt-100
No. Of Element	: Simplex/Duplex
Connection Type	: Flanged
Wire Configuration	: 3 Wires
Range	: -200°C up to 400°C
Accuracy	: Class "B" As per IEC - 751 / DIN - 43760
Sheath Diameter	: 6 mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Enclosure Protection	: IP 65/Flame Proof/Explosion proof
Enclosure Material	: Die-cast Aluminum/ AISI 304 SS
Process Connection	: Flange as per ANSI/JIS/DIN/BS
Immersion Length	: 300mm
Extension Length	: 100mm
Option	: ATEX, CSA & FM (Enclosure)



Flanged

RTD06

Sensor	: Pt-100
No. Of Element	: Simplex/Duplex
Connection Type	: Sanitary, Tri-Clamp
Wire Configuration	: 3 Wires
Range	: -200°C up to 400°C
Accuracy	: Class "B" As per IEC - 751 / DIN - 43760
Sheath Diameter	: 6 mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Enclosure Protection	: IP 65/Flame Proof/Explosion proof
Enclosure Material	: Die-cast Aluminum/ AISI 304 SS
Process Connection	: 1½" Tri Clamp
Option	: ATEX, CSA & FM (Enclosure)



Sanitary, Tri-Clamp

Sensor	: Type K (NiCr-Ni)
No. Of Element	: Simplex/Duplex
Connection Type	: Nipple Extension / Nipple Union Extension
Hot End Termination	: Ungrounded Junction
Accuracy	: Class "2" Tolerance as per IEC - 584.2
Sheath Diameter	: 6mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Enclosure Protection	: IP 65/Flame Proof/Explosion proof
Enclosure Material	: Die-cast Aluminum/ AISI 304 SS
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc
Option	: ATEX, CSA & FM (Enclosure) With Thermowell With Cable Gland



TC01

Nipple Extension / Nipple Union Extension

Sensor	: Type K (NiCr-Ni)
No. of Element	: Simplex/Duplex
Connection Type	: Fixed threaded / Adjustable threaded
Hot End Termination	: Ungrounded Junction
Accuracy	: Class "2" Tolerance as per IEC - 584.2
Sheath Diameter	: 6mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Enclosure Protection	: IP 65/Flame Proof/Explosion proof
Enclosure Material	: Die-cast Aluminum/ AISI 304 SS
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc
Option	: ATEX, CSA & FM (Enclosure) With Thermowell With Cable Gland



TC02

Fixed threaded / Adjustable threaded

Sensor	: Type K (NiCr-Ni)
No. of Element	: Simplex/Duplex
Cold End Termination	: Crimp on Pot
Hot End Termination	: Ungrounded Junction
Accuracy	: Class "2" Tolerance as per IEC - 584.2
Sheath Diameter	: 6mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc



TC03

Crimp - on Pot Sealed

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.
3. Refer Page 32 for Thermocouple Colour code as per IEC 584.2

THERMOCOUPLE

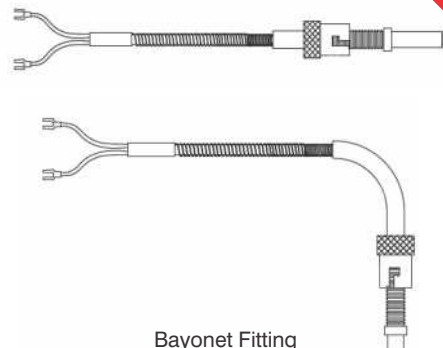
Sensor	: Type K (NiCr-Ni)
No. of Element	: Simplex/Duplex
Cold End Termination	: Plug & Jack Connector
Hot End Termination	: Ungrounded Junction
Accuracy	: Class "2" Tolerance as per IEC - 584.2
Sheath Diameter	: 6mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Process Connection Size	: 1/2", 3/4", 3/8", M20
Process Connection Type	: NPT, BSP, G, R, Metric etc



TC04

Plug & Jack connector

Sensor	: Type J (Fe-CuNi)
No. Of Element	: Simplex/Duplex
Hot End Termination	: Grounded Junction
Accuracy	: Class "2" Tolerance as per IEC - 584.2
Sheath Diameter	: 6mm, 6.35mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Process Connection	: Bayonet Connection



TC05

Bayonet Fitting

Sensor	: Type K (NiCr-Ni)
No. Of Element	: Simplex/Duplex
Hot End Termination	: Ungrounded Junction
Accuracy	: Class "2" Tolerance as per IEC - 584.2
Sheath Diameter	: 6mm, 3mm, 8mm
Sheath Material	: AISI 316 SS
Lead Wire Type	: PTFE / SS Braided
Lead Wire Length	: 3000mm



TC06

Push Fit Type

Tests on RTD's and Thermocouples

Routine Tests

- Continuity Test
- Calibration
- Insulation Resistance Test at Room Temperature
- Insulation Resistance Test at High Temperature
- N2 Test
- Response Time

Lab-Certified Tests

- Seismic Vibration Test
- Non Seismic Vibration Test
- Shock Test

Others Tests

- Repeatability Test
- Reproducibility Test
- Lead Pull Out Test
- High Voltage Test
- Self Heating Error Test
- Helium Leak Test for Weld Joints
- Rattling Test
- Autoclave Test
- Sheath Integrity Test
- Humidity- Temperature Chamber Test

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.
3. Refer Page 32 for Thermocouple Colour code as per IEC 584.2

Construction	: Bar Stock - Drilled Type
Connection Type	: Threaded
Form of Shank	: Straight / Straight Reduce Tip / Partial Taper / Full Taper
Material of Construction	: AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS
Process Connection	: 3/8" to 1" NPT, BSP, G, R
Instrument Connection	: 3/8" to 1" NPT, BSP, G, R
Bore Diameter	: 6.5, 6.6, 7.0, 8.0, 8.5, 9.0, 10.0, 10.5, 11.0, 13.0, 13.50
Type Of Head	: Hex, Round
Ext / Lagging Length	: 50mm
Insertion Length	: 1000 mm (Max)
Options	: Wake Frequency Calculation Plug & Chain in AISI 304 SS Conformity as per NACE Standard



	TW2	TW3	TW4
Construction	: Bar Stock - Drilled Type	Pipe Fabricated	Pipe Fabricated
Connection	: Flanged	Threaded	Flanged
Form of Shank	: Straight / Straight Reduce Tip / Partial Taper / Full Taper	Straight	Straight
Material of Construction	: AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS	AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS	AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS
Process Connection	: Flange 1" to 5" as per ANSI/JIS/DIN/BS	3/8" to 1" NPT, BSP, G, R	Flange 1" to 5" as per ANSI/JIS/DIN/BS
Instrument Connection	: 3/8" to 1" NPT, BSP, G, R	3/8" to 1" NPT, BSP, G, R	3/8" to 1" NPT, BSP, G, R
Bore Diameter/ Pipe Size	: 6.5, 6.6, 7.0, 8.0, 8.5, 9.0, 10.0, 10.5, 11.0, 13.0, 13.50	7 x 10, 7 x 12, 9 x 14, 10 x 12, 12 x 14, 16 x 12 OR Pipe 1/8" to 1/2" Sch 40 to 160	1/8" to 1/2" Sch 40 to 160
Type Of Head	: Hex, Round	Hex, Round	Round
Extension / Lagging Length	: 50mm	50mm	50mm
Insertion Length	: 1000 mm (Max)	As per Customer	As per Customer
Options	: Wake Frequency Calculation Plug & Chain in AISI 304 SS Conformity as per NACE Standard	Plug & Chain in AISI 304 SS	Plug & Chain in AISI 304 SS

Construction	: Van Stone - Drilled Type
Flange Facing Type	: Flange RF
Form of Shank	: Partial Taper / Full Taper
Material of Construction	: AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS
Process Connection	: 1", 1½", 2" RF
Instrument Connection	: 1/2" NPT, 1/2" BSP
Bore Diameter	: 6.5, 6.6, 7.0, 8.0, 8.5, 9.0, 10.0, 10.5, 11.0, 13.0, 13.50
Type Of Head	: Round
Ext / Lagging Length	: 50mm
Insertion Length	: 1000 mm (Max)
Options	: Wake Frequency Calculation
	Conformity as per NACE Standard

TW5



TW6



TW7



TW8



Construction	: Socket Weld - Drilled Type	Sanitary Design - Drilled Type	Partial Overlying Type
Connection	: Weld - in, Socket Weld	Triclover	Flanged
Form of Shank	: Straight / Straight Reduce Tip / Partial Taper / Full Taper	Straight / Straight Reduce Tip / Partial Taper / Full Taper	Straight
Material of Construction	: AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS	AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS	AISI 304 SS / AISI 304L SS / AISI 316 SS / AISI 316L SS
Process Connection	: Customised Requirement	1½", 2", 2½" Sanitary Seal	Flange 1" to 5" as per ANSI/JIS/DIN/BS
Instrument Connection	: 1/2" to 1" NPT, BSP, G, R	3/8" to 3/4" NPT, BSP, G, R	1/2" to 1" NPT, BSP, G, R
Bore Diameter/	: 6.5, 6.6, 7.0, 8.0, 8.5, 9.0, 10.0,	6.5, 6.6, 7.0, 8.0, 8.5, 9.0, 10.0,	6.5, 6.6, 7.0, 8.0, 8.5, 9.0, 10.0,
Pipe Size	: 10.5, 11.0, 13.0, 13.50	10.5, 11.0, 13.0, 13.50	10.5, 11.0, 13.0, 13.50
Type Of Head	: Round	Round with Spanner Slot	Round
Extension / Lagging Length	: 50mm	50mm	50mm
Insertion Length	: 1000 mm (Max)	1000 mm (Max)	Upto 1000 mm
Options	: Wake Frequency Calculation Plug & Chain in AISI 304 SS Conformity as per NACE Standard	Tri Clamp with Gasket Electro Polishing Conformity as per NACE Standard	Plug & Chain in AISI 304 SS Conformity as per NACE Standard

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.

Type	: Perforeted / FIN / Capillary
Process Connection - Male	: 1/8" to 1/2" NPT, BSP, G, R, Metric
Instrument Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric
Body	: AISI 316 SS
Total length (Including Thread)	: 150 mm / 300 mm



Cooling Tower

CT

Flange Size	: 1/2" to 5" as per ANSI B 16.5
Material	: AISI 316 SS
Number of ports	: Two
Port Connection	: 1/4" NPT (F) with Male plug
Sealing Face	: Suitable to Raised Face of Flange



Flushing Ring

FR

Body	: AISI 316 SS
Handle	: AISI 304 SS with Backelite Cover
Working Pressure	: 100kg/cm ²
Working Temperature	: Up to 180°C
Seal Gasket	: PTFE
Connection	: 1/2" BSP, G, NPT - Female x Female for 2 way 1/2" BSP, G, NPT - Male x Female x Female for 3 way



Gauge Cock

GC

Working Pressure	: Up to 400 kg/cm ²
Working Temperature	: - 20 °C to 120 °C
Process Connection - Male	: 3/8" to 1/2" NPT, BSP, G, R, Metric
Instrument Connection - Female	: 3/8" to 1/2" NPT, BSP, G, R, Metric
Body Material	: AISI 316 SS
Sealing 'O' Ring (Internal)	: Viton



Snubber

SN

Overload Protector Type	: E01: Bellow Type, E02: Piston Type
Adjustable Range	: E01: 0.6 kg/cm ² to 2.5 kg/cm ² , E02: 4 kg/cm ² to 400 kg/cm ²
'O' Ring	: Viton
Maximum Working pressure	: 600 kg/cm ²
Operating Temperature	: -20°C to 120°C
Material of construction	: AISI 316 SS
Process Connection - Male	: 3/8" to 1/2" NPT, BSP, G, R, Metric
Instrument Connection - Female	: 3/8" to 1/2" NPT, BSP, G, R, Metric



Gauge Saver

GS

Body material	: AISI 316 SS
Pipe size	: 1/2", Schedule 40, 80, 160
Operating pressure	: 100 kg/cm ² at 120 °C .
Type	: Coil type, Pigtail type, 'U' Type
Option	: Available with Flange Connection



Siphon

SI

NEEDLE VALVES

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 1 Inlet & 1 Outlet
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection	: 1/8" to 1"
Thread Type	: NPT, BSP, G, R, Metric etc
Connection (Inst. x Proc.)	: Male x Female, Female x Female, Male x Male
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request



VN6

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 1 Inlet & 1 Outlet with Vent Plug
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection	: 1/8" to 1"
Thread Type	: NPT, BSP, G, R, Metric etc
Connection (Inst. x Proc.)	: Male x Female, Female x Female, Male x Male
Vent Port	: M6
Options	: Conformity as per NACE Standard Oxygen Service, Other MOC available on request, Vent Plug in 1/4" NPT



VB6

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 1 Inlet & 1 Outlet
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection	: 6mm.....12mm, 1/4" to 1"
Thread Type	: NPT, BSP, G, R, Metric etc
Connection (Inst. x Proc.)	: Tube x Tube, Tube x Male, Tube x Female
Options	: Conformity as per NACE Standard Oxygen Service, Other MOC available on request



VC6

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 1 Inlet & 1 Outlet
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 3000 PSI
Temperature Rating	: 240°C
Process Connection	: 1/8" to 1/2"
Thread Type	: NPT, BSP, G, R, Metric etc
Connection (Inst. x Proc.)	: Male x Female, Female x Female, Male x Male
Options	: Conformity as per NACE Standard Oxygen Service, Other MOC available on request



VN3

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 1 Isolate & 1 Vent
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Male	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request Available with Female/ Socket Weld



M2T

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 1 Isolate & 1 Vent
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Male	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service. Other MOC available on request, Available with Female/ Socket Weld

Similar Model (Different mounting) : M2S, M2H



M2M

Mounting Type	: Pipe to Pipe (Direct) with Angular Mounting
Special Features	: 1 Isolate & 1 Vent
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Male	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request Available with Female/ Socket Weld



M2A

Mounting Type	: Pipe to Flange (Direct)
Special Features	: 1 Isolate & 1 Vent
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Male	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: Flange (As Per DIN 19213)
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service. Other MOC available on request, Available with Female/ Socket Weld

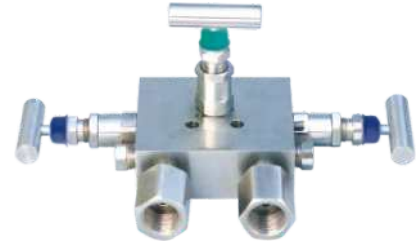
Similar Model (Different mounting) : M2F



M2Q

MANIFOLDS - 3 WAY

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 2 Isolate & 1 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/2" BSP or G - with Rotating Nut
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request



M3D

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 2 Isolate & 1 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Vent Connection - Female	: ---
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request

Similar Model : **M3S - With 1/4" Vent & Plug**



M3M

Mounting Type	: Pipe to Flange (Direct)
Special Features	: 2 Isolate & 1 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: Flange (As Per DIN 19213)
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request

Similar Model (Different mounting) : **M3P, M3A**



M3Q

Mounting Type	: Flange to Flange (Direct)
Special Features	: 2 Isolate & 1 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Process Connection - Female	: Flange (As Per DIN 19213)
Instrument Connection - Female	: Flange (As Per DIN 19213)
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request



M3H

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 2 Isolate & 1 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C-PTFE, Graphoil>240°C
Process Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Vent Connection - Female	: 2 X 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request

Similar Model (Different mounting) : M5Q, M5R



M5A

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 2 Isolate & 2 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C-PTFE, Graphoil>240°C
Process Connection - Female	: 1/8" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: 1/2" BSP or G - with Rotating Nut
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request

Similar Model : M5G - Without Rotating Nut



M5D

Mounting Type	: Pipe to Pipe (Direct)
Special Features	: 2 Isolate & 1 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C-PTFE, Graphoil>240°C
Process Connection - Female	: 1/4" to 1/2" NPT, BSP, G, R, Metric etc
Instrument Connection - Female	: Flange (As Per DIN 19213)
Vent Connection - Female	: 2 X 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request

Similar Model (Different mounting) : M5S, M5P, M5N






M5K




Mounting Type	: Flange to Flange (Direct)
Special Features	: 1 Isolate & 2 Equilize
M.O.C. of Body	: AISI 316 SS
Stem Packing	: PTFE, Graphoil
Pressure Rating	: 6000 PSI
Temperature Rating	: 240°C
Instrument Connection	: Flange (As Per DIN 19213)
Process Connection	: Flange (As Per DIN 19213)
Vent Connection - Female	: 1/4" NPT (With plug)
Options	: Conformity as per NACE Standard Oxygen Service Other MOC available on request






M5H

INSTRUMENTATION TUBE FITTINGS

	 SU	 RU	 BU
Specification	UNION	REDUCING UNION	BULK HEAD UNION
Tube Size	: 1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)
Material of Construction	: AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS
Thread / Tube Size	: 1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)

	 UE	 MCS	 ME
Specification	UNION ELBOW	MALE CONNECTOR	MALE ELBOW
Tube Size	: 1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)
Material of Construction	: AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS
Thread / Tube Size	: 1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" NPT(M), BSP(M) & Etc	1/8" to 1" NPT(M), BSP(M) & Etc

	 FCS	 BHFC	 BHMC
Specification	FEMALE CONNECTOR	BULK HEAD FEMALE CONNECTOR	BULK HEAD MALE CONNECTOR
Tube Size	: 1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)
Material of Construction	: AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS
Thread / Tube Size	: 1/8" to 1" NPT(F), BSP(F) & Etc	1/8" to 1" NPT(F), BSP(F) & Etc	1/8" to 1" NPT(M), BSP(M) & Etc

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.

	FE	UT	UC
			
Specification	FEMALE ELBOW	UNION TEE	UNION CROSS
Tube Size :	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)
Material of Construction :	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS
Thread / Tube Size :	1/8" to 1" NPT(F), BSP(F) & Etc	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)

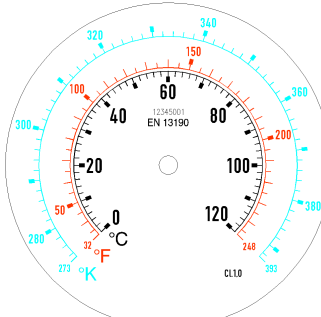
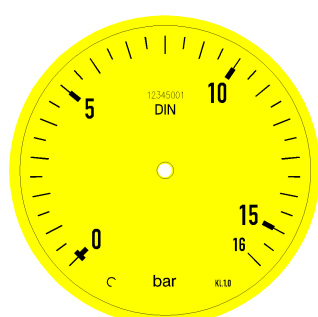
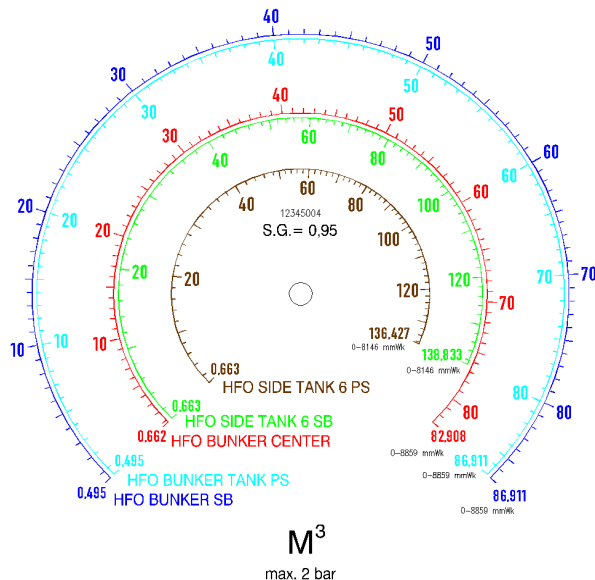
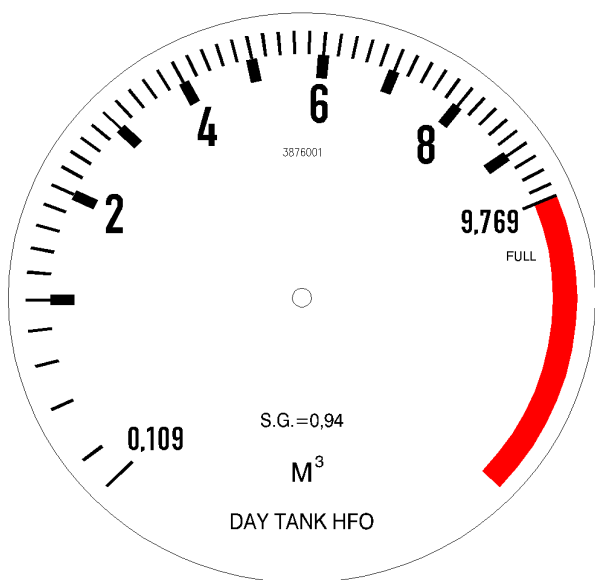
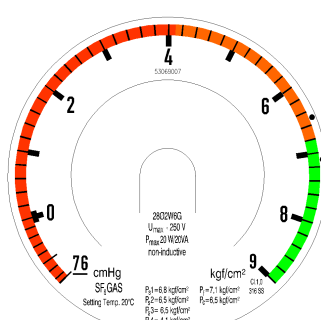
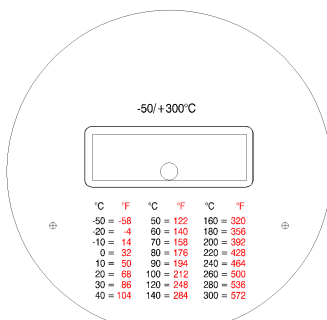
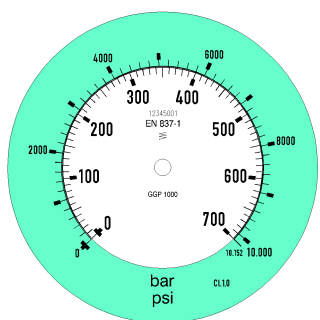
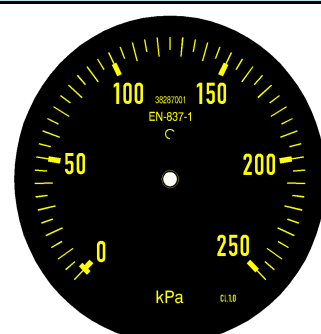
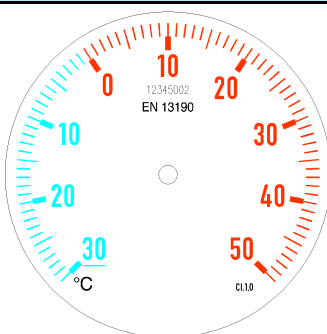
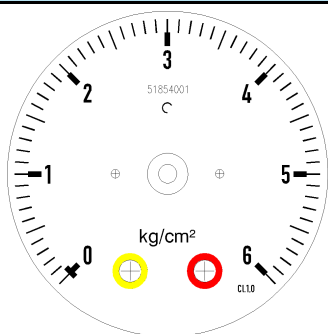
	MRT	MBT	FRT
			
Specification	MALE RUN TEE	MALE BRANCH TEE	FEMALE RUN TEE
Tube Size :	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)
Material of Construction :	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS
Thread / Tube Size :	1/8" to 1" NPT(M), BSP(M) & Etc	1/8" to 1" NPT(M), BSP(M) & Etc	1/8" to 1" NPT(F), BSP(F) & Etc

	FBT	FF/BF	NT
			
Specification	FEMALE BRANCH TEE	FRONT FERRULE / BACK FERRULE	NUT
Tube Size :	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)
Material of Construction :	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS	AISI 316SS, AISI 304 SS
Thread / Tube Size :	1/8" to 1" NPT(F), BSP(F) & Etc	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)	1/8" to 1" (Imperial) or 6mm to 25mm (Metric)

Note : 1. Refer Data sheet for detailed Technical Specification
2. Other connections & sizes are available, contact factory for details.

All NESS instruments can be designed with dials in any colour and in any style.

Your company name and logo can be printed on the dial in full colour and these features are done with one print only.



ANSI and IEC Color Codes for Thermocouples, Wire and Connectors

Connectors					Connectors					
ANSI Code	ANSI/ASTM E-230 Color Coding		Alloy Combination		Comments Environment Bare Wire	Maximum T/C Grade Temp. Range	EMF (mV) Over Max. Temp. Range	IEC 584-3 Color Coding		IEC Code
	Thermocouple Grade	Extension Grade	+ Lead	- Lead				Thermocouple Grade	Intrinsically Safe	
J			IRON Fe (magnetic)	CONSTANTAN COPPER-NICKEL Cu-Ni	Reducing, Vacuum, Inert. Limited Use in Oxidizing at High Temperatures. Not Recommended for Low Temperatures.	-210 to 1200°C -346 to 2193°F	-8.095 to 69.553			J
K			CHROMEKA® NICKEL-CHROMIUM Ni-Cr	ALOMEGA® NICKEL-ALUMINUM Ni-Al (magnetic)	Clean Oxidizing and Inert. Limited Use in Vacuum or Reducing. Wide Temperature Range, Most Popular Calibration	-270 to 1372°C -454 to 2501°F	-6.458 to 54.886			K
T			COPPER Cu	CONSTANTAN COPPER-NICKEL Cu-Ni	Mild Oxidizing, Reducing Vacuum or Inert. Good Where Moisture Is Present. Low Temperature & Cryogenic Applications	-270 to 400°C -454 to 752°F	-6.258 to 20.872			T
E			CHROMEKA® NICKEL-CHROMIUM Ni-Cr	CONSTANTAN COPPER-NICKEL Cu-Ni	Oxidizing or Inert. Limited Use in Vacuum or Reducing. Highest EMF Change Per Degree	-270 to 1000°C -454 to 1832°F	-9.835 to 76.373			E
N			OMEGA-P® NICROSIL Ni-Cr-Si	OMEGA-N® NISIL Ni-Si-Mg	Alternative to Type K. More Stable at High Temps	-270 to 1300°C -450 to 2372°F	-4.345 to 47.513			N
R	NONE ESTABLISHED		PLATINUM-13% RHODIUM Pt-13% Rh	PLATINUM Pt	Oxidizing or Inert. Do Not Insert in Metal Tubes. Beware of Contamination. High Temperature	-50 to 1768°C -58 to 3214°F	-0.226 to 21.101			R
S	NONE ESTABLISHED		PLATINUM-10% RHODIUM Pt-10% Rh	PLATINUM Pt	Oxidizing or Inert. Do Not Insert in Metal Tubes. Beware of Contamination. High Temperature	-50 to 1768°C -58 to 3214°F	-0.236 to 18.693			S
R/SX	NONE ESTABLISHED		COPPER Cu	COPPER-LOW NICKEL Cu-Ni	Extension Grade Connecting Wire for R & S Thermocouples. Also Known as RX & SX Extension Wire.					R/SX

[illegible]



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