



ZONER 530 Series Pressure Transmitter

XIAMEN ZONER INSTRUMENT CO., LTD.

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ZONER Is Your Most Trusted Partner

ZONER is dedicated to delivering professional solutions for industrial process control.

Zoner, founded in 2009, has emerged as a leading enterprise in the high-end pressure transmitter sector. Specializing in pressure measurement technology innovation and process automation solutions, the company has achieved significant breakthroughs in the development of remote transmission sealing components. Its products meet internationally advanced performance standards and have successfully replaced imported alternatives in a range of applications.

Through sustained technological innovation, Zoner has secured multiple invention patents and earned prestigious recognitions, including the titles of *Specialized, Refined, Distinctive and Innovative Enterprise* and *Fujian Province Science and Technology Little Giant*. In 2023, the company was designated as one of Xiamen's key pre-IPO candidates, reflecting its outstanding innovation capabilities and strong market performance.

With over a decade of expertise in process automation, Zoner has established a comprehensive industrial service ecosystem. The company serves key strategic industries such as chemical engineering, oil and gas, food and pharmaceuticals, municipal and environmental protection, power and energy, and pulp and paper manufacturing, providing end-to-end solutions—from core product supply to system integration and technical support. Supported by robust R&D capabilities, extensive industry experience, and a highly skilled technical team, Zoner stands as a leading provider of integrated process automation solutions, continuously driving technological advancement and industry innovation.

Rich Industry Application Solutions

It is our mission to help customers continuously improve product quality and production efficiency.

With more than 10 years of industry experience, we can provide customers with the right and professional pressure measurement solutions.

Visit the official website of Zoner Instrument to find the product solutions you need in real time.

For more information, please visit ZONER's official website: www.zonertech.com

☉ Chemical and Coal Chemical Industry



- In the measurement of liquid level and pressure in the vaporizer furnace and scrubber tower of gasification equipment, hydrogen may be present in the process medium black water. With process pressures exceeding 600PSI and temperatures surpassing 200°C, hydrogen infiltration is highly likely to occur. Particulate matter in black water can cause wear on instrument diaphragms, while corrosive substances like sulfur and chlorine may also corrode these diaphragms. Conventional solutions have proven inadequate for handling such complex operating conditions.
- In the measurement of liquid level or pressure of vacuum flash tank in purification and separation device, there is high vacuum application condition of negative pressure, and may be accompanied by high temperature.
- ZONER provides comprehensive support to help you achieve more reliable measurement results when addressing application challenges.

☉ Oil & Natural Gas Industry



- In the differential pressure measurement of the fractionating column in the atmospheric and vacuum distillation unit, the flange spacing is large, and there are high vacuum and high temperature working conditions. Higher requirements are put forward for the pressure measurement instrument.
- In the differential pressure measurement of the fractionating column in the atmospheric and vacuum distillation unit, the flange spacing is large, and there are high vacuum and high temperature working conditions. Higher requirements are put forward for the pressure measurement instrument.
- ZONER delivers tailored solutions to achieve reliable measurements while reducing maintenance and ownership costs.

◎ Food and Pharmaceutical Industry

- The instruments used must comply with food safety regulations and quality standards.
- The instruments used must be stable and reliable to ensure the production quality is consistent.
- The instrument must be easy to use and easy to maintain to improve the management level of the equipment.
- Low cost, guaranteed competitive advantage.
- ZONER helps you enhance product quality while maintaining your competitive edge in the industry.



◎ Municipal, Hydrological and Wastewater Treatment Industry

- There are many measurement points and they are widely distributed, so the signal is difficult to transmit and maintain.
- The instrument products must be stable, reliable, intelligent, and meet the requirements of industrial IoT.
- ZONER possesses extensive professional expertise and industry experience, offering you a comprehensive solution package that includes metering layer, transmission system layer, and service layer, helping you enhance management efficiency and standards.



◎ Mining, Processing, and Metallurgy Industry

- Energy management is critical, saving is profit, and traditional meters are difficult to provide accurate and reliable measurement data.
- Dispersed measurement points make wiring difficult, complicates instrument management, and increases maintenance costs. With low industry automation standards and emerging application challenges, selecting the right partner is critical.
- ZONER instruments help you gain a competitive edge and reduce production costs in mineral extraction, processing, and metallurgy.



◎ Power and Energy Industry

- For boiler air flow measurement, multi-point differential pressure flowmeters are typically employed, with differential pressure values being relatively low—typically around 200Pa. Accurate and stable measurement of such minute pressure differentials is crucial!
- In measuring boiler feedwater flow and cooling water flow, static pressure may reach 35MPa. During differential pressure gauge calibration, unilateral overpressure is inevitable, which may cause zero drift or damage to the instrument.
- In steam energy metering, upper-level computers or flow accumulators are typically used for temperature and pressure compensation, while these two traditional compensation methods. The compensation method may result in a lower steam balance rate (an error between the total flow of the main steam line and the flow of each branch line). In trade handover scenarios, significant discrepancies could trigger trade disputes.
- Zoner Provide the best measurement solutions for the power and power industry, ensure the safe and stable operation of the plant, minimize the downtime and improve the efficiency of the unit operation.



◎ Paper Industry

- Must be compatible with PMC's four-process system to support 1-inch and 1.5-inch flush-type measurements.
- The instrument is stable and reliable, and easy to maintain.
- Low cost is a competitive advantage.



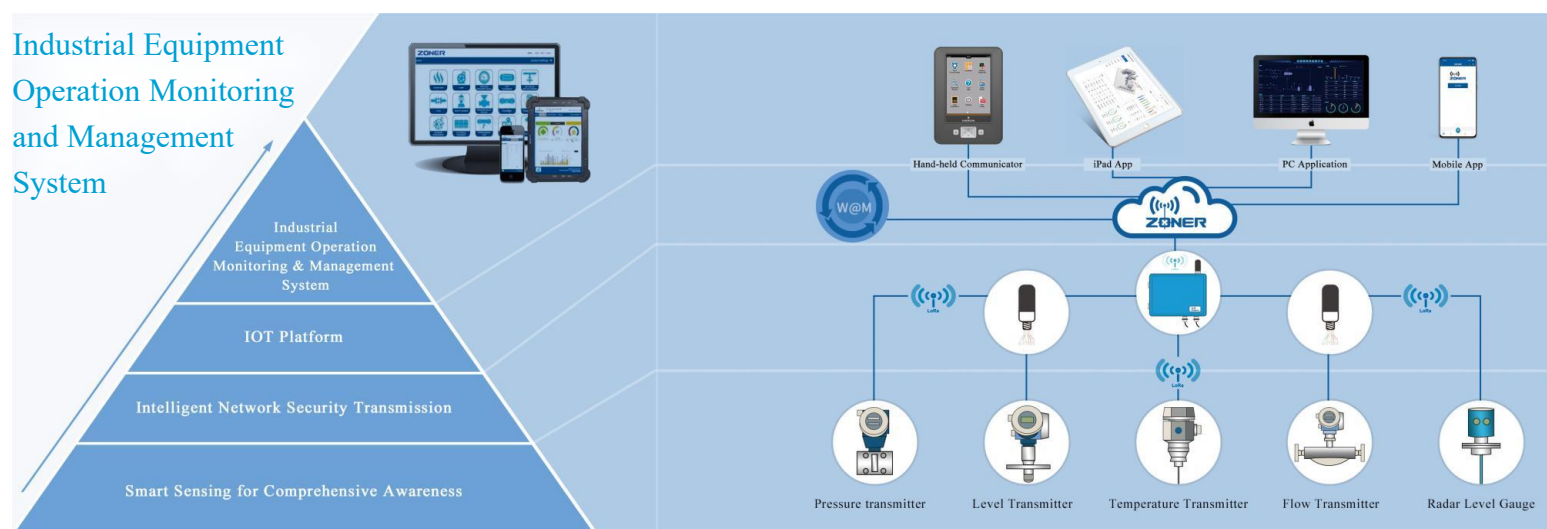
◆ Leading Online Ordering System, Simplify Complexity, Stay in Control

- By visiting ZONER's official website and registering a MyZoner account, you can select models online, get the models you need, and generate reference prices.
- You can add the selected model to your cart and place an online order. Our sales engineer will contact you immediately to provide the required service.
- The industry-specific application makes standard products unsuitable for your needs. You can choose customized service options and fill in your requirements. A technical engineer will contact you.



The following convenient operations can be performed via the unique QR code on the instrument

- Access device drawings, charts, technical documentation, and troubleshooting information on your MyZoner account.
- You can easily view all factory information for this instrument.
- You can easily report this instrument for repair.
- Ensure you are using the correct instrument.
- Save time by skipping the time-consuming task of copying the instrument nameplate model.



■ iZONER System adopts a Microservices Architecture

Each functional module can be quickly customized to meet customer needs, with flexible scalability. The iZONER system integrates with its industrial cloud platform to support IoT device connectivity. Combined with Zoner's industrial IoT products, it connects with various imported sensing devices, delivering a complete digital collaborative factory solution.

■ Intelligent Industrial Equipment Operation Monitoring and Management Platform Based on Lean Concept +Wireless+ Cloud Technology

- Remote access management for required terminal devices
- Data collection and status monitoring required
- Required upgrades, maintenance, and troubleshooting
- Construction and application of required operation history records statistics and enterprise knowledge base



Efficient
Collaboration



Lean Management



Operation and
Maintenance Cost



Equipment Data
Acquisition

■ Designed to Integrate Every Production Process

- Remote monitoring of terminal online status, providing comprehensive visual and digital insights
- Remote device fault diagnosis, automatic alarm, and predictive diagnosis to reduce incidents
- Remote operation improves efficiency and reduces costs
- Remote batch parameter management, adaptable to changing customer needs, and efficient decision-making



Extend Equipment
Lifespan



Reduce Failure
Frequency



Quick Maintenance



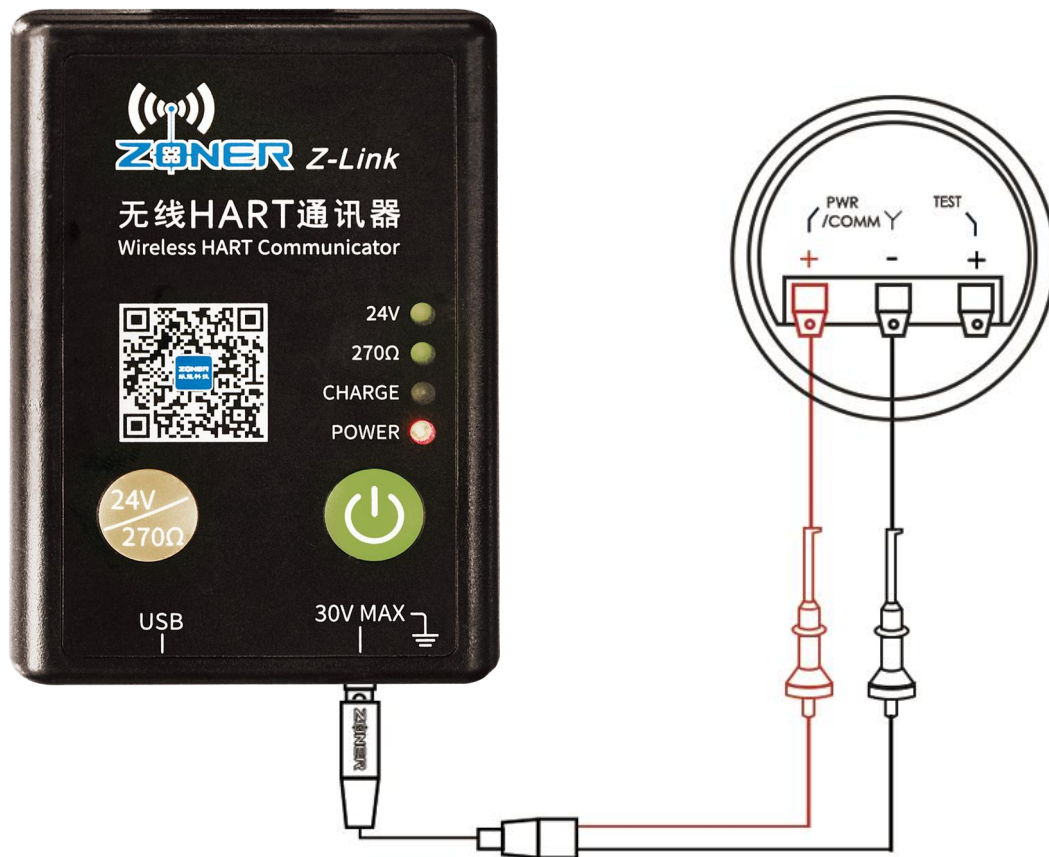
Increase Production
Capacity

■ iZONER Endows Every Device with Vitality

- Let us know the pulse of each beat
- Make our factory digital and intelligent, and make production safer and more efficient
- ZONER empowers you to achieve factory automation, reduce operational and maintenance costs, and minimize risks related to safety, health, environmental protection, and accidents

◆ Z-Link Portable Wireless HART Communicator

Convenient & Portable Operating Tool



▣ Features

- Enables More Convenient Equipment Debugging and Verification Operations.
- Wireless communication between the communicator terminal and mobile software allows operators to perform tasks away from hazardous areas.
- The user-friendly interface displays relevant data more intuitively, enabling even novices to operate smoothly with low learning costs and improved work efficiency.
- It features a certain amount of data acquisition and recording capabilities, facilitating the recording and assessment of equipment operational status.
- With the built-in sharing function, equipment status and data records can be easily shared with other colleagues for more efficient collaboration and technical assistance.
- The operation software for the wireless communicator is based on a mobile platform, distributed via network for easy access anytime, and can be synchronized and updated in real-time to gain new features.
- It includes a power output function and allows optional activation of built-in loop resistance, facilitating initial configuration and testing operations for completely offline instruments. No external equipment is required to complete tasks, simplifying the operation process and equipment configuration.



ZONER™ 530 Series Pressure Transmitters

The sensor chips of this series of pressure transmitters are the latest generation products developed based on MEMS (Micro-Electro-Mechanical Systems) technology, adopting the piezoresistive silicon measurement principle.

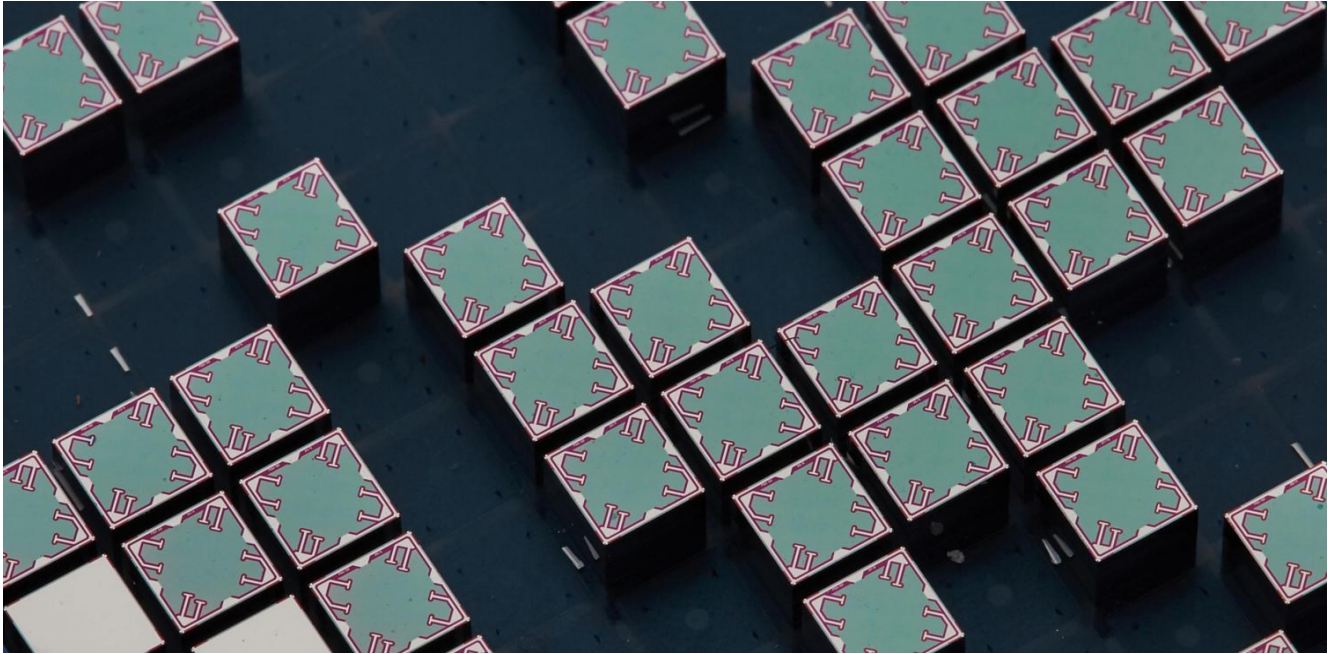
ZONER 530 pressure transmitter enables more effective control of factory processes and reduces holding costs. Through the asset management system, you can access comprehensive data from metering devices and monitor their health status in real-time via self-diagnostic functions. This proactive approach prevents potential issues, thereby enhancing both production efficiency and operational safety in your facility.

- Measures both gauge pressure and absolute pressure for gases, steam, and liquids
- Measurement of liquid level, volume, mass and density
- Used with differential pressure throttling device for flow measurement
- Differential pressure detection for filters, pumps, or other equipment to determine process conditions

▣ Features

- ✓ Adopts core sensor chips with independent intellectual property rights
- ✓ Modular connector design ensures a simpler and more reliable internal structure
- ✓ Optional Bluetooth communication function for convenient instrument operation
- ✓ Maximum accuracy of $\pm 0.04\%$ of the measured value
- ✓ Stability maintained at $\pm 0.1\%$ of full-scale range per 3 years
- ✓ Certified with SIL2/3 (IEC61508)
- ✓ Certified with EU ATEX intrinsic safety and flameproof certification
- ✓ Equipped with hardware self-test function for fault diagnosis
- ✓ Intuitive instrument operation without opening the circuit chamber
- ✓ Optimized diaphragm sealing system enhances vacuum resistance for more reliable and stable measurement data

◆ Decade of Devoted R&D, Transforming the World with Core Technology



⊙ Employ a classic and reliable measurement principle

ZONER530 series pressure transmitters feature sensor chips developed through MEMS (Micro-Electro-Mechanical Systems) technology, utilizing the silicon piezoresistive measurement principle as their core technology.

⊙ Electron-grade monocrystalline silicon is used as the base material

Compared with common diffusion silicon and composite silicon materials, the ZONER530 series pressure/differential pressure sensing chip is made of electronic grade monocrystalline silicon with a purity of 13 nines (99.9999999999%). Better materials are a prerequisite for higher performance.

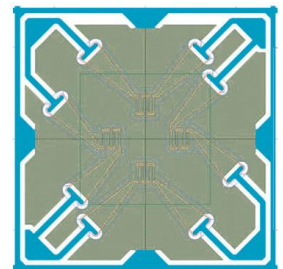


Figure 1

⊙ Adopts Dual-bridge Design for self-compensation

As shown in Figure 1, ZONER530 series pressure/differential pressure sensor chips employ the classic Wheatstone bridge principle, but with an innovative dual-Wheatstone bridge design. This dual-bridge configuration complements each bridge's temperature resistance characteristics, enabling self-compensation when thermal variations or noise interference occur. This significantly enhances the chip's interference resistance and long-term stability.

⊙ Adopts large-size chips, sparing no cost for excellence

In MEMS sensor chip technology, the silicon wafer size plays a pivotal role in determining the performance of the sensor chip. Larger silicon wafers generate stronger signal outputs, enabling higher measurement accuracy and stability.

As shown in Figure 2, the ZONER 530 series pressure sensor chips adopt a larger size than industry competitors, with cost investments made solely to pursue superior product performance and quality.

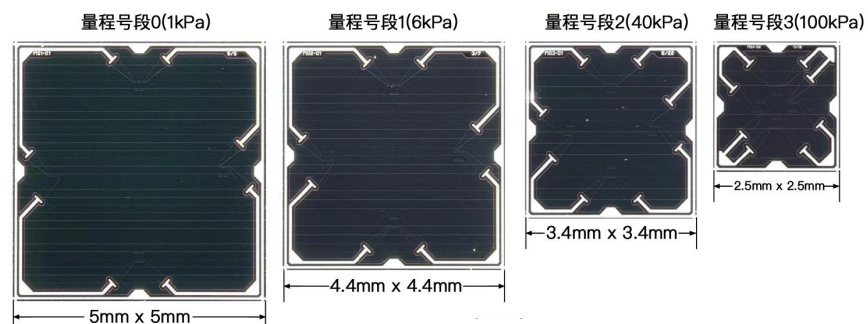


Figure 2

⊙ Adopts 2.5mm-thick silicon material for more stable performance

As shown in Figure 3, in MEMS sensor silicon chip technology, the size of the silicon wafer and the thickness of the silicon layer play a critical role in the performance of the sensor chip. Consistent material usage for the sensor chip helps achieve optimal temperature and static pressure performance. The ZONER530 series pressure sensing chips, made of full monocrystalline silicon with a thickness of 2.5mm, represent a significant leap in performance compared to traditional sensor chips with a thickness of 0.8mm.

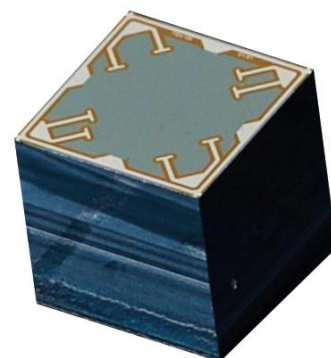


Figure 3

⊙ Adopts suspended MEMS structure, minimized stress impact

As shown in Figure 4, the ZONER530 series pressure /differential pressure sensor chips incorporate a micron-thickness inert material suspension layer between the sensing and base layers, significantly reducing stress effects and enhancing insulation performance.

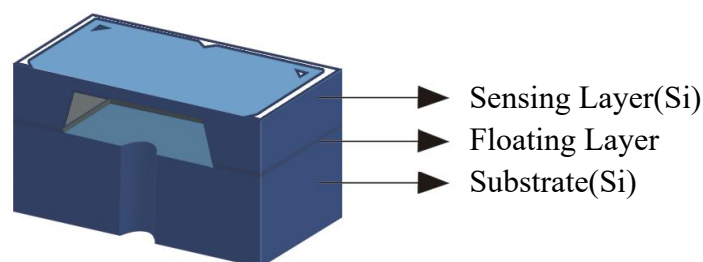


Figure 4

⊙ Adopts 10kΩ bridge resistor for stronger SNR performance

The larger bridge resistance can effectively reduce the temperature effect, and can obtain a higher signal-to-noise ratio and reduce power consumption compared with the traditional 4k ohm bridge resistance.

⊙ Adopts silicon-glass-silicon bonding, reduced temperature impact on chip performance, and enhanced overpressure resistance

ZONER530 series differential pressure sensor chips are made of full monocrystalline silicon, and the sensing layer and base layer are bonded with silicon-glass silicon bonding, which reduces the influence of temperature change on chip performance and improves the overvoltage performance, which is much better than the traditional bonding form.

Figure 5 ~ Figure 9: Measured Data of Temperature Impact for Range 0~5

The test method involves heating from room temperature (30°C) to 85°C, maintaining the temperature for 30 hours, then cooling back to room temperature. The zero-drift variation was measured throughout the entire 42-hour test period.

量程号段0 (1kPa)

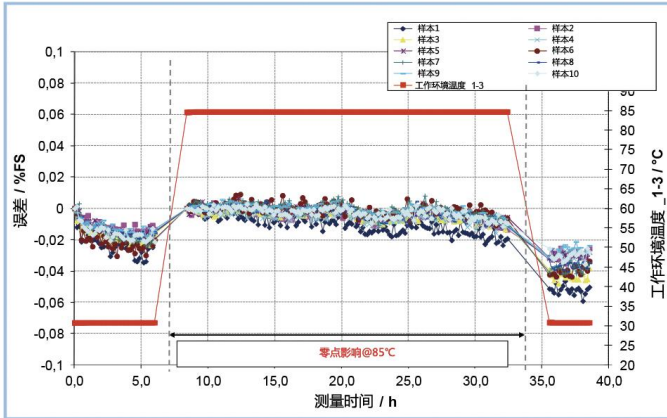


Figure 5

量程号段1 (6kPa)

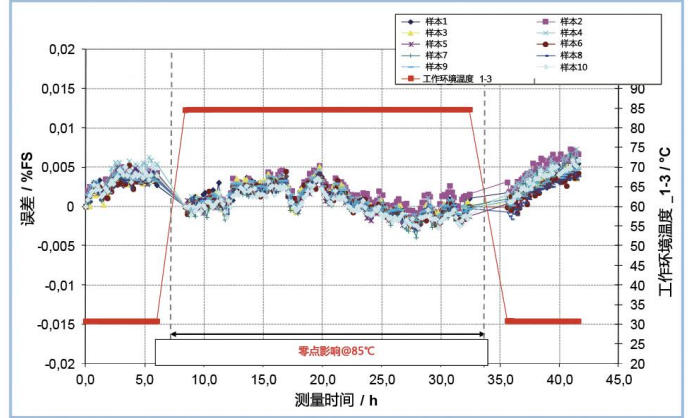


Figure 6

量程号段2 (40kPa)

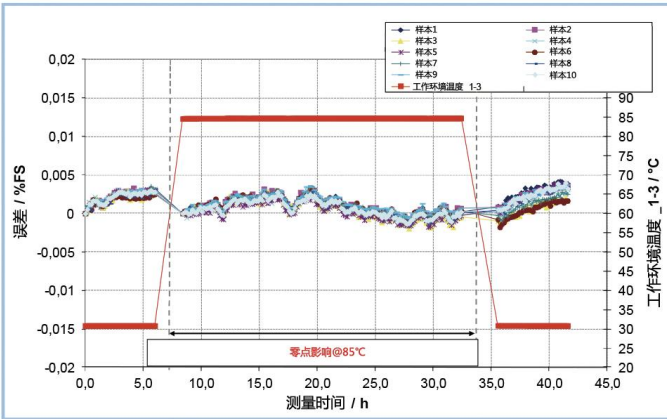


Figure 7

量程号段4 (400kPa)

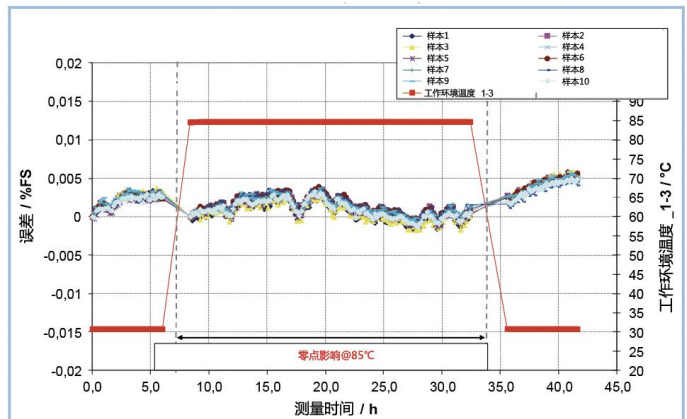


Figure 8

量程号段5 (4000kPa)

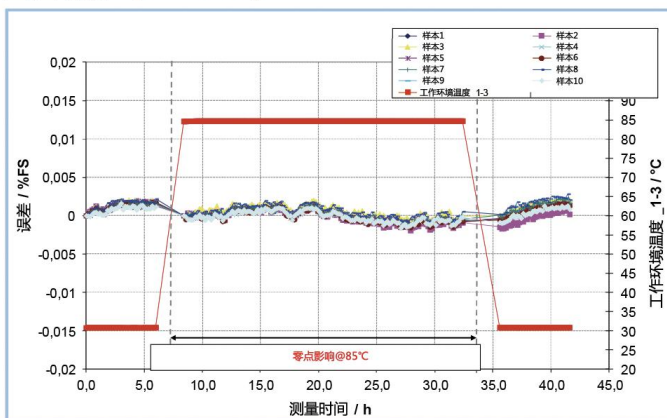


Figure 9

◎ The measured data are shown in the following table

量程号数	量程	零点偏差
0	1kPa	< 0.05%FS
1	6kPa	< 0.007%FS
2~5	40kPa~4000kPa	< 0.005%FS

The sensor chip has excellent temperature characteristics

○ Figure 10 ~ Figure 14 data represents the pressure resistance limits of chips across different range, tested with various bonding forms.

It should be noted that these values represent the intrinsic pressure resistance of the chips without protection from silicone oil or isolation diaphragms—the test pressure was applied directly to the chips. The results indicate that the silicon-glass-silicon bonding form provides superior overpressure resistance.

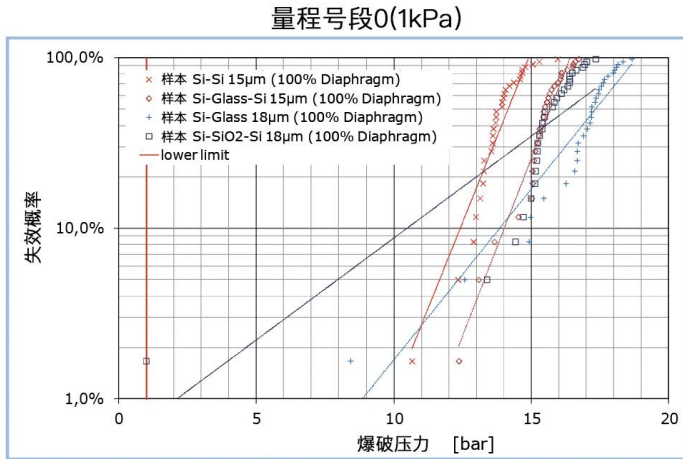


Figure 10

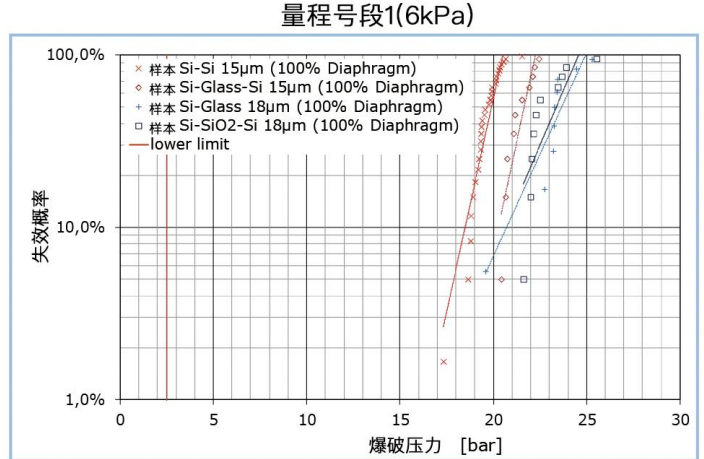


Figure 11

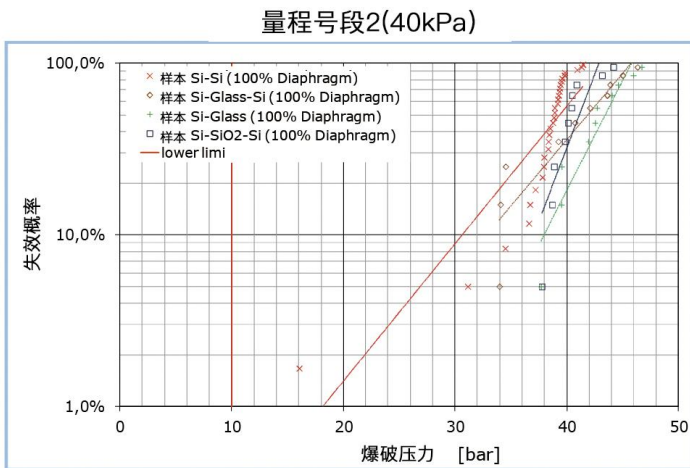


Figure 12

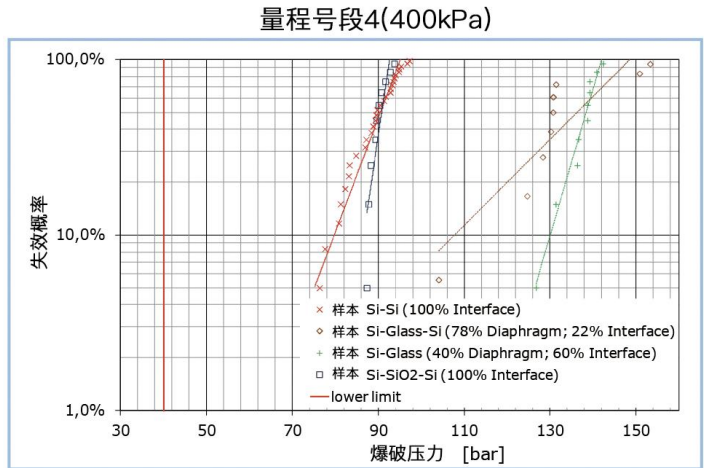


Figure 13

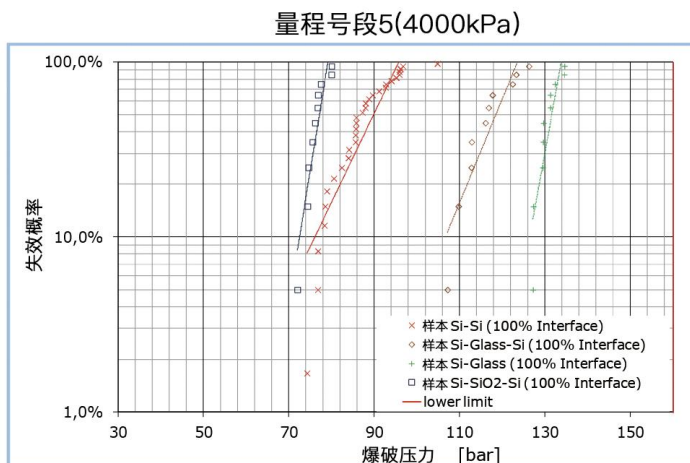


Figure 14

Adopts Mirror-symmetric MEMS layout

In the metallization process of MEMS silicon sensor chips, the internal leads of the bridge structure must be routed out to form a metal bonding area of specific dimensions. These metal traces and bonding areas exert mechanical stress on the silicon sensing film. In conventional sensor chip designs, the leads and pins are often arranged in complex, asymmetrical configurations for easier wiring. However, the inherent differences in material properties between metal and silicon significantly compromise the sensor's performance under temperature variations and static pressure conditions.

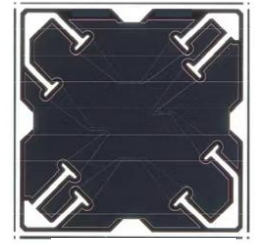


Figure 15

ZONER 530 series pressure sensing chip adopts mirror-symmetric metal lead layout, and the metallized part is arranged at the edge of the chip. When the temperature and pressure change, the metallized part changes uniformly and cancels each other symmetrically, so that the influence is minimized.

Excellent Static Pressure Effect Characteristics

Figure 16: Zero Point Variation of Sensor Chips Under Static Pressure

For Test Samples 1~4, static pressure ranging from 0 to 100 Bar was applied, and the zero-point variation was monitored. The results show that the zero-point variation remained within $\pm 0.075\%$ FS, demonstrating the sensor chips' excellent static pressure

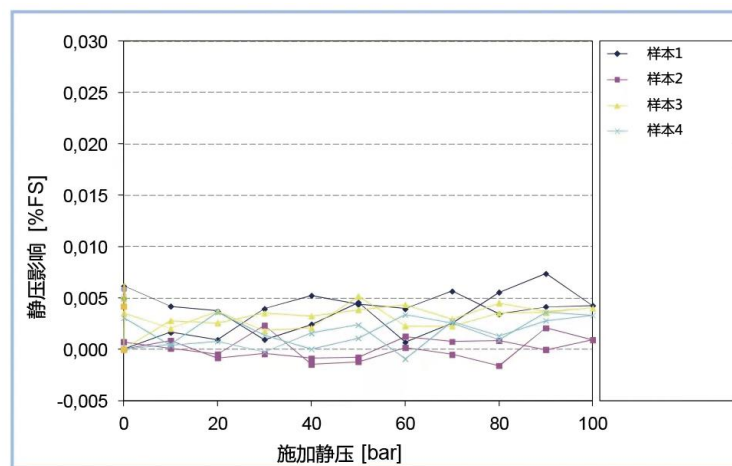


Figure 16

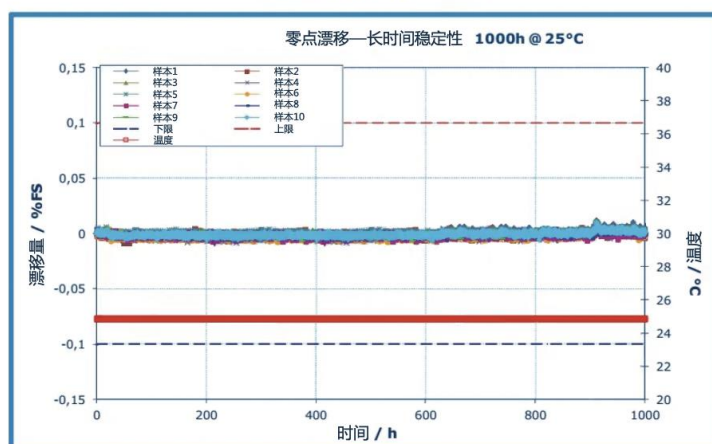
○ Excellent Small Range Performance

ZONER 530 series pressure transmitters feature a minimum measurement range of -1 to 1 kPa (range 0) with a minimum measurable range of 50 Pa. For enhanced sensitivity, a diaphragm structure without protective film (diaphragm material code 0) is available. When measuring micro-pressure, the maximum single-side overpressure reaches 2.5 MPa.

Figures 17 and 18 Present the Long-Term Stability Test Results for the Sensor Chips Operating in Range 0 (1 KPa) and Range 1 (6 KPa).

As shown in the figure, samples 1-10 were observed for 1000 hours at 25°C without significant drift.

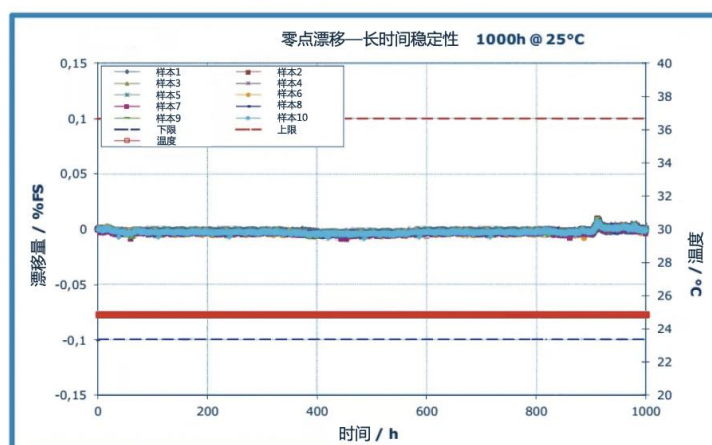
量程号段0 (1kPa)



(图17)

Figure 17

量程号段1 (6kPa)



(图18)

Figure 18

○ Backlight wide-temperature LCD display, operating within a temperature range of -40°C to 80°C

ZONER 530 series pressure transmitters feature a backlight non-transparent reflective VA LCD display module, with an operating temperature range of -40°C to 80°C. This enables reliable operation in northern winter's extreme cold without requiring an insulated housing, significantly reducing maintenance costs.

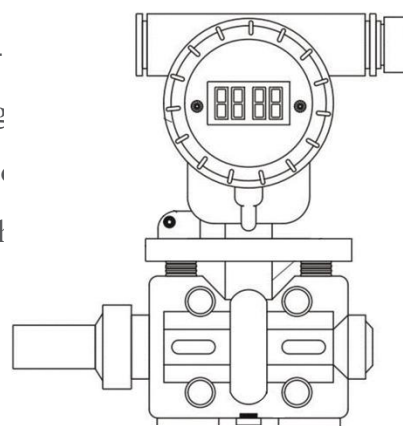


Figure 19

◉ Modular Connector Design for a Simpler, more Reliable Internal Structure

ZONER 530 series pressure transmitters are designed with a modular architecture.

A transmitter is composed of four parts: sensor head, circuit board, terminal block and electronic housing. To keep the structure simple and reliable, the components are connected in the latest form, with no messy cables inside.



◉ Failure Mode Alarm

ZONER 530 series pressure transmitters feature a hardware failure mode alarm function powered by a dedicated self-diagnostics chip. This chip monitors the instrument's operational status and, upon detecting abnormalities, generates an alarm current (with customizable high or low thresholds) while displaying fault codes on the screen. Even when the MCU (Microcontroller Unit) malfunctions, the instrument continues to emit alarms, enabling real-time monitoring of equipment conditions.

◉ Industry-Leading Bluetooth Connectivity

ZONER 530 series pressure transmitters feature low-power circuitry and optional Bluetooth connectivity. They can be connected to the meter for debugging via smartphones or other mobile devices.

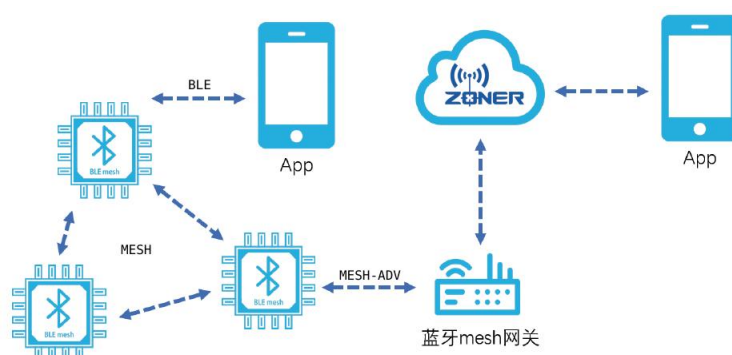
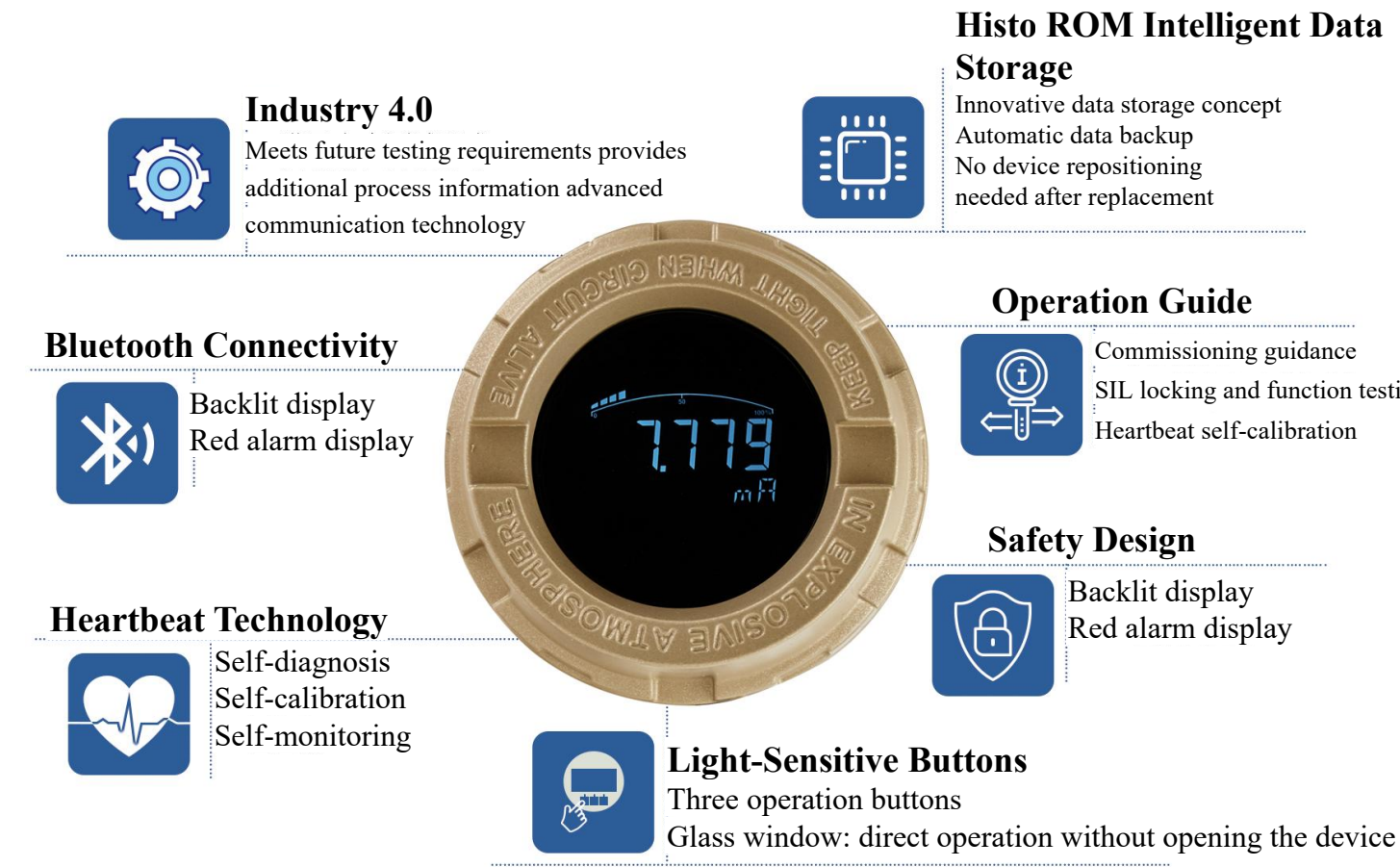


Figure 20

◉ Debug via Top Quick Service Buttons or Menu

ZONER 530 Series Pressure Transmitter comes standard with quick service buttons. Slide open the top label to access straightforward menus for fast device commissioning—no need to remove the transmitter cover during operation. This allows safe configuration in hazardous areas using the external top buttons, eliminating the need for a separate handheld communicator.



◉ Mature, Reliable & Leading ZONER RTS Remote Seal Measurement Technology

- Use a large diaphragm design (at least 2 inches).
- Can be used in high vacuum applications.
- Can be used in high temperature applications without capillary insulation and heating (temperature range can reach -105~600°C).
- With a wide range of sealing options, ZONER RTS remote sensing sealing assemblies are available in flanged, threaded, sanitary, and special process connection types.
- Meet a variety of industry standards.
- Available in multiple diaphragm materials and coatings, including 316L, 316L gold-plated, Hastelloy C, tantalum, Monel, nickel, titanium, duplex steel 2507, and Inconel 600, designed for demanding applications involving corrosion, wear, and hydrogen embrittlement.
- Optional diaphragm thicknesses of 50µm, 76µm, and 150µm are available to meet high-sensitivity or corrosive/wear applications.
- Two optional capillary diameters are available to optimize environmental temperature effects and system response time.
- Multiple filling solutions available, including low-temperature, high-temperature, and food-grade applications.
- Adopt mature and reliable manufacturing processes. Conduct 100% helium leak detection to eliminate welding defects.
- The diaphragm features a sunken design to prevent accidental damage during transportation.

◉ Factory-integrated Valve Manifold - High-quality, Convenient & Easy to use

- Carefully engineered and manufactured to deliver optimal performance for ZONER 530 transmitters.
- Through integrated factory assembly, it saves customers' installation time and costs while ensuring the safety of the seal.
- It has a rich variety of forms, materials, and configurations.

ZONER 530 Pressure/Differential Pressure Transmitter Technical Specifications

■ Performance Specifications

The following technical specifications conformance to at least $\pm 3\sigma$.

◎ Reference Accuracy

Stated reference accuracy equations includes terminal based nonlinearity, hysteresis, and repeatability of the limit point setting, in accordance with the IEC60770 standard. The following are the parameter values based on the calibrated range.

◆ Differential Pressure Transmitter		
Sensor Range	Reference Measurement Accuracy (S1 High Precision)	Reference Measurement Accuracy (S2 Standard Precision)
Range 0 (-1~1kPa)	Accuracy: $\pm 0.10\%$ of Span For Spans < 50% URL: Accuracy = $\pm 0.1\%$ URL	N/A
Range 1 (-6~6kPa)	Accuracy: $\pm 0.04\%$ of Span For Spans < 50% URL: Accuracy = $\pm 0.075\%$ URL	Accuracy: $\pm 0.065\%$ of Span For Spans < 50% URL: Accuracy = $\pm [0.055 + 0.005(\text{URL}/\text{Span})]\%$ of Span
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	Accuracy: $\pm 0.04\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.015 + 0.005(\text{URL}/\text{Span})]\%$ of Span	Accuracy: $\pm 0.055\%$ of Span For Spans < 10% URL: Accuracy = $\pm 0.1\%$ of Span
Vertical Mount Gauge Pressure Transmitter		
Sensor Range	Reference Measurement Accuracy (S1 High Precision)	Reference Measurement Accuracy (S2 Standard Precision)
Range 2 (-40~40kPa)	Accuracy: $\pm 0.04\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.015 + 0.005(\text{URL}/\text{Span})]\%$ of Span	Accuracy: $\pm 0.055\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.025 + 0.005(\text{URL}/\text{Span})]\%$ of Span
Range 3 (-100~100kPa) Range 4 (-100~400kPa) Range 5 (-0.1~4MPa) Range 6 (-0.1~10MPa) Range 7 (-0.1~40MPa) Range 8 (-0.1~60MPa)	Accuracy: $\pm 0.04\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.025 + 0.005(\text{URL}/\text{Span})]\%$ of Span	Accuracy: $\pm 0.055\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.035 + 0.005(\text{URL}/\text{Span})]\%$ of Span
◆ Vertical Mount Absolute Pressure Transmitter		
Sensor Range	Reference Measurement Accuracy (S1 High Precision)	Reference Measurement Accuracy (S2 Standard Precision)
Range 4 (0~400kPa) Range 5 (0~4MPa) Range 6 (0~10MPa) Range 7 (0~40MPa)	Accuracy: $\pm 0.04\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.025 + 0.005(\text{URL}/\text{Span})]\%$ of Span	Accuracy: $\pm 0.055\%$ of Span For Spans < 10% URL: Accuracy = $\pm [0.035 + 0.005(\text{URL}/\text{Span})]\%$ of Span

◎ **Turndown Ratio**

The turndown ratio refers to the ratio of the maximum measurable range to the minimum measurable range of an instrument. This index is a key metric for evaluating the measurable range of a pressure transmitter. A larger Range Ratio means that good measurement performance can be achieved even if process parameters change; meanwhile, you can cover pressure measurement points with fewer spare parts.

◆ Differential Pressure Transmitter		
Sensor Range	Turndown Ratio (S1 High Accuracy)	Turndown Ratio (S2 Standard Accuracy)
Range 0 (-1~1kPa)	20:1	20:1
Range 1 (-6~6kPa)	50:1	50:1
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	200:1	100:1
◆ Vertical Mount Gauge Pressure Transmitter		
Sensor Range	Turndown Ratio (S1 High Accuracy)	Turndown Ratio (S2 Standard Accuracy)
Range 2 (-40~40kPa)	50:1	50:1
Range 3 (-100~100kPa) Range 4 (-100~400kPa) Range 5 (-0.1~4MPa) Range 6 (-0.1~10MPa) Range 7 (-0.1~40MPa) Range 8 (-0.1~60MPa)	200:1	100:1
◆ Vertical Mount Absolute Pressure Transmitter		
Sensor Range	Turndown Ratio (S1 High Accuracy)	Turndown Ratio (S2 Standard Accuracy)
Range 4 (0~400kPa) Range 5 (0~4MPa) Range 6 (0~10MPa) Range 7 (0~40MPa)	200:1	100:1

◎ **Total Performance (Differential pressure only)**

The total performance error is a metric for evaluating pressure transmitters' performance under fixed pipeline pressure conditions. This comprehensive error assessment considers reference accuracy, environmental temperature effects, and static pressure impacts, with specific parameters including: a temperature variation of 28°C (50°F), a pipeline pressure fluctuation of 6.9MPa (1000 PSI), and a measurement range of at least 20% of the full-scale range (URL).

Total performance error = ± $\sqrt{E1^2 + E2^2 + E3^2}$

- E1: Reference accuracy for calibration range
- E2: Impact of every 28° change in ambient temperature
- E3: The effect of static pressure change of 6.9MPa

◆ Differential Pressure Transmitter		
Sensor Range	Total Performance Error (S1 High Accuracy)	Total Performance Error (S2 Standard Accuracy)
Range 0 (-1~1kPa)	±0.175%of span	N/A
Range 1 (-6~6kPa)	±0.123%of span	±0.156%of span
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	±0.119%of span	±0.129%of span

© Long Term Stability

Long-term stability is a critical metric for pressure transmitters. Through observation data from the product development phase and extensive long-term stability testing, we have established standardized performance benchmarks. ZONER 530 demonstrates exceptional stability under extreme conditions: operating within $\pm 28^{\circ}\text{C}$ temperature fluctuations and with pipeline pressures reaching up to 6.9MPa (1000PSI), while maintaining reliable differential pressure measurement performance even under overpressure conditions.

◆ Differential Pressure Transmitter		
Sensor Range	Stability (S1 High Accuracy)	Stability (S2 Standard Accuracy)
Range 0 (-1~1kPa)	$\pm 0.05\%$ URL /Year	N/A
Range 1 (-6~6kPa)	$\pm 0.03\%$ URL /Year	$\pm 0.04\%$ URL /Year
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	$\pm 0.03\%$ URL /Year	$\pm 0.04\%$ URL /Year

◆ Vertical Mount Gauge Pressure Transmitter		
Sensor Range	Stability (S1 High Accuracy)	Stability (S2 Standard Accuracy)
Range 2 (-40~40kPa)	$\pm 0.03\%$ URL /Year	$\pm 0.04\%$ URL /Year
Range 3 (-100~100kPa) Range 4 (-100~400kPa) Range 5 (-0.1~4MPa) Range 6 (-0.1~10MPa) Range 7 (-0.1~40MPa) Range 8 (-0.1~60MPa)	$\pm 0.05\%$ URL /Year	$\pm 0.06\%$ URL /Year

◆ Vertical Mount Absolute Pressure Transmitter		
Sensor Range	Stability (S1 High Accuracy)	Stability (S2 Standard Accuracy)
Range 4 (0~400kPa) Range 5 (0~4MPa) Range 6 (0~10MPa) Range 7 (0~40MPa)	$\pm 0.05\%$ URL /Year	$\pm 0.06\%$ URL /Year

© Dynamic Response Time

Dynamic response time refers to the total duration for an instrument to transmit a pressure signal. ZONER 530 was tested at 24°C ambient temperature with a damping coefficient set to 0 seconds, simulating the analog output response time.

The formula is: Dynamic response time = Instrument refresh time T1 + Pressure relief response time T63 (100%~37% time)

◆ Differential Pressure Transmitter			
Sensor Range	Refresh timeT1	Release Pressure Response Time T63	Dynamic Response Time (T1+T63)
Range 0 (-1~1kPa)	45ms	400ms	445ms
Range 1 (-6~6kPa)	45ms	155ms	200ms
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	45ms	20ms	65ms

◆ Vertical Mount Gauge Pressure Transmitter			
Sensor Range	Refresh timeT1	Release Pressure Response Time T63	Dynamic Response Time (T1+T63)
Range 2 (-40~40kPa)	45ms	20ms	65ms
Range 3 (-100~100kPa) Range 4 (-100~400kPa) Range 5 (-0.1~4MPa) Range 6 (-0.1~10MPa) Range 7 (-0.1~40MPa) Range 8 (-0.1~60MPa)	45ms	20ms	65ms

◆ Vertical Mount Absolute Pressure Transmitter			
Sensor Range	Refresh time T1	Release Pressure Response Time T63	Dynamic Response Time (T1+T63)
Range 4 (0~400kPa) Range 5 (0~4MPa) Range 6 (0~10MPa) Range 7 (0~40MPa)	45ms	20ms	65ms

© Static Effect (Differential Pressure only)

The static pressure effect refers to the combined influence of zero-point error and range error on the differential pressure transmitter when 6.9MPa (1000PSI) static pressure is applied.

◆ Differential Pressure Transmitter		
Sensor Range	Static Pressure Effect (S1 High Accuracy)	Static Pressure Effect (S2 Standard Accuracy)
Range 0 (-1~1kPa)	±0.12% URL	N/A
Range 1 (-6~6kPa)	±0.1% URL	±0.1% URL
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	±0.1% URL	±0.1% URL

© Mounting Position Effects

The difference between horizontal and vertical positions is approximately 200Pa (which can be calibrated out.

No span effect).

© Vibration Effect

Less than ±0.1% of URL when tested per the requirements of IEC60770-1:1999.

© Power Supply Effect

Less than ±0.005% of calibrated span per volt.

© Electromagnetic Compatibility (EMC)

Meet all relevant requirements of EN 61326 and Namur NE-21.

© Transient Protection (Option code P1)

Tested in accordance with IEEE C62.41.2-2002, location category B

6 KV crest (0.5 μs-100 kHz)

3 KA crest (8×20 μs)

6 KV crest (1.2×50 μs)

© Ambient Temperature Effect per 50 °F (28 °C)

Apply $\pm 28^{\circ}\text{C}$ temperature changes to test the pressure transmitter's response to each 28°C environmental temperature change.

◆ Differential Pressure Transmitter		
Sensor Range	Ambient Temperature Effect (S1 High Accuracy)	Ambient Temperature Effect (S2 Standard Accuracy)
Range 0 (-1~1kPa)	$\pm 0.1\%$ URL	N/A
Range 1 (-6~6kPa)	$\pm 0.08\%$ URL	$\pm 0.1\%$ URL
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	$\pm 0.06\%$ URL	$\pm 0.1\%$ URL
◆ Vertical Mount Gauge Pressure Transmitter		
Sensor Range	Ambient Temperature Effect (S1 High Accuracy)	Ambient Temperature Effect (S2 Standard Accuracy)
Range 2 (-40~40kPa)	$\pm 0.05\%$ URL	$\pm 0.06\%$ URL
Range 3 (-100~100kPa) Range 4 (-100~400kPa) Range 5 (-0.1~4MPa) Range 6 (-0.1~10MPa) Range 7 (-0.1~40MPa) Range 8 (-0.1~60MPa)	$\pm 0.1\%$ URL	$\pm 0.1\%$ URL
◆ Vertical Mount Absolute Pressure Transmitter		
Sensor Range	Ambient Temperature Effect (S1 High Accuracy)	Ambient Temperature Effect (S2 Standard Accuracy)
Range 4 (0~400kPa) Range 5 (0~4MPa) Range 6 (0~10MPa) Range 7 (0~40MPa)	$\pm 0.1\%$ URL	$\pm 0.1\%$ URL

© Overpressure Limits

The overpressure limit refers to the upper limit of the maximum working pressure of the pressure transmitter without damage, or the maximum pressure limit on one side of the differential pressure transmitter.

◆ Differential Pressure Transmitter		
Sensor Range	One Side Overpressure (Positive side)	One Side Overpressure (Negative Side)
Range 0 （-1~1kPa）	2.5MPa	2MPa
Range 1 （-6~6kPa）	4MPa	3.5MPa
Range 2 （-40~40kPa）	10MPa	8MPa
Range 3 （-100~100kPa）	15MPa	14MPa
Range 3 （-400~400kPa）	15MPa	14MPa
Range 5 （-4~4MPa）	17MPa	15MPa
Range 6 （-10~10MPa）	17MPa	15MPa
◆ Vertical Mount Gauge Pressure Transmitter		
Sensor Range	Overpressure Limit	
Range 2 （-40~40kPa）	10MPa	
Range 3 （-100~100kPa）	15MPa	
Range 4 （-100~400kPa）	15MPa	
Range 5 （-0.1~4MPa）	20MPa	
Range 6 （-0.1~10MPa）	20MPa	
Range 7 （-0.1~40MPa）	80MPa	
Range 8 （-0.1~60MPa）	80MPa	
◆ Vertical Mount Absolute Pressure Transmitter		
Sensor Range	Overpressure Limit	
Range 4 （0~400kPa）	15MPa	
Range 5 （0~4MPa）	20MPa	
Range 6 （0~10MPa）	20MPa	
Range 7 （0~40MPa）	80MPa	
Range 8 （0~60MPa）	80MPa	

© Static Pressure Limit (Differential Pressure only)

The static pressure limit refers to the maximum pressure value that the high and low pressure sides of the differential pressure transmitter can withstand at the same time.

◆ Differential Pressure Transmitter		
Sensor Range	Static Pressure Limit (S1 High Accuracy)	Static Pressure Limit (S2 Standard Accuracy)
Range 0 (-1~1kPa)	5MPa	N/A
Range 1 (-6~6kPa)	10MPa	10MPa
Range 2 (-40~40kPa) Range 3 (-100~100kPa) Range 4 (-400~400kPa) Range 5 (-4~4MPa) Range 6 (-10~10MPa)	17MPa (up to 40MPa for HS high static pressure option)	17MPa (up to 40MPa for HS high static pressure option)

© Temperature Limits

◆ Differential Pressure Transmitter	
Type	Temperature Limit
Ambient	-40 to 85°C, with LCD display: -40 to 80°C
Storage	-45 to 110°C with LCD display; -40 to 80°C
Silicone fill sensor	-45 to 120°C
Inert fill sensor	-20 to 100°C
RTS Assembly	Refer to the RTS remote transmission sealing assembly selection section

© Humidity Limits

0–100 percent relative humidity

© Turn-On Time

Performance within specifications less than 2.0 seconds

© Power Supply (4-20mA HART output)

External power supply required; Standard transmitter (4-20 mA) operates on 12.5-45 Vdc with no load.

© Load Limitations (4-20mA HART output)

Max. loop resistance = (power supply voltage – 12.5)/21.75mA

Communication requires a minimum loop resistance of 250 ohms.

■ Functional Specification

◎ Output

Two-wire 4–20 mA, user selectable for linear or square root output. Digital process variable superimposed on 4–20 mA signal, available to any host that conforms to HART Protocol.

◎ Failure Mode Alarm

If self-diagnostics detect a sensor or microprocessor failure, the analog signal is driven either high or low to alert the user. High or low failure mode is user-selectable with a jumper/switch on the transmitter.

Alarm current: High alarm $\geq 21.75\text{mA}$, Low alarm $\leq 3.75\text{mA}$

Saturation current: $\leq 20.8\text{mA}$ upper limit $\geq 3.9\text{mA}$ lower limit

◎ Refresh Time

Refresh 22 times per second or refresh every 45ms.

◎ Zero Trim

The zero point can be adjusted arbitrarily within the upper and lower range of the sensor range of the pressure transmitter.

◎ Quick Service Buttons

Configure in hazardous-area locations without removing the transmitter cover using external buttons.

◎ Bluetooth Connectivity (BT code)

After selecting Bluetooth communication, you can log in ZONER app to debug the pressure transmitter.

◎ Built-in LCD display

The standard configuration features a light-emitting, non-transparent VA LCD panel with luminous display content and a black background, with a temperature resistance range of -40°C to 80°C .

■ Physical Specifications

◎ Process Wetted parts

For details on the materials of the diaphragm, support flange, diaphragm head gasket, and exhaust/drainage valve, please refer to the order selection information. The flange adapter is made of 316 SST, and the adapter gasket is made of PTFE.

◎ Non-wetted parts

Bolt: 316 SST Housing: Low-copper aluminum alloy (YL104) with polyurethane paint, optional 316 SST

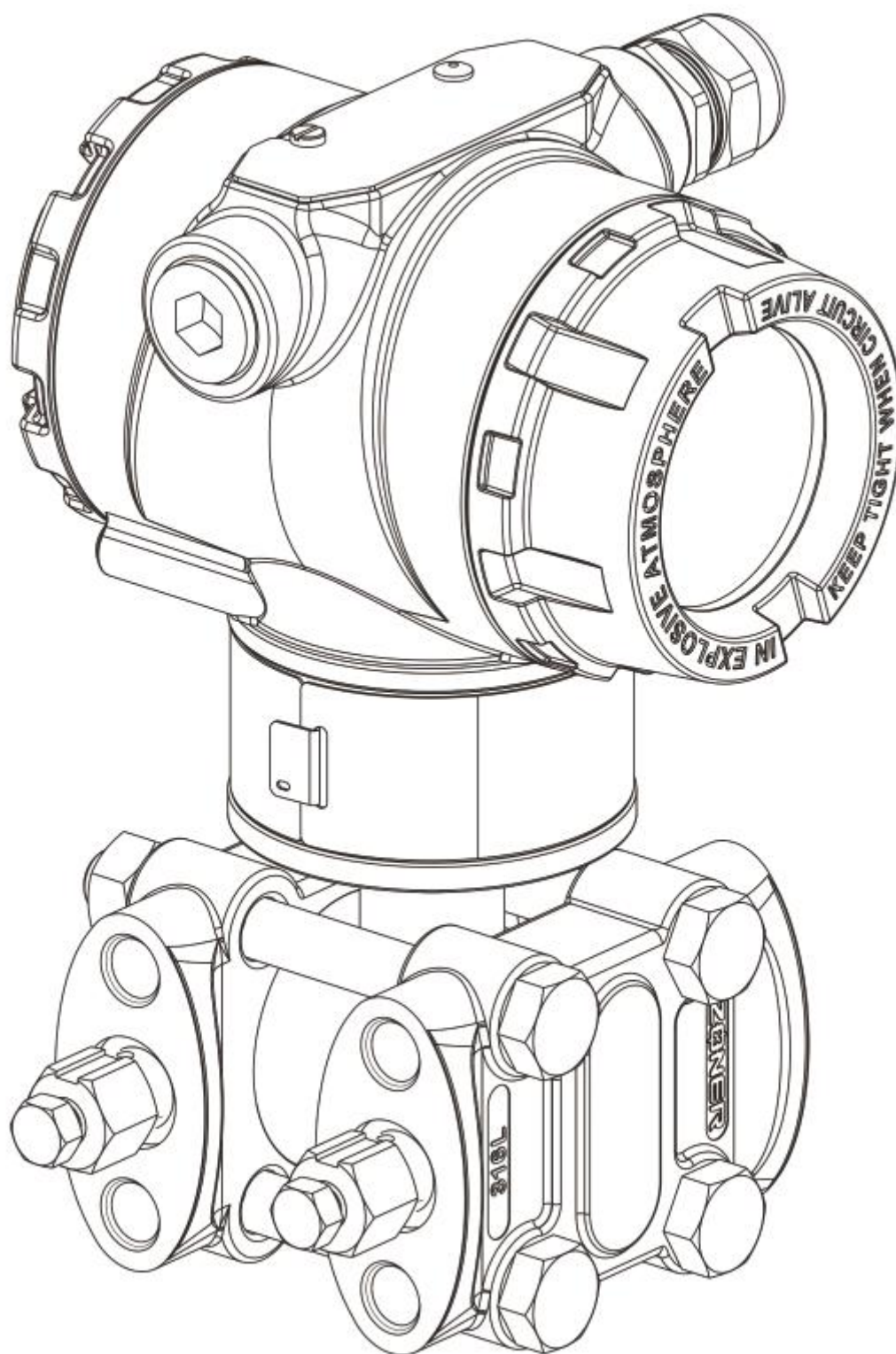
Protection rating: IP66/IP67

Cover O-ring: Nitrile rubber

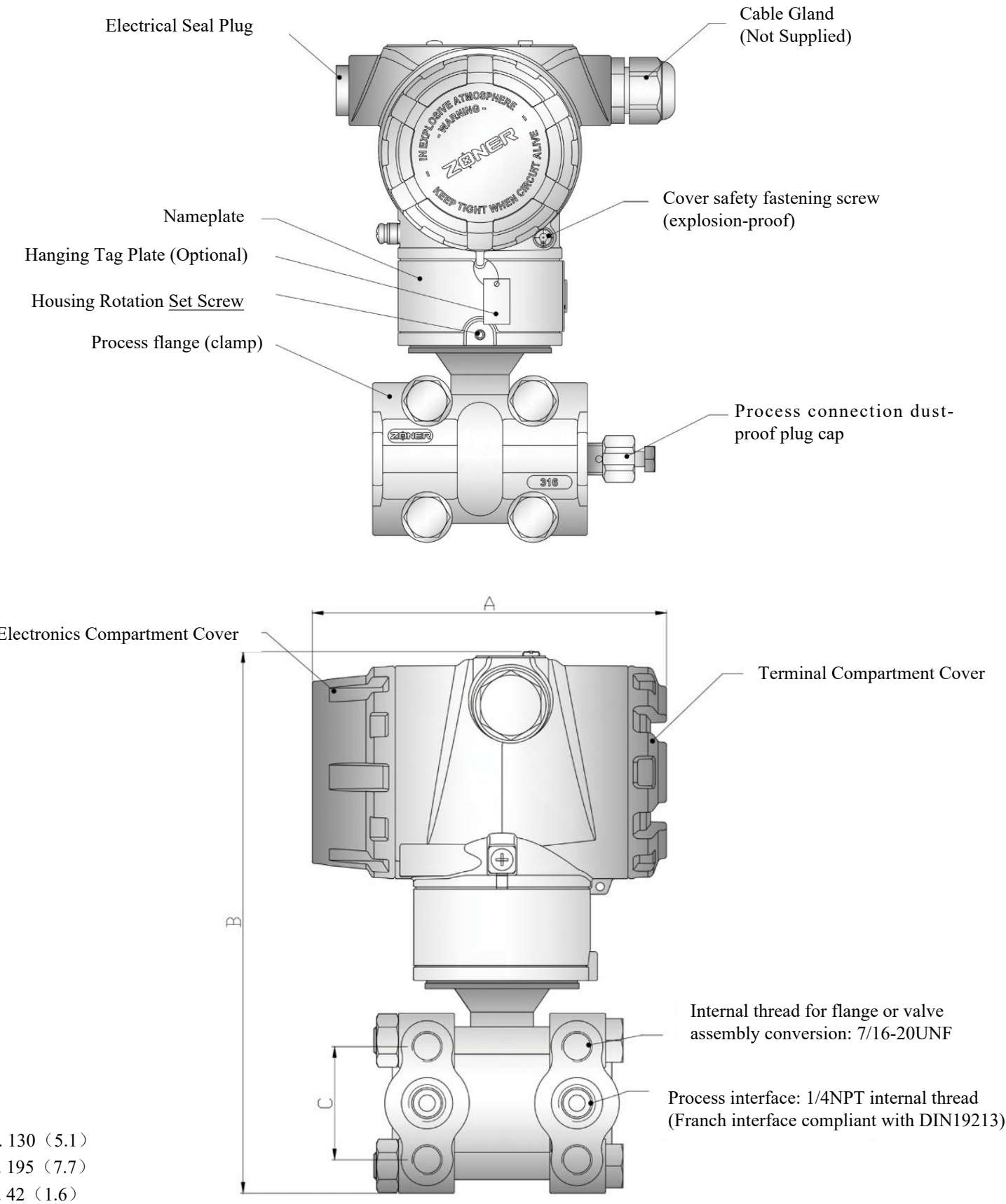
Material of nameplate and position plate: 316 SST

Fill fluid: silicone oil, inert liquid, vegetable oil

ZONER 530 Pressure/Differential Pressure Transmitter Technical Drawings

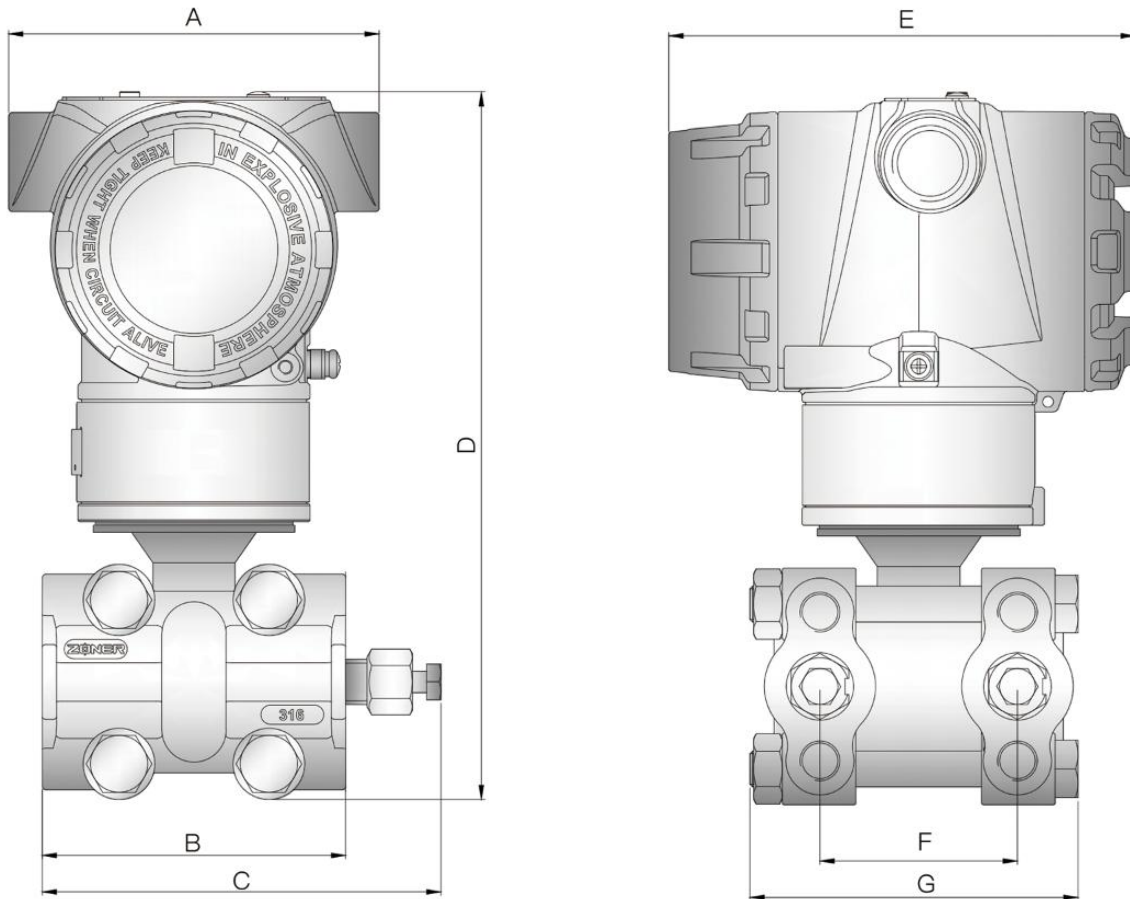


© 530 Differential Pressure Transmitter Structure Drawing



All dimensions in mm (inches)

© 530 Differential Pressure Transmitter Overall Dimension Drawing

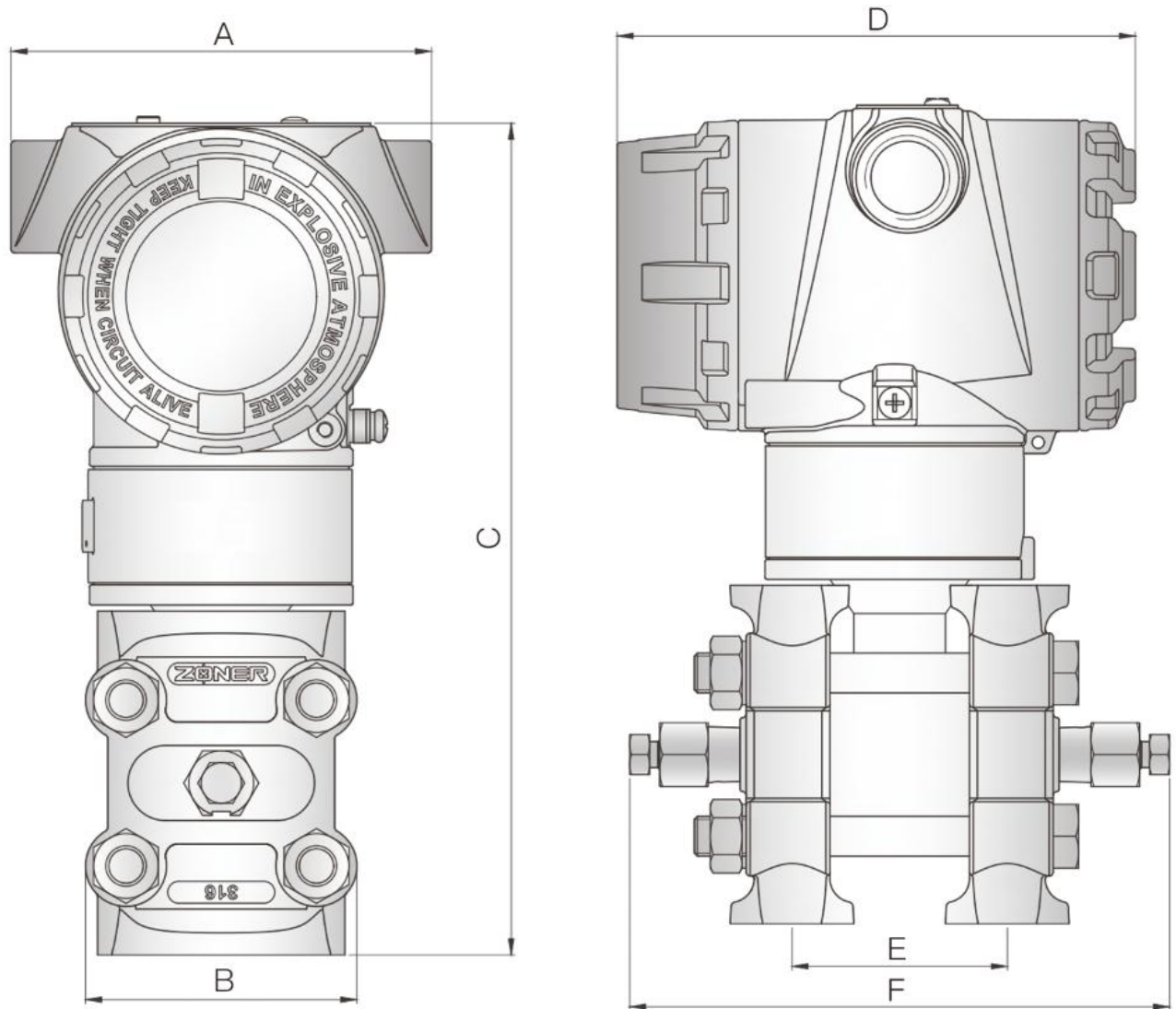


All dimensions in mm (inches)

A. 104 (4.1)
B. 85 (3.3)
C. 112 (4.4)
D. 195 (7.7)

E. 130 (5.1)
F. 54 (2.1)
G. 97 (3.8)

© Coplanar-Compatible 530 Differential Pressure Transmitter Overall Dimension Drawing

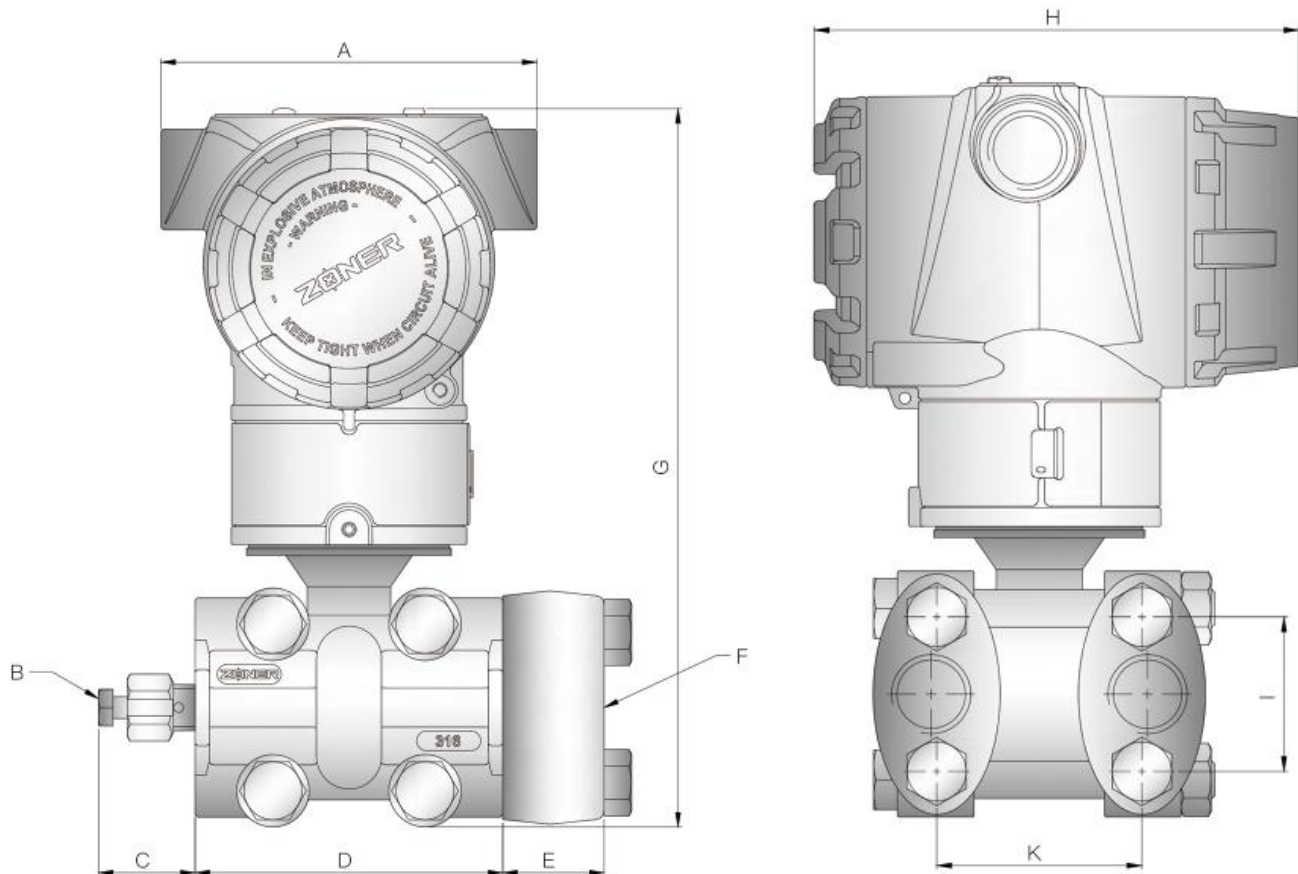


All dimensions in mm (inches)

A. 104 (4.1)
B. 67 (2.6)
C. 206 (8.1)

D. 130 (5.1)
E. 54 (2.1)
F. 136 (5.3)

© 530 Differential Pressure Transmitter with 1/2 -14 NPT Adapter Flange (AF) Overall Dimension Drawing

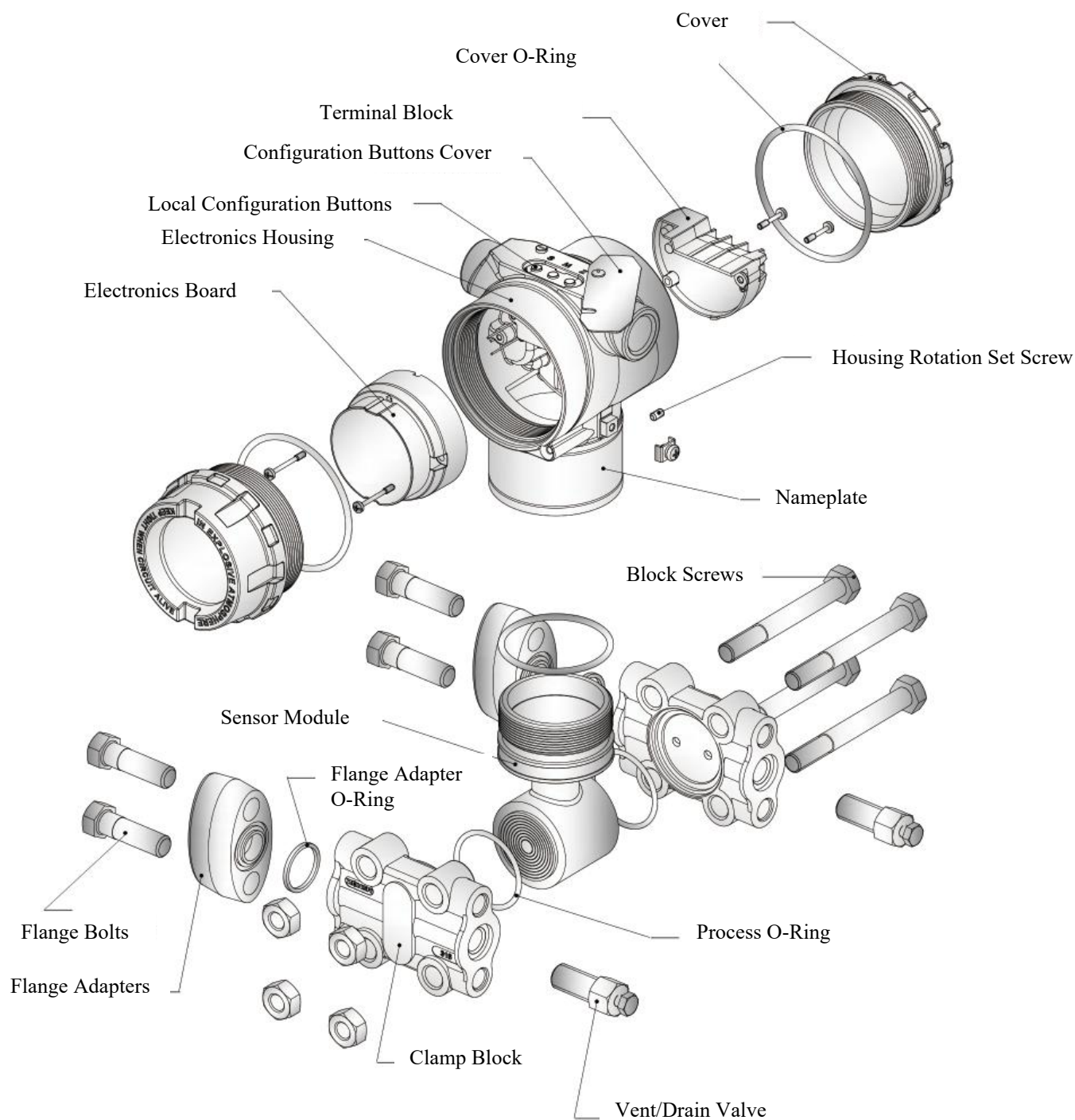


All dimensions in mm (inches)

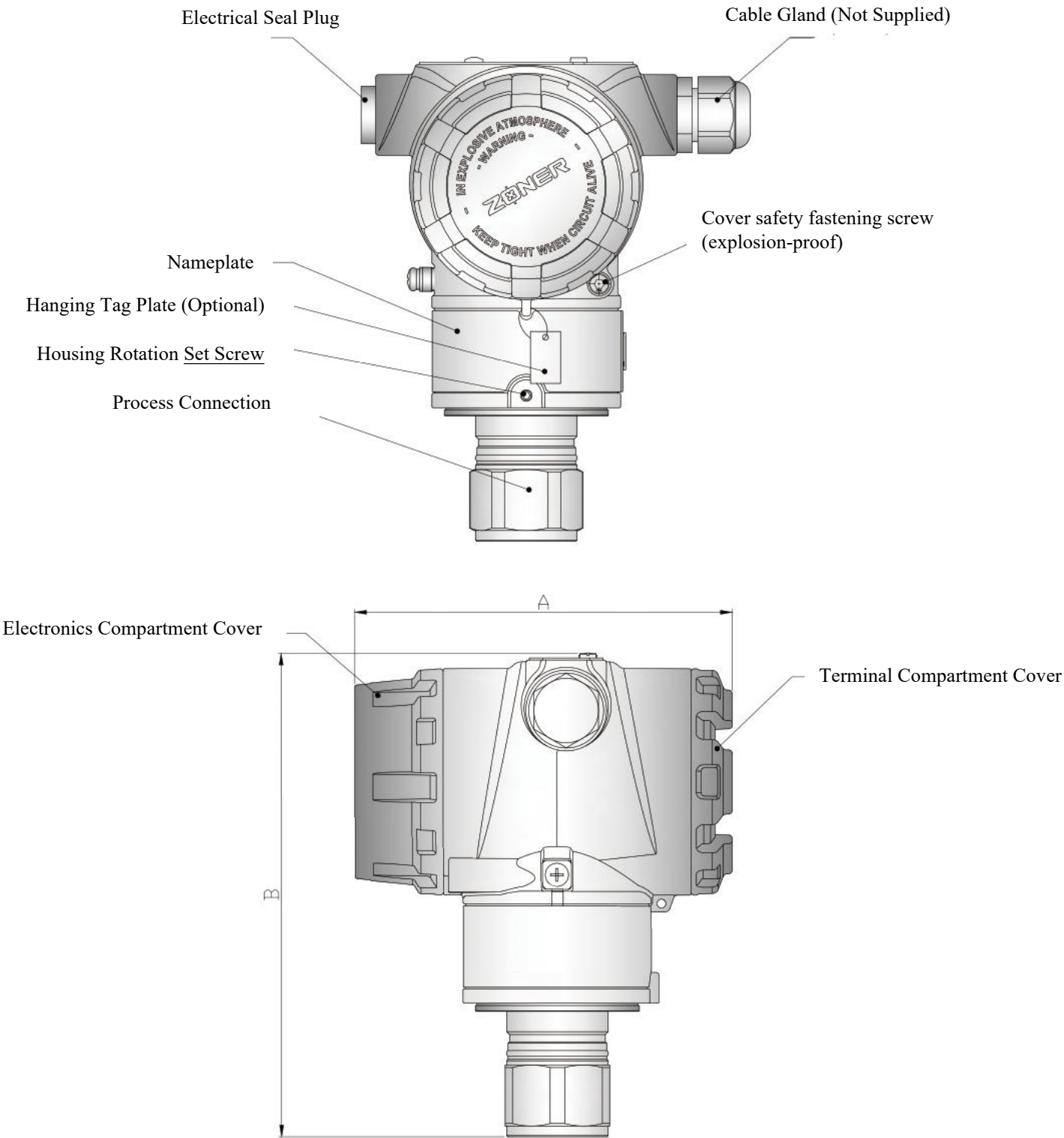
- A. 104 (4.1)
- B. Vent/Drain Valve
- C. 29 (1.1)
- D. 85 (3.3)
- E. 28 (1.1)
- F. Flange Adapter(Optional)
- G. 195 (7.7)

- H. 130 (5.1)
- I. 42 (1.6)
- K. 54 (2.1)

© 530 Differential Pressure Transmitter Structural Exploded Drawing

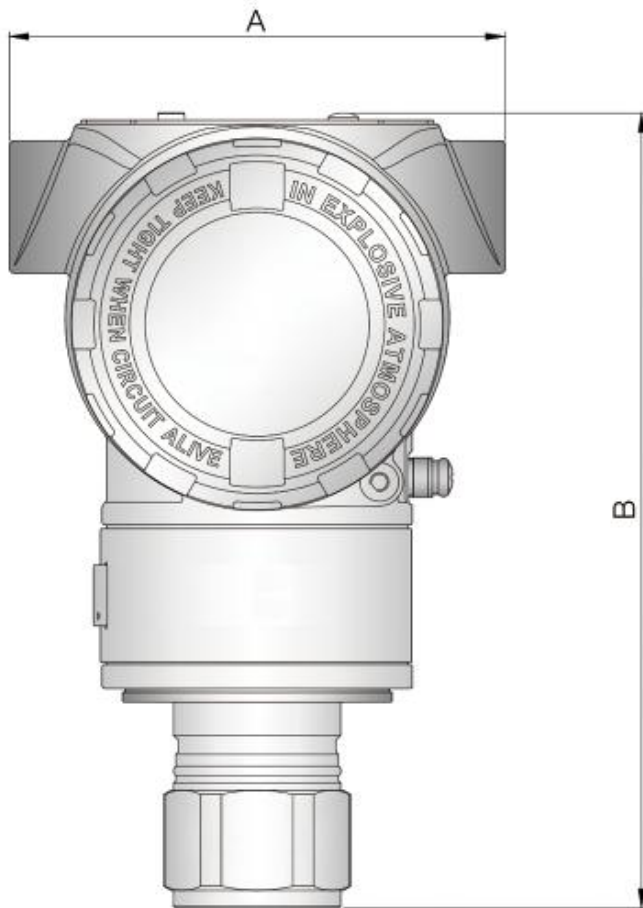


© 530 Direct Mount Pressure Transmitter Structure Drawing



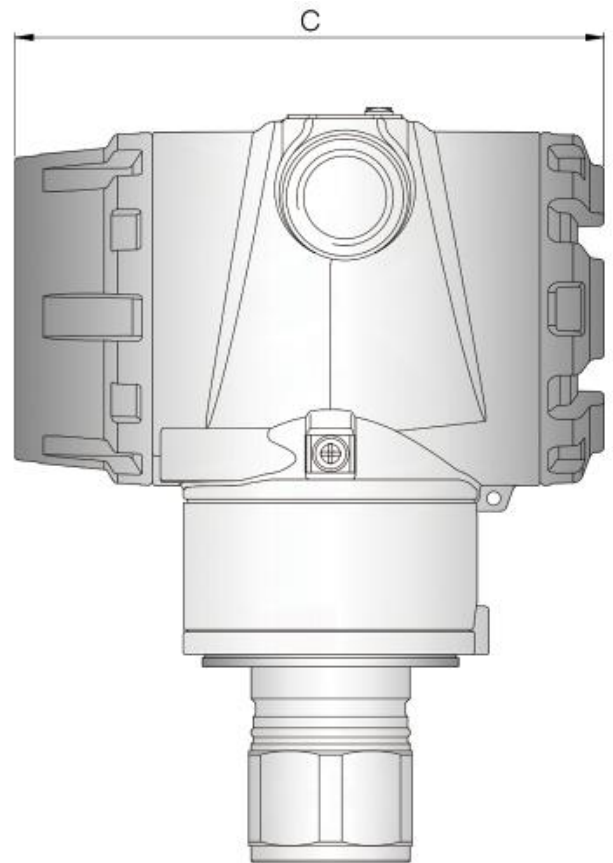
- A. 130 (5.1)
- B. 195 (7.7)

© 530 Direct Mount Pressure Transmitter Overall Dimension Drawing



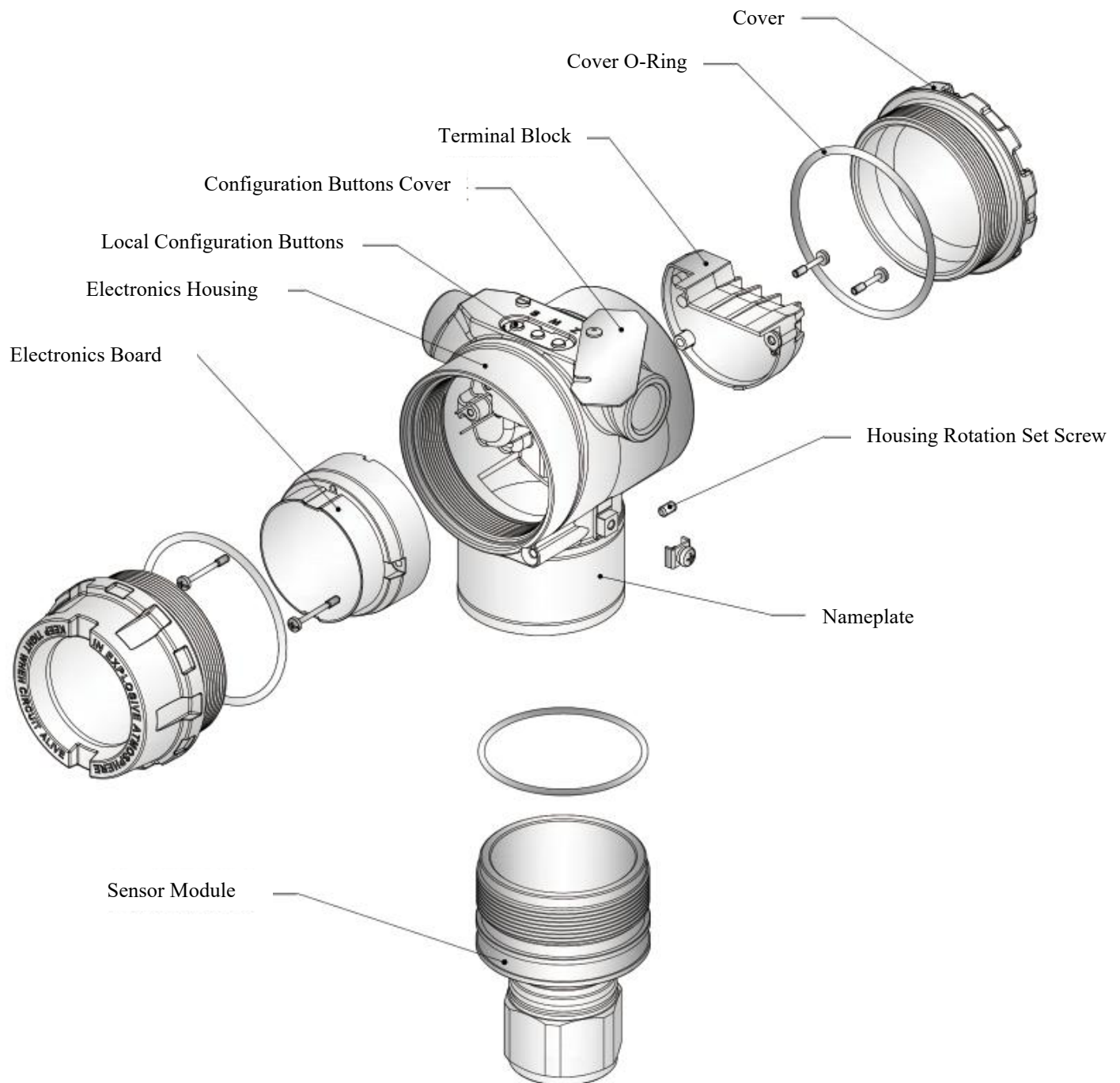
A. 104 (4.1)

B. 163 (6.4)

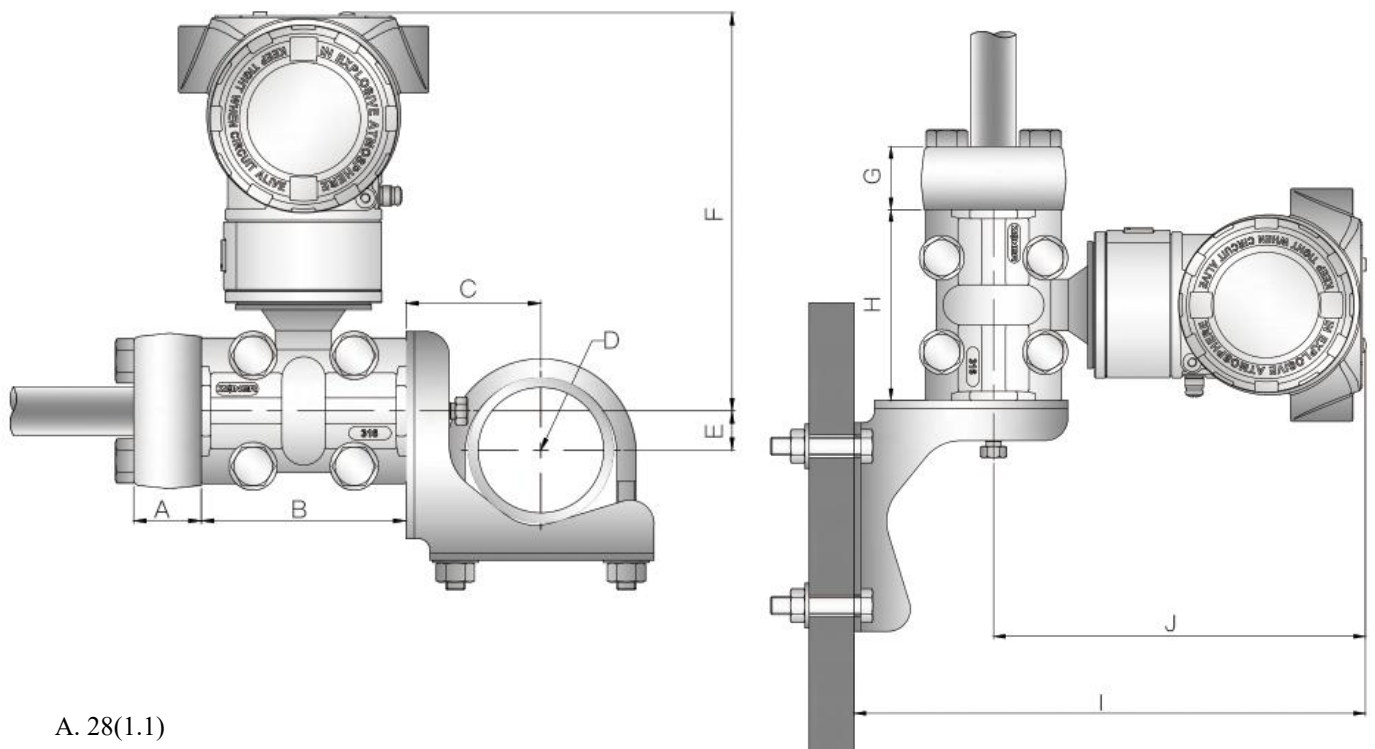


C. 130 (5.1)

© 530 Direct Mount Pressure Transmitter Structural Exploded Drawing

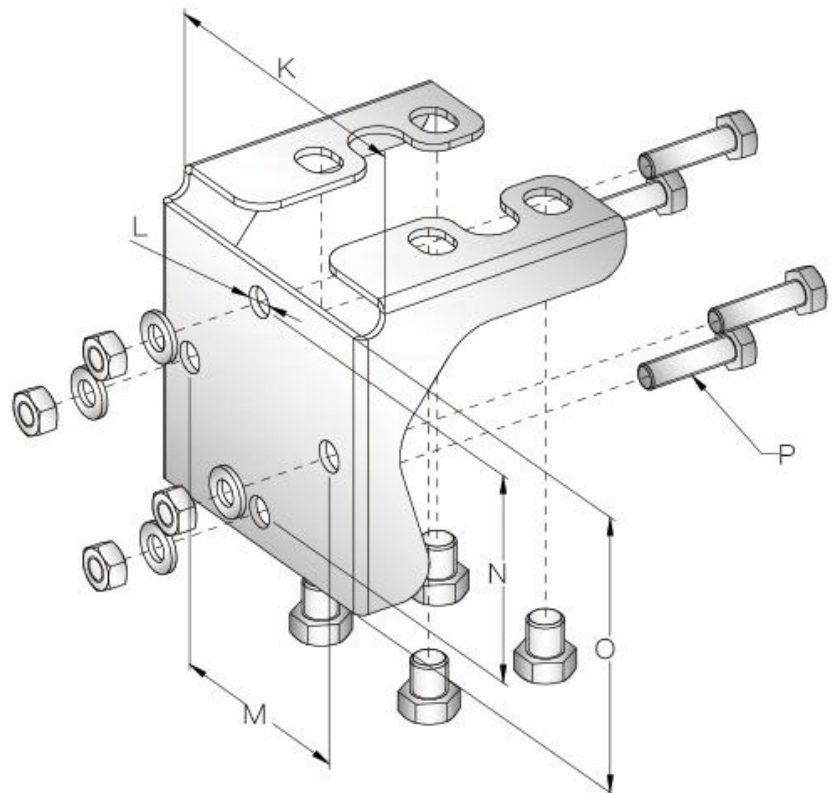


© 90° Bracket (B0) Pipe and Panel Mounting Drawing For 530 Differential Pressure Transmitter



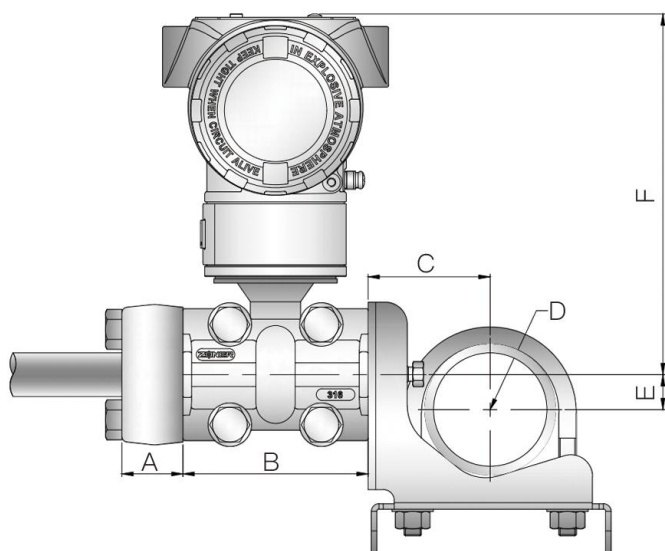
- A. 28(1.1)
- B. 85(3.3)
- C. 56(2.2)
- D. 2-inch mounting pipe
- E. 16(0.6)
- F. 158(6.2)
- G. 28(1.1)
- H. 85 (3.3)
- I. 224(8.8)
- J. 158(6.2)

- K. 102(4)
- L. 4-Ø9.5(0.3)
- M. 71(2.8)
- N. 71(2.8)
- O. 93(3.6)
- P. M8X40 Hex head bolts
(Not Supplied)



All dimensions in mm (inches)

© Pipe Mounting Drawing for 530 Differential Pressure Transmitter with 90° Coplanar Structure Bracket (B5/B7)



A. 28 (1.1)

B. 85 (3.3)

C. 56 (2.2)

D. 2-inch mounting pipe

E. 16 (0.6)

F. 158 (6.2)

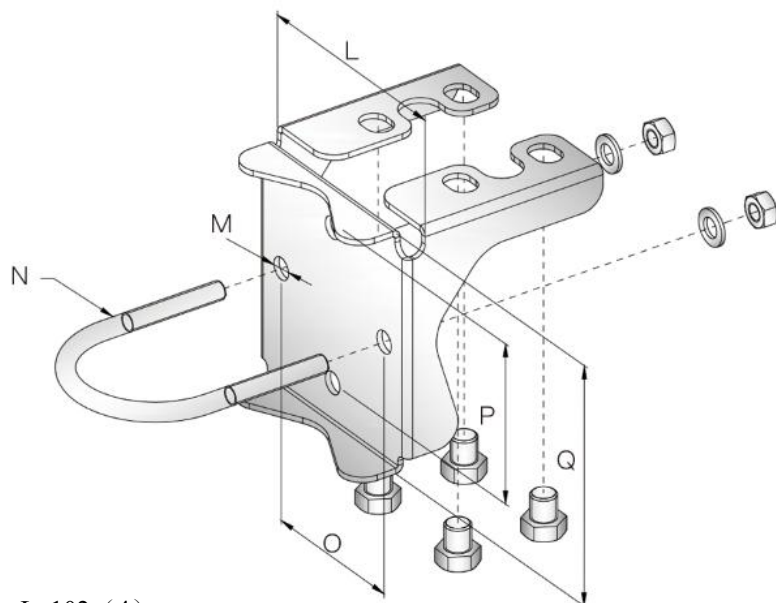
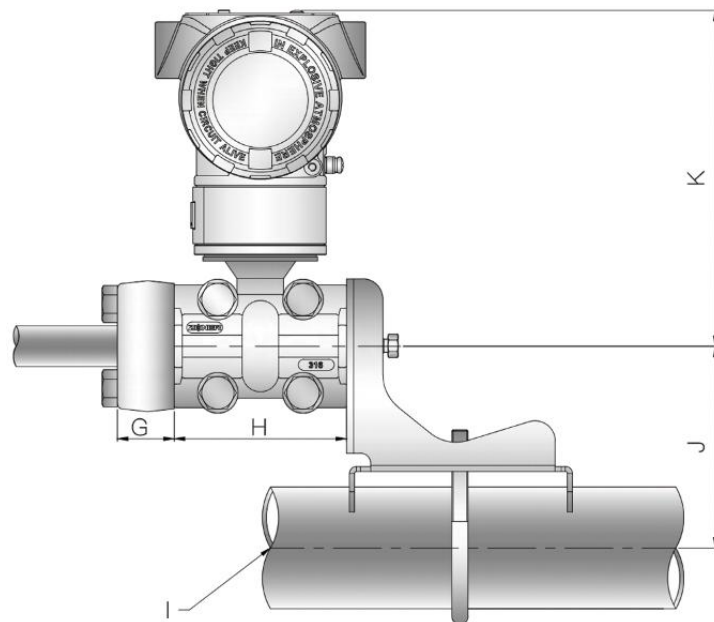
G. 28 (1.1)

H. 85 (3.3)

I. 2-inch mounting pipe

J. 100 (3.9)

K. 158 (6.2)



L. 102 (4)

M. 4- $\varnothing$ 9.5 (0.3)

N. 2 inch U Bolt for pipe mounting

O. 71 (2.8)

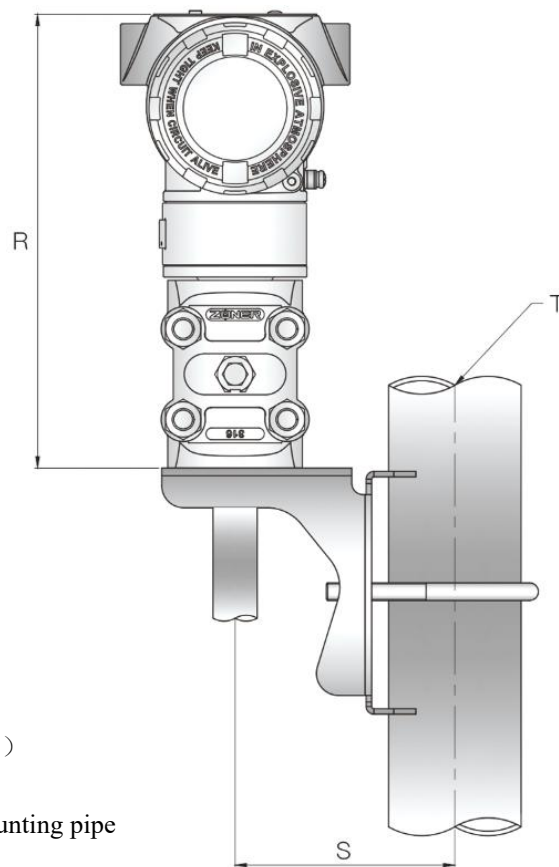
P. 71 (2.8)

Q. 110 (4)

R. 206 (8.11)

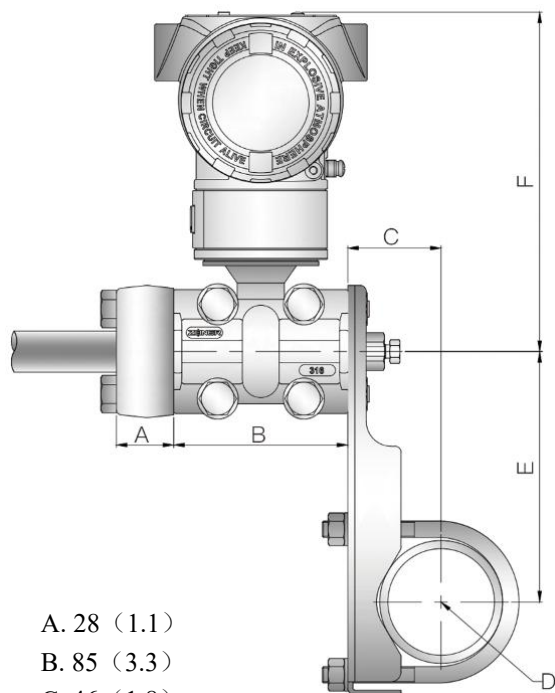
S. 100 (3.9)

T. 2-inch mounting pipe

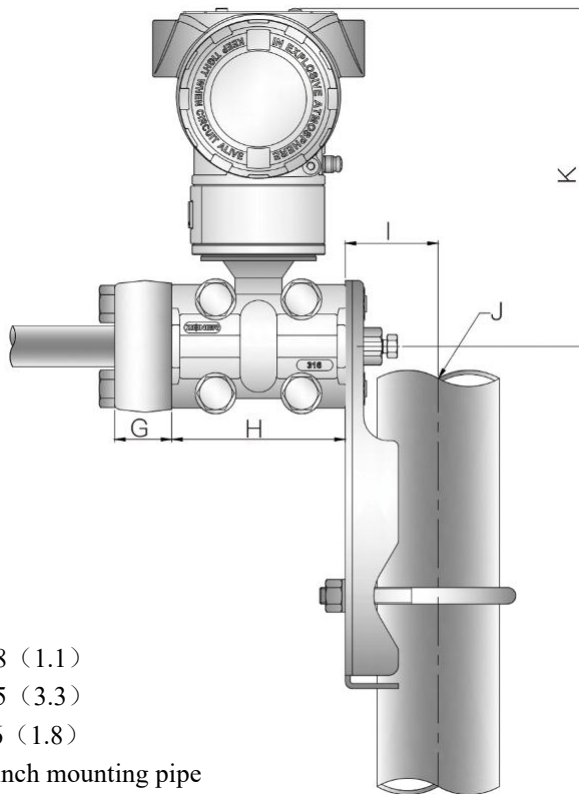


All dimensions in mm (inches)

© Pipe Mounting Drawing for 530 Differential Pressure Transmitter with Coplanar Structure Flat Bracket (B6/B8)

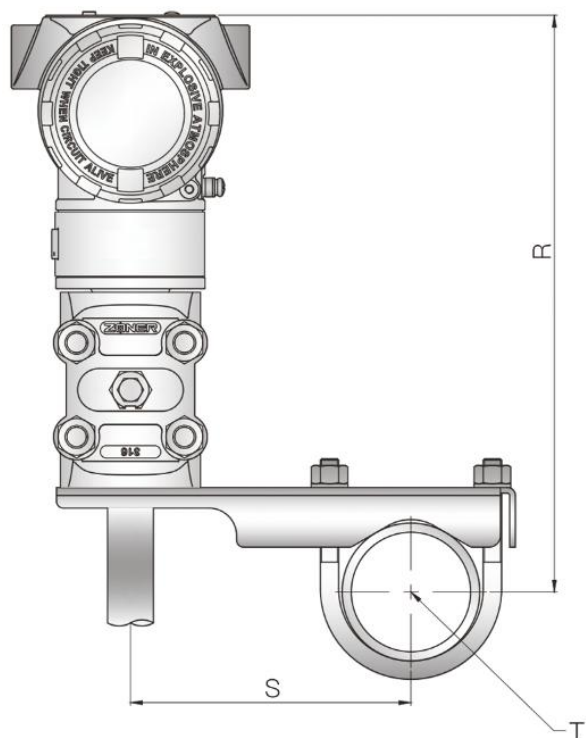


- A. 28 (1.1)
- B. 85 (3.3)
- C. 46 (1.8)
- D. 2-inch mounting pipe
- E. 122 (4.8)
- F. 158 (6.2)

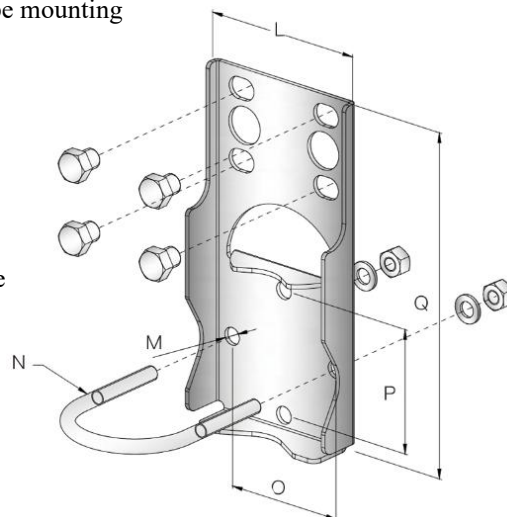


- G. 28 (1.1)
- H. 85 (3.3)
- I. 46 (1.8)
- J. 2-inch mounting pipe
- K. 158 (6.2)

Replace Coplanar Structure

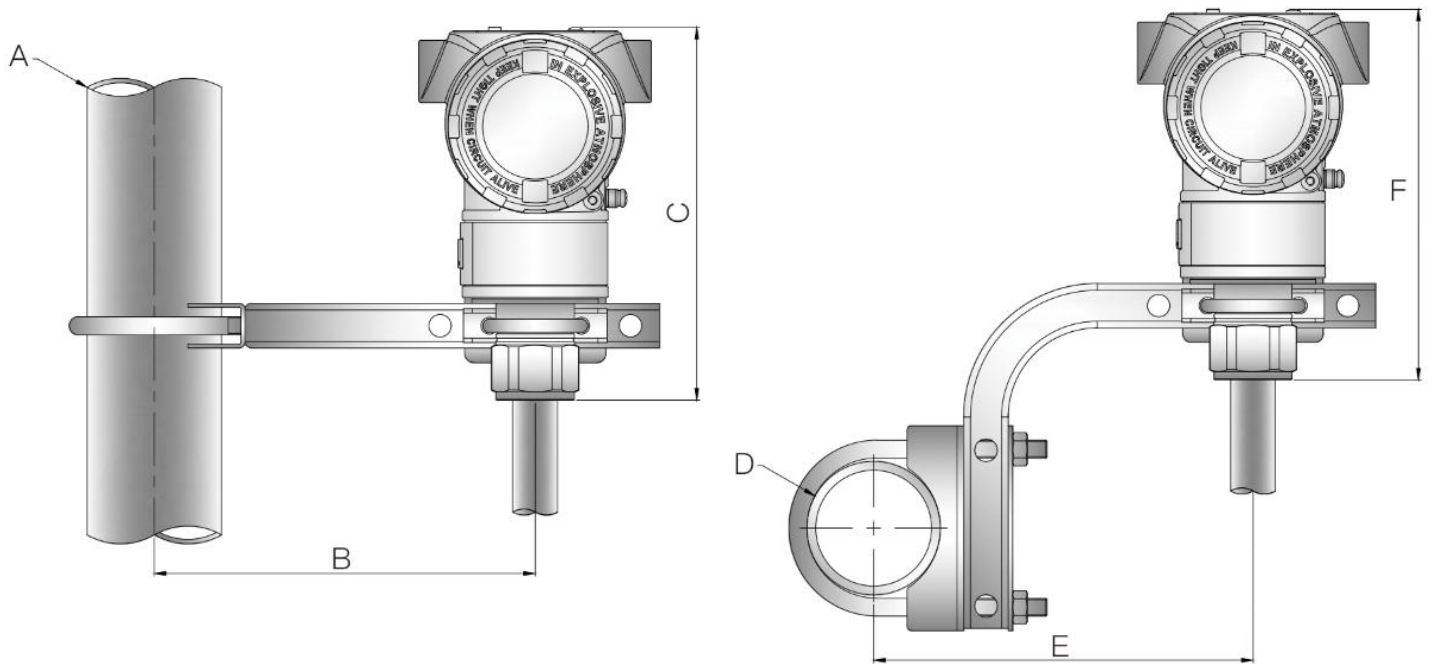


- L. 96 (3.7)
- M. 4-ø 9.5 (0.3)
- N. 2 inch U Bolt for pipe mounting
- O. 71 (2.8)
- P. 71 (2.8)
- Q. 200 (7.8)
- R. 251 (9.9)
- S. 122 (4.8)
- T. 2-inch mounting pipe



All dimensions in mm (inches)

© Pipe Mounting Drawing for 530 Vertical Mount Pressure Transmitter with L-Type Square Tube Bracket



A. 2-inch mounting pipe

B. 170 (6.6)

C. 163 (6.4)

D. 2-inch mounting pipe

E. 170 (6.6)

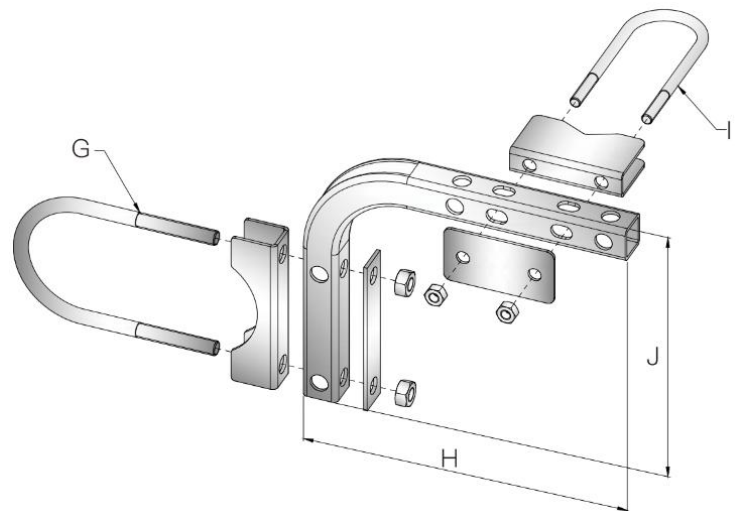
F. 163 (6.4)

G. 2-inch U-bolt for pipe mounting

H. 180 (7.1)

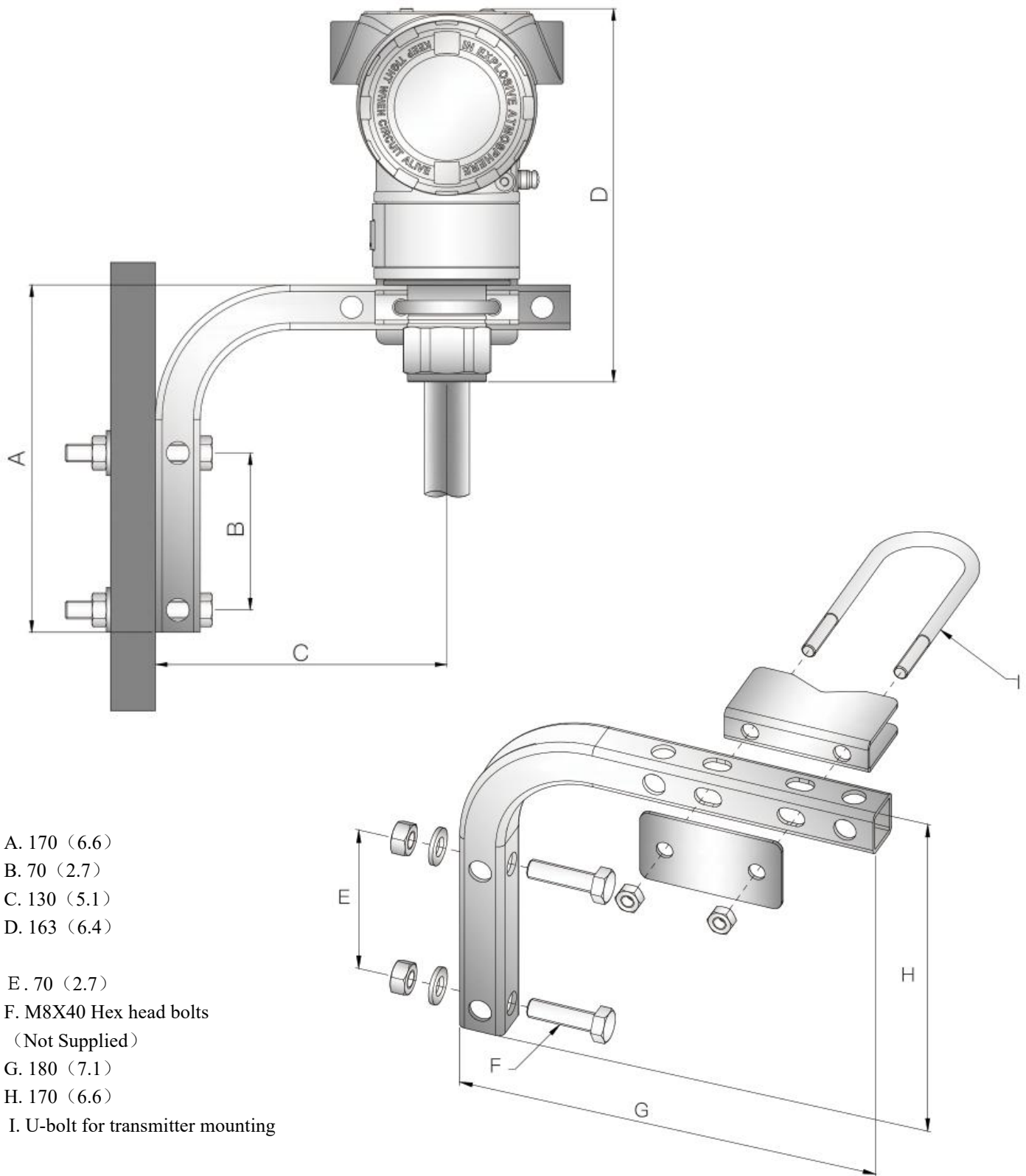
I. U-bolt for transmitter mounting

J. 170 (6.6)



All dimensions in mm (inches)

© Panel Mounting Drawing for 530 Vertical Mount Pressure Transmitter with L-Type Square Tube Bracket (B9)



All dimensions in mm (inches)

530 Pressure Transmitter Ordering Guide

Model Example	530	S	1	D	3	A	2	2	A	1	A	—	BT	B6	C9	M1	P1	
Required Code																		

- The selection code is divided into two parts: required code and optional code.
- Required codes must be arranged in order and cannot be changed .
- If you need to select a pressure or differential pressure transmitter with a remote sealing system, please select 530...R1 or R2 and configure the required RTS model in the remote sealing selection section later.
- If you need to select a pressure or differential pressure transmitter for an integrated valve assembly, please select 530...V2, V3 or V5 and configure the required MVS model in the valve assembly selection section later.
- Please carefully read the comments within the parentheses in the code to understand the selection details.

Content	Required Code	Code Description			
Product Series	530	530 Series Pressure or Differential Pressure Transmitter			
Measurement Principle	S	Silicon resistor			
Accuracy Class ⁽¹⁾	1	±0.04% accuracy			
	2	±0.055 % accuracy			
Measurement Type	D	Differential pressure measurement			
	G ⁽²⁾	Differential pressure gauge measurement			
	T	Vertical Mount gauge pressure measurement			
	A	Vertical Mount absolute pressure measurement			
Pressure Range		Differential Pressure Range	Differential pressure Gauge Range	Vertical Mount Gauge Pressure Range	Vertical Mount Absolute Pressure Range
	0 ⁽³⁾	-1~1kPa	-1~1kPa	N/A	N/A
	1	-6~6kPa	-6~6kPa	N/A	N/A
	2	-40~40kPa	-40~40kPa	-40~40kPa	N/A
	3	-100~100kPa	-100~100kPa	-100~100kPa	N/A
	4	-400~400kPa	-101~400kPa	-101~400kPa	0~400kPa
	5	-4~4MPa	-0.1~4MPa	-0.1~4MPa	0~4MPa
	6	-10~10MPa	-0.1~10MPa	-0.1~ 10 MPa	0 ~ 10 MPa
	7	N/A	N/A	-0.1~40MPa	0~40MPa
	8	N/A	N/A	-0.1 ~	N/A
Transmitter output		A	4~20 mA, using digital signals based on the HART® protocol.		

(1) The accuracy of the 0 range (-1~1kPa) is ±0.1%.

(2) The sensor structure is consistent with the differential pressure, the low-pressure side is open to the atmosphere, and there is a dust plug.

(3) Tantalum films are N/A.

Content	Required Code	Code Description
Structure Formal/ Materials/ Process Connection (1)	2	Traditional flange, 316 SST, 316 SST vent/drain , process connection 1/4-18 NPT female thread.
	3	Traditional flange, alloy C-276, alloy C-276 vent/drain, process connection 1/4-18 NPT female thread.
	4	Traditional flange, Monel, Monel vent/drain, process connection 1/4-18 NPT female thread.
	5	Traditional flange, 316 SST, alloy C-276 vent/drain , process connection 1/4-18 NPT female thread.
	6	Traditional flange, 316 SST, Monel vent/drain, process connection 1/4-18 NPT female thread.
	7	Traditional flange, high static pressure type up to 40MPa static pressure, 316 SST, 316 SST vent/drain, process connection 1/4-18NPT female thread.
	A	Vertical Mount, process connection material 316L SST, process connection 1/2-14NPT female thread.
	B	Vertical Mount, process connection material alloyC-276 , process connection 1/2-14NPT female thread.
	C	Vertical Mount, process connection material Monel, process connection 1/2-14NPT female thread.
	D	Vertical Mount, process connection material 316L SST, process connection G1/2 male thread.
	E	Vertical Mount, process connection material alloy C-276, process connection G1/2 male thread.
	F	Vertical Mount, process connection material Monel, process connection G1/2 male thread.
Diaphragm Material (2)	2	316L SST ⁽³⁾
	3	Alloy C-276 ⁽⁴⁾
	4	Monel ⁽⁵⁾
	5	Tantalum ⁽⁶⁾
	6	Gold-plated Monel (used in conjunction with O-ring option code B) ⁽⁷⁾
	7	Gold-plated 316 SST ⁽⁸⁾
	0	Without a diaphragm, the pressure-sensing element directly contacts the medium ⁽⁹⁾

Content	Required Code	Code Description	
O-ring	A	PTFE (for conventional flange clamp type only)	
	B	Composite FEP (traditional flange clamp type only)	
	0	None (for threaded direct mount type only)	
Sensor Fill Fluid	1	Silicone oil	
	2	Inert fluid (differential pressure and gauge pressure only)	
	3	Vegetable oils (food industry applications)	
	0	No filler fluid (for diaphragmless devices only)	
Casing Material and Conduit Inlet	A	Low-copper cast aluminum alloy (material grade YL104, copper content <0.1%)	½–14 NPT
	B	Copper-cast aluminum alloy (material grade YL104, copper content <0.1%)	M20 x 1.5
	J	316 SST	½–14 NPT
	K	316 SST	M20 x 1.5

(1) The traditional flange clamp type is suitable for differential pressure structures and only provides 1/4 NPT(F) process connection. If 1/2 NPT(F) process connection is required, please select AF (optional) code.

For single-threaded port structures, please select the direct-thread type. Additionally, the corrosiveness of the medium and the characteristics of the wetted materials must be considered to select the optimal material option.

(2) Users must consider the corrosiveness of the medium and the characteristics of the wetted material to select the optimal material option. Inappropriate material selection may lead to leakage of corrosive media.

It can cause injury to personnel and damage to factory facilities. Damage to the diaphragm may also cause the sensor filling fluid to mix into the medium, affecting production.

(3) It can be used in environments where the tested medium is non-corrosive or slightly corrosive.

(4) It can be used in environments where the tested medium has general acid or alkali corrosiveness, and can also be used in environments with a small amount of chloride ion corrosiveness.

(5) When used in conjunction with O - ring option code B, it can be used in high-pressure pure oxygen environment or small amount of hydrofluoric acid environment.

(6) It can be used in environments where the tested medium has strong acid corrosiveness (such as hydrochloric acid, nitric acid, etc.), and can also be used in environments containing a large amount of chloride ions. It is prohibited to use it with hydrofluoric acid. Alkaline and corrosive environments.

(7) When used in conjunction with O - ring option code B, it can be used in environments with small amounts of hydrofluoric acid.

(8) The gold plating thickness is 5 micrometers, which can be used in hydrogen-containing applications to prevent hydrogen permeation.

(9) Please confirm that the medium is relatively clean, non-corrosive and non-adhesive, and the pressure range is not greater than 100 kPa.

Model Example	530	S	1	D	3	A	2	2	A	1	A	-	BT	B6	C9	M1	P1	
The following individual identifiers are used to identify the individual:																		

- The selection code is divided into two parts: mandatory code and optional code.
- Required codes must be arranged in order and cannot be changed .
- If you need to select a pressure or differential pressure transmitter with a remote sealing system, please select 530...R1 or R2 and configure the required RTS model in the remote sealing selection section later.
- If you need to select a pressure or differential pressure transmitter for an integrated valve assembly, please select 530...V2, V3 or V5 and configure the required MVS model in the valve assembly selection section later.
- Please carefully read the comments within the parentheses in the code to understand the selection details.

Optional codes

Content	Optional Code	Code Description
Sealing Assembly ⁽¹⁾	R1	Assembled into an RTS remote seal
	R2	Assembled into two RTS remote seals ⁽²⁾
Valve Assembly	V2	Assembled into ZONER integrated two-valve manifold
	V3	Assembled into ZONER integrated three-valve manifold
	V5	Assembled into ZONER integrated five-valve manifold
Bluetooth	BT	Bluetooth communication function ⁽³⁾
Mounting Bracket Panel not Included Mounting Bolts	B5	Traditional flange 90° bracket, carbon steel, polyurethane surface, 2-in. (51 mm) pipe clamp, for instrument pipe installation ⁽⁴⁾
	B6	Traditional flange flat bracket, carbon steel, polyurethane surface, 2-in. (51 mm) pipe clamp, for instrument pipe installation ⁽⁵⁾
	B7	Traditional flange 90° bracket, all SST, 2-in. (51 mm) pipe clamp, for instrument pipe installation ⁽⁶⁾
	B8	Traditional flange flat bracket, all SST, 2-in. (51 mm) pipe clamp, for instrument pipe installation ⁽⁷⁾
	B9	L-shaped square tube bracket, all SST, 2-in. (51 mm) SST pipe clamps and Vertical Mount transmitter clamps, for instrument piping installation and panel mounting ⁽⁸⁾
	B0	Traditional flange 90° bracket, made of carbon steel with polyurethane surface, used for panel mounting ⁽⁹⁾
Product Certification	X1	ATEX Intrinsic Safety and ATEX Dust
	X2	ATEX Explosion-Proof and ATEX Dust
	X9	ATEX Intrinsic Safety, ATEX Explosion-Proof, and ATEX Dust
	C1	China Ex ia (Intrinsic Safety), Ex tD (Dust Ignition Protection)
	C2	China Ex d (Flameproof), Ex tD (Dust Ignition Protection)
	C9	China Ex d (Flameproof), Ex tD (Dust Ignition Protection), Ex ia (Intrinsic Safety)

(1) Not usable when the range is 0 or 1

(2) Differential pressure only

(3) Requires use with a mobile app or mini-program.

(4) (5) (6) (7) (9) Differential pressure type structure only

(8) Only for Vertical Mount pressure transmitters

ZONER RTS Remote Seal Assembly

Compatible with the ZONER 530 Series pressure transmitters and suitable for :

- Applications including process level, differential pressure flow, pressure measurement, interface measurement, and density measurement.
- Extreme temperature environments (maximum process temperature up to 600°C and minimum process temperature down to -105°C).
- Corrosive, clogging-prone, or viscous media.
- Hygienic/sanitary applications.
- Special process connection requirements, and customizable for specific customer applications to meet diverse operational needs.



ZONER RTS Remote Seal Assembly

Enables More Stable and Reliable Measurement Performance

- Utilizes a large diaphragm design (minimum 2-inch). Even if the process connection size is less than 2 inches (e.g., 1 inch or 1/2 inch), the wetted area of the diaphragm remains no less than 2 inches through the use of an adapter. The larger wetted area ensures measurement reliability, enhancing measurement sensitivity and accuracy.
- Suitable for high-vacuum applications. The ZONER RTS remote seal assembly offers a fully welded option, where all connections between the sensor and capillary tube are welded and sealed to prevent leaks common in high-vacuum environments. Additionally, pre-treated vacuum-grade Silicone can be selected as the fill fluid to meet high-vacuum application requirements. (It is recommended to select the vacuum application option for operating pressures below 40 kPa-a.)
- Suitable for wide-temperature applications without the need for capillary tube insulation or heat tracing. The ZONER RTS remote seal assembly offers a dual-fill system with two-stage fill fluids, accommodating both high process temperatures and low ambient temperatures simultaneously, eliminating the need for insulation or heat tracing.
- Optional unprotected diaphragm structure. Combined with the ZONER RTS remote seal assembly, it can further optimize overall system performance.
- Diverse seal types available. The ZONER RTS remote seal assembly offers flange, threaded, sanitary, and special process connection options.
- Complies with multiple industry standards. The ZONER RTS remote seal assembly meets EN 1092-1, ASME B16.5, JIS B2238, ASME B1.20.1, EN 10226-1, GOST 33259-15, and ISO 228-1.
- Various diaphragm materials and coatings available, e.g., 316L, 316L gold-plated, Hastelloy C, Tantalum, Monel, Nickel, Titanium, Duplex Steel 2507, Alloy 600. Suitable for demanding applications including corrosion, abrasion, and hydrogen permeation.
- Three diaphragm thickness options: 50µm, 76µm, 150µm, to meet requirements for high sensitivity or abrasive applications.
- Two capillary tube diameters available to optimize environmental temperature effects and system response time.
- Multiple fill fluid options, including low-temperature, high-temperature, and food-grade applications.
- Employs mature and reliable manufacturing processes. Undergoes 100% helium leak testing to eliminate welding defects.
- Diaphragm features a recessed design to prevent accidental damage during handling.

ZONER RTS Remote Seal Assembly Ordering Information-Required Code

Model example	RTS	B	C	D2	C	050	FT	B	2	1	A	SS	A00	—	FP	F1	FS	
Required Code																		

- The selection options are divided into: Required Codes and Optional Codes.
- Required Codes must be specified in the prescribed order; their positions cannot be changed.
- Optional Codes may be selected as needed and can be arranged in any order.

Content	Required Code	Code Description
Product Series	RTS	Remote Seal System
Connection Type ⁽¹⁾	H	High-Pressure Side of Remote Seal System
	L	Low-Pressure Side of Remote Seal System
	B	Identical Remote Seal Systems for High and Low Pressure Sides
Transmitter Side Seal Type (T)	C	Differential Pressure Type – Bolted Gasket Seal (Suitable for Standard Application Conditions) ⁽²⁾
	W	Differential Pressure Type – Fully Welded Seal (Suitable for High Vacuum Conditions) ⁽³⁾
	T	Pressure Type – Fully Welded Seal (Suitable for High Vacuum Conditions) ⁽⁴⁾

(1) You may choose either identical seal systems for both high and low pressure sides (Code B), or first select the high-pressure side seal system (Code H) followed by the low-pressure side seal system (Code L).

(2) Suitable for ordinary positive pressure applications.

(3) Suitable for high Vacuum Applications (operating pressure < 40 kPa-A).

(4) This code must be selected for vertical mount pressure transmitters.

Seal Fill Fluid (Required Code)						
Code	Fill Fluid	Specific Gravity at 25°C	Temperature Limit			
			For Differential Pressure 50mm Extension/ Gauge Pressure No extension	For Differential Pressure 100mm Extension	For Differential Pressure 100mm Extension/ Gauge Pressure 150mm Extension	Capillary Connection
D2	Silicone 200	0.934	-45~205°C			
V2	Silicone 200 for Vacuum Applications		Refer to Vapor-pressure Curve for Vacuum Applications below 100 kPa-a			
D3	Silicone 550 ⁽¹⁾	1.07	-40~240°C	-40~300°C	-40~350°C	
V3	Silicone 550 ⁽¹⁾ for Vacuum Applications	1.07	Refer to the Vapor-pressure Curve for Vacuum Applications below 100 kPa-a			
D4	Silicone 704	1.07	0~240°C	0~300°C	0~315°C	
V4	Silicone 704 for Vacuum Applications	1.07	Refer to the Vapor-pressure Curve for vacuum applications below 100 kPa-a			
D5	Silicone 705 ⁽¹⁾	1.09	20~240°C	20~300°C	20~370°C	
V5	Silicone 705 ⁽¹⁾ for Vacuum Applications	1.09	Refer to the Vapor-pressure Curve for Vacuum Applications below 100 kPa-a			
SX	SYLTHERM™ XLT ⁽²⁾	0.85	-105~145°C			
F1	Inert Fluid (Fluorocarbon Oil) ⁽²⁾	1.85	-45~160°C			
V0	MultiTherm PG-1® ⁽³⁾	0.872	-30~240°C	-30~300°C	-30~316°C	
Z5	Wide-Temperature Dual Fill (Silicone 200 & 705 combination)	0.934/1.09	/	/	-45~370°C	
Z8	Wide-Temperature Dual Fill ⁽⁴⁾ (Silicone 200 & Gallium-Indium-Tin Alloy combination)	0.934/5.904	/	/	-45~400°C	-45~600°C

(1) The internal diameter of the capillary must be 1.905 mm.

(2) Not suitable for negative pressure applications.

(3) Food-grade application.

(4) The diaphragm can only function properly when the temperature of the media in contact with it is at least 50°C or higher.

Content	Required Code	Code Description
Capillary Specifications	A	Direct Connection Without Capillary
	C	1.092 mm ID
	D	1.905 mm ID
	F	1.092 mm ID, PVC Coated (Temperature Limit: 100°C. Exceeding May Cause Damage.)
	G	1.905 mm ID, PVC Coated (Temperature Limit: 100°C. Exceeding May Cause Damage.)
	H	1.092 mm ID, PTFE Coated, Temperature Limit: 260°C
	I	1.905 mm ID, PTFE Coated, Temperature Limit: 260°C

Content	Required Code	Code Description
Seal Connection Type and Length (Unit: m)	D00	Direct Mount, Direct Connection Without Capillary, Connector Length 0 mm
	D15	Direct Mount, Direct Connection Without Capillary, Connector Length 150 mm
	D05	Differential Pressure, Direct Connection Without Capillary, Connector Length 50 mm
	D10	Differential Pressure, Direct Connection Without Capillary, Connector Length 100 mm
	D20	Differential Pressure, Direct Connection Without Capillary, Connector Length 200 mm
	003	Capillary Length: 300 mm
	005	Capillary Length: 500 mm
	010	Capillary Length: 1m
	015	Capillary Length: 1.5 m
	020	Capillary Length: 2 m
	025	Capillary Length: 2.5 m
	030	Capillary Length: 3 m
	035	Capillary Length: 3.5 m
	040	Capillary Length: 4 m
	045	Capillary Length: 4.5 m
	050	Capillary Length: 5m
	060	Capillary Length: 6m
	070	Capillary Length: 7m
	080	Capillary Length: 8m
	090	Capillary Length: 9m
	100	Capillary Length: 10m
	110	Capillary Length: 11m
	120	Capillary Length: 12m
	130	Capillary Length: 13m
	140	Capillary Length: 14m
	150	Capillary Length: 15m
	160	Capillary Length: 16m
	170	Capillary Length: 17m
	180	Capillary Length: 18m
	190	Capillary Length: 19m
	200	Capillary Length: 20m

Content	Required Code	Code Description
Seal Assembly Type	FT	Flange-Type Seal Assembly, RF Surface, Flat Flange, Two-Piece Design
	EF	Flange-Type Seal Assembly, RF Surface, Extended Flange, Two-Piece Design
	FJ	Flange-Type Seal Assembly, RTJ Surface, Flat Flange, Two-Piece Design
	TH	Threaded-Type Seal
	MT	Threaded-Type Seal with a Male Thread Connection ⁽¹⁾
	FM	Flange-Type Seal Assembly, FM Surface, Flat Flange
	MM	Flange-Type Seal Assembly, M Surface, Flat Flange
	TT	Flange-Type Seal Assembly, Tongue face, Flat Flange
	GG	Flange-Type Seal Assembly, Groove Face, Flat Flange
	PF	Flange-Type Seal Assembly, RF Face, Capillary Side Exit (Flat Flange Type)
	PJ	Flange-Type Seal Assembly, RTJ Face, Capillary Side Exit (Flat Flange Type)
	SC	Hygienic Seal Assembly, Hygienic Tri-Clamp Connection ⁽²⁾
	SS	Hygienic Seal Assembly, Tank Nozzle Short Body Type ⁽³⁾
	ST	Hygienic Seal Assembly, Tank Nozzle Short Body Type ⁽⁴⁾
	EE	Hygienic Seal Assembly, Tank Nozzle Short Body Type ⁽⁵⁾
	VC	Hygienic Seal Assembly, Tri-Clamp Coaxial Seal (Direct-Connection Tri-Clamp Seal) ⁽⁶⁾
	SV	Hygienic Seal Assembly, Tuchenhausen VARIVENT-Compatible Seal ⁽⁷⁾
	SH	Hygienic Seal Assembly, Cherry-Burrell “I”-Line Seal ⁽⁸⁾
	SL	Hygienic Seal Assembly, Dairy Process Connection – DIN 11851 Internal Thread Seal ⁽⁹⁾
	SM	Hygienic Seal Assembly, SMS Hygienic Dairy Process Connection Internal Thread Seal
	NE	Hygienic Seal Assembly, NEUMO-Compatible Connection Seal
	DR	Hygienic Seal Assembly, DRD-Compatible Connection Seal
	AP	Hygienic Seal Assembly, APV Inline-Compatible Connection Seal
	FD	Flush-Type Seal Assembly, ISO 228-1 Thread Standard or PMC® Compliant for Paper Industry Standards
	ZZ	Special Customized Seal Assembly ⁽¹⁰⁾

(1) Threaded seals not selected with this code shall be female threads.

(2) Process Connection Size options: 1½, 2, 2½, 3, and 4 inches.

(3) Insertion depth is limited to 50 mm and 150 mm only.

(4) Process Connection Size is limited to 4 inches only.

(5) Process Connection Size is limited to DN50 and DN80 only; pressure rating is limited to PN40 only; optional extension lengths are available.

(6) Process Connection Size options: 1, 1½, 2, 3, and 4 inches.

(7) Process Connection Size is limited to DN40 only.

(8) Process Connection Size options: 2 inches and 3 inches.

(9) Process connection and pressure rating are limited to DN40 PN40 or DN50 PN25 only.

(10) Seal assembly configuration can be customized according to application requirements. Please consult factory sales representatives.

© Industry Standard (Required to Option)		
Code	Flange Standard	Thread Standard
A	ASME B16.5 (American Society of Mechanical Engineers)	ASME B1.20.1
B	HG20615 (China Chemical Industry Standard), based on ANSI/ASME B16.5	/
C	HG20592 (China Chemical Industry Standard), based on EN 1092-1	/
D	EN 1092-1 (European Standard)	ISO 228-1
R	GOST 12815-80 (Russian Standard)	/
J	JIS B2238 (Japanese Industrial Standard)	/
S	Hygienic Seal (Compliant with 3-A® Standard 74-06 and EHEDG EL Class I requirements)	/
P	PMC® (Paper Industry Standard)	/

© Process Connection Size (Required Option)					
Code	ASME B16.5	EN 1092-1/GOST 33259-15	JIS B2238	ASME B1.20.1	ISO 228-1
Q	/	/	/	¼-18 NPT	/
E	/	DN10	/	⅜-18 NPT	/
H	1/2 -in	DN15	/	½-14 NPT	G½ (EN 837-1)
T	3/4 -in	DN20	/	¾-14 NPT	/
1	1 -in	DN25	25A	1-1½ NPT	/
A	1¼-in	DN32	/	1¼-1½ NPT	/
B	1½ -in	DN40	40A	1½-1½ NPT	/
2	2 -in	DN50	50A	/	/
C	2½ -in	/	/	/	/
3	3 -in	DN80	80A	/	/
4	4 -in	DN100	100A	/	/
0 ⁽¹⁾	/	/	/	/	/

(1) Applies to sanitary type SC only.

Temperature Isolator/Pressure Class (Required Option)						
Pressure Class	Code	ASME B16.5 Hygienic SC、SS、ST、VC、 SH、PMC®	EN 1092-1/GOST 33259-15 Hygienic SC、EE、SV、SL	JIS B2238	ASME B1.20.1	ISO 228-1
	V	/	PN16	/	/	/
	1	150 lb	/	10K	/	/
	W	/	PN25	/	/	/
	X	/	PN40	/	/	40bar
	2	300 lb	/	20K	/	/
	Y	/	PN63	/	/	/
	4	600 lb	PN100	40K	/	/
	5	900 lb	/	/	/	/
	Z	/	PN160	/	/	/
	E	/	/	/	17.3 MPa	/
	6	1500 lb	/	/	/	/
	F	/	/	/	34.4 MPa	/
	7	2500 lb	/	/	/	/
	G	/	/	/	69 MPa	/
	H	Rated Pressure 1.03MPa ⁽¹⁾	/	/	/	/
	J	Rated Pressure 2.07MPa ⁽²⁾	/	/	/	/
	K	Rated Pressure 3.44MPa ⁽³⁾	/	/	/	/
	L	Pressure Rating Depends on the Clamp ⁽⁴⁾		/	/	/

(1) Applies to sanitary types SS and ST only.

(2) PMC® paper industry standard — select this code.

(3) Applies to sanitary type SH only.

(4) Applies to sanitary types SC, VC, and SV only.

◎ Flange Materials (Required Option)	
Code	Flange Materials
A	316L SST
B	304L SST
C	316L SST with PTFE coating
D	Titanium(TA4)

©Diaphragm & Wetted Parts Material (Required Selection)		
Code	Diaphragm & Wetted Parts Material	Other Wetted Parts (Extension Section & Sealing Surface of Insert-Type Flange)
SS	316L SST ⁽¹⁾	316L SST
HS	Hastelloy C-276 ⁽²⁾	316L SST
TS	Tantalum ⁽³⁾	316L SST
HH	Hastelloy C-276 ⁽⁴⁾	Hastelloy C-276
TH	Tantalum	Hastelloy C-276 ⁽⁴⁾
TI	Titanium(TA1) ⁽⁵⁾	Titanium(TA4)
NS	Nickel (N6) ⁽⁶⁾	316L SST
MS	Monel 400 ⁽⁷⁾	316L SST
6S	Inconel 600 ⁽⁸⁾	316L SST
5S	2505 Duplex Stainless Steel	316L SST
7S	2507 Duplex Stainless Steel ⁽⁹⁾	316L SST

(1) Suitable for measuring non-corrosive or mildly corrosive media.

(2) Suitable for media with general acid or alkali corrosion, as well as environments with minor chloride or sulfur corrosion.

(3) Suitable for media with strong acid corrosion (e.g., hydrochloric acid, nitric acid, etc.) and environments containing higher chloride-ion concentrations.

Not permitted for HF or alkali corrosion environments. Use with caution above 300 °C.

(4) If the medium is hydrochloric acid, all wetted parts other than the diaphragm shall be at least Hastelloy C material; 316 SST is prohibited.

(5) Suitable for media with general acid corrosion and environments with minor chloride or sulfur corrosion.

Not permitted for alkali corrosion environments or dry halogen gases (e.g., dry chlorine, dry bromine).

(6) For high-purity, high-temperature alkali corrosion environments.

(7) Suitable for high-pressure pure oxygen environments or environments with minor HF content.

Not permitted in applications where copper is prohibited.

(8) Resistant to high-purity, high-temperature alkali corrosion, also tolerant to general acid corrosion, and capable of withstanding high process temperatures.

(9) Recommended for measuring media such as urea, methylamine solution, liquid ammonia, and ammonia water.

© Flush Ring Material (Lower Housing) / Extended Flange Insertion Depth ⁽¹⁾	
Code	Flush Ring Material (Lower Housing)
000	None
A00	316L SST
H00	Hastelloy C-276
D00	2205 Duplex Stainless Steel
T00	Titanium(TA4)
N00	Nickel 201
M00	Monel
© Extended Flange Insertion Depth (Unit: mm)	
XXX	Maximum 999, e.g., insertion depth 200 mm → Code 200

(1) If the selected process connection type is a flat flange ≥ 2 inches, please select whether a flushing ring is required and its material.

If the selected process connection type is a flat flange < 2 inches, a flushing ring is included by default; please select the flushing ring material.

If the selected process connection type is an insertion flange, please select the insertion length here.

ZONER RTS Remote Seal Assembly Ordering Information- Optional Code

Model Example	RTS	H	T	D2	C	050	FT	B	2	1	A	SS	A00	—	FP	F1	FS	
														Optional Code				

- The selection of the ZONER RTS remote seal assembly is divided into: Required Codes and Optional Codes.
- Required Codes must be specified in the prescribed order; their positions cannot be changed.
- Optional Codes may be selected as needed and can be arranged in any order.

Content	Required Code	Code Description
Intermediate Gasket Material ⁽¹⁾	FK	Klingsil C-4401 Gasket (Klinger Non-asbestos Sheet)
	FP	PTFE Gasket
	FG	Flexible Graphite Composite Gasket
Flushing Hole Quantity & Specification ⁽²⁾	F1	One Flushing Hole (¼–18 NPT)
	F2	Two Flushing Hole (¼–18 NPT)
	F3	One Flushing Holes (½–14 NPT)
	F4	Two Flushing Holes (½–14 NPT)
Flushing Plug, Vent/Drain ⁽³⁾	FS	316 SST Plug for Flushing Connection
	FV	316 SST vent/drain for Flushing Connection
	FH	Hastelloy C-276 Plug for Flushing Connection
Diaphragm Thickness ⁽⁴⁾	FC	150 μm(for Extended Service Life), Available in 316L SST, Hastelloy C-276, and Titanium (TA1)
	FN	50 μm(for Increased Measurement Sensitivity), Available in 316L SST, Hastelloy C-276
NACE® Certificate	NS	NACE MR0175/ISO 15156 Compliance Certificate for Wetted Materials
	NC	NACE MR0103 Compliance Certificate for Wetted Materials
Diaphragm Coating ⁽⁵⁾	F5	5μm External Gold-plated Diaphragm ⁽⁶⁾
	F6	10μm External Gold-plated Diaphragm ⁽⁷⁾
	F7	25μm External Gold-plated Diaphragm ⁽⁸⁾
	F8	5μm Internal Gold-plated Diaphragm ⁽⁹⁾
	FD	5μm External Gold-plated Diaphragm+5μm Internal Gold-plated Diaphragm
	FE	10μm External Gold-plated Diaphragm+5μm Internal Gold-plated Diaphragm
	FF	25μm External Gold-plated Diaphragm+5μm Internal Gold-plated Diaphragm
	CE	PTFE-Coated Diaphragm(anti-adhesion) ⁽¹⁰⁾
	CA	PFA-Coated Diaphragm ⁽¹¹⁾
	SA	PFA Plastic Diaphragm(anti-adhesion) ⁽¹²⁾
	SD	Diamond-Coated Diaphragm
	ST	Gold-Shielded Diaphragm

Content	Required Code	Code Description
Other Options	XL	Enlarged diaphragm up to 4 inches ⁽¹³⁾
	CS	Special lower clamping ring for crystallization-prone media (process connection size < 2 inches). ⁽¹³⁾
	N0	Special cleaning for oil-free applications.
	□□	Custom design: Extended flange insertion sleeve diameter (unit: mm).

(1) This gasket is installed between the instrument flange and the lower clamping ring.

(2) If a flushing ring is selected but no flushing port code is chosen, no flushing port will be provided.

(3) Must be used in combination with a flushing port code.

(4) Standard diaphragm thickness is 76 µm.

(5) Gold-plating option is only applicable to 316L SST, Monel, and Hastelloy C-276 materials.

(6) For hydrogen-containing applications, when the medium temperature exceeds 100°C or the pressure exceeds 3 MPa, provided the medium is confirmed to be non-abrasive and non-corrosive.

(7) For hydrogen-containing applications, when the medium temperature exceeds 150°C or the pressure exceeds 3.5 MPa, provided the medium is confirmed to be non-abrasive and non-corrosive.

(8) For hydrogen-containing applications, when the medium temperature exceeds 200°C or the pressure exceeds 4 MPa, provided the medium is confirmed to be non-abrasive and non-corrosive.

(9) Suitable for applications prone to hydrogen penetration, abrasion, and corrosive conditions.

(10) Limited to anti-adhesion applications; use with caution in strongly corrosive media.

(11) Can be used in general acid-alkali corrosive environments, excluding strongly corrosive media such as HF and HCl solutions.

(12) Thickness 1 mm, capable of withstanding highly corrosive environments.

(13) If this code is selected, the flushing ring material must be specified.



ZONER RTS Remote Seal Assembly Fill Fluid and Vapor-Pressure Curve

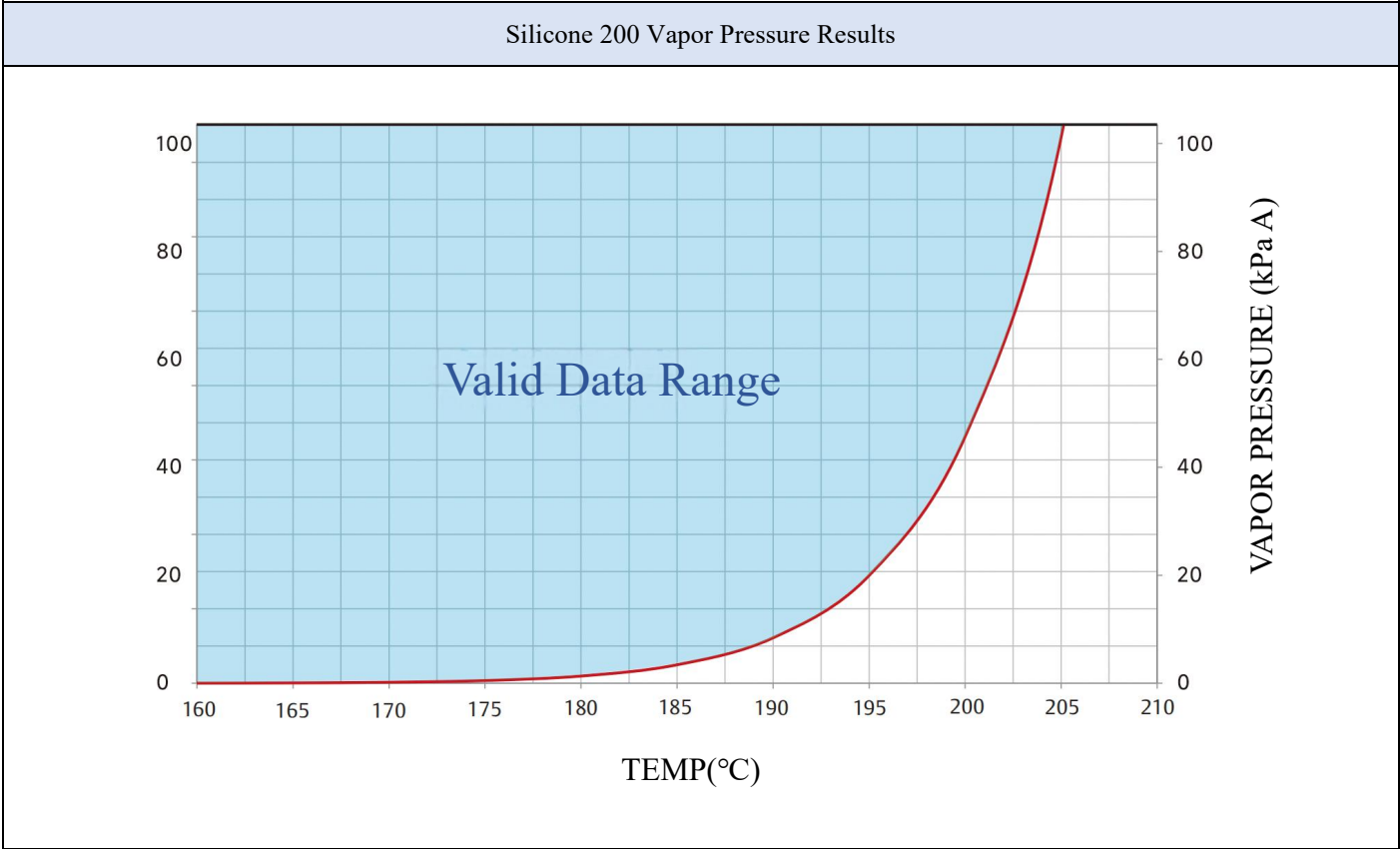
© Silicone 200

Specifications	
Max Temp at Min. Pressure	See Vapor-pressure Curve
Temp Limits at Atm Pressure	-45 to 205°C
Viscosity at 25 °C	10cST
Specific Gravity at 25 °C	0.934
Coefficient of Thermal Expansion	0.00108 cc/cc/°C
Chemical Name	Polydimethylsiloxane Polymer
Chemical Composition	(CH ₃) ₃ SiO(SiO[CH ₃] ₂) _n Si(CH ₃) ₃

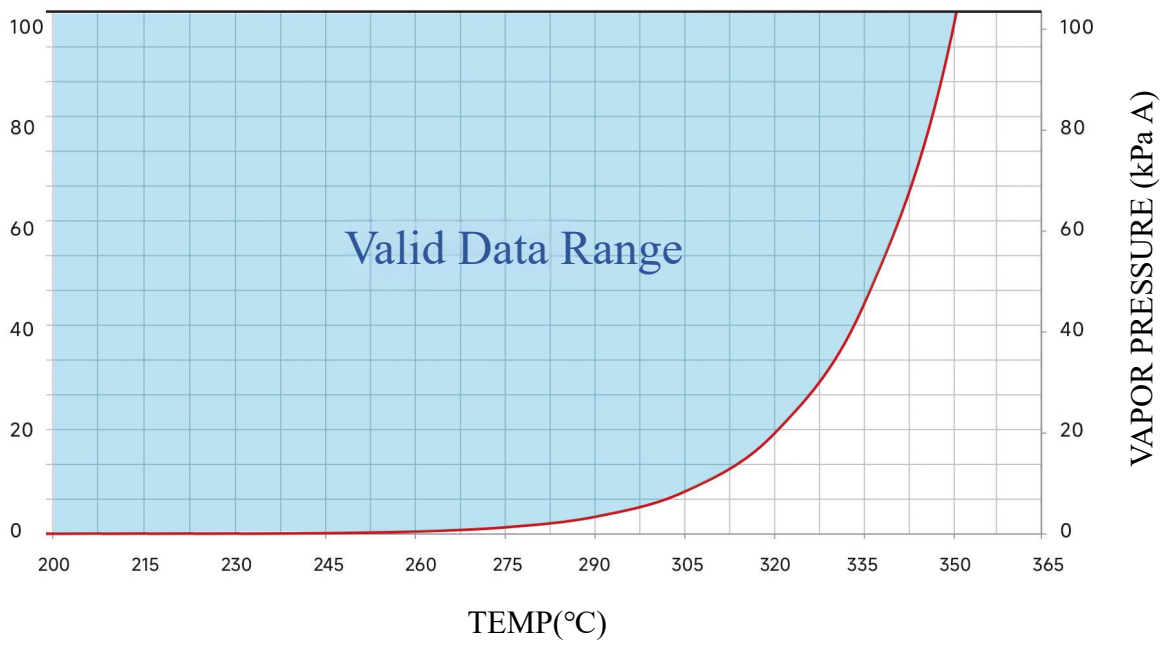
Description

Silicone 200 is a versatile industrial fill fluid, widely used in over half of all remote seal assemblies. This fluid offers a broad temperature range suitable for both ambient and process conditions, and its low viscosity ensures excellent response time. Silicone fluids possess a unique combination of properties that make them outstanding for a variety of applications. Silicone material exhibits not only good thermal stability but also low vapor pressure.

For applications below 100 kPaA, use “Silicone 200 for Vacuum Applications.”



© Silicone 550

Specifications															
Max Temp at Min. Pressure	See Vapor-pressure Curve														
Temp Limits at Atm Pressure	-40 to 350°C														
Viscosity at 25 °C	125cST														
Specific Gravity at 25 °C	1.07														
Chemical Name	Trimethyl-Terminated Dimethyl and Phenylmethyl Siloxane Copolymer														
Chemical Composition	[CH ₃] ₃ Si _{0.1/2}] ₂ (CH ₃) ₂ SiO] _m [(CH ₃ /C ₆ H ₅)SiO] _h														
Description															
Silicone 550 offers a broader operational temperature range, with an upper limit of 350 °C and a lower limit of -40 °C, enabling it to cover a wider array of applications. It is an ideal wide-temperature fill fluid. The 1.905 mm ID capillary (Code D, G, or J) is required for Silicone 550 because of its higher viscosity, to ensure optimal response time. For applications below 100 kPaA, use “Silicone 550 for Vacuum Applications.”															
Silicone 550 Vapor Pressure Results															
 <table border="1"><caption>Approximate data points from the Silicone 550 Vapor Pressure curve</caption><thead><tr><th>TEMP(°C)</th><th>VAPOR PRESSURE (kPa A)</th></tr></thead><tbody><tr><td>200</td><td>0.1</td></tr><tr><td>250</td><td>0.5</td></tr><tr><td>300</td><td>2.0</td></tr><tr><td>320</td><td>10.0</td></tr><tr><td>340</td><td>40.0</td></tr><tr><td>350</td><td>100.0</td></tr></tbody></table>		TEMP(°C)	VAPOR PRESSURE (kPa A)	200	0.1	250	0.5	300	2.0	320	10.0	340	40.0	350	100.0
TEMP(°C)	VAPOR PRESSURE (kPa A)														
200	0.1														
250	0.5														
300	2.0														
320	10.0														
340	40.0														
350	100.0														

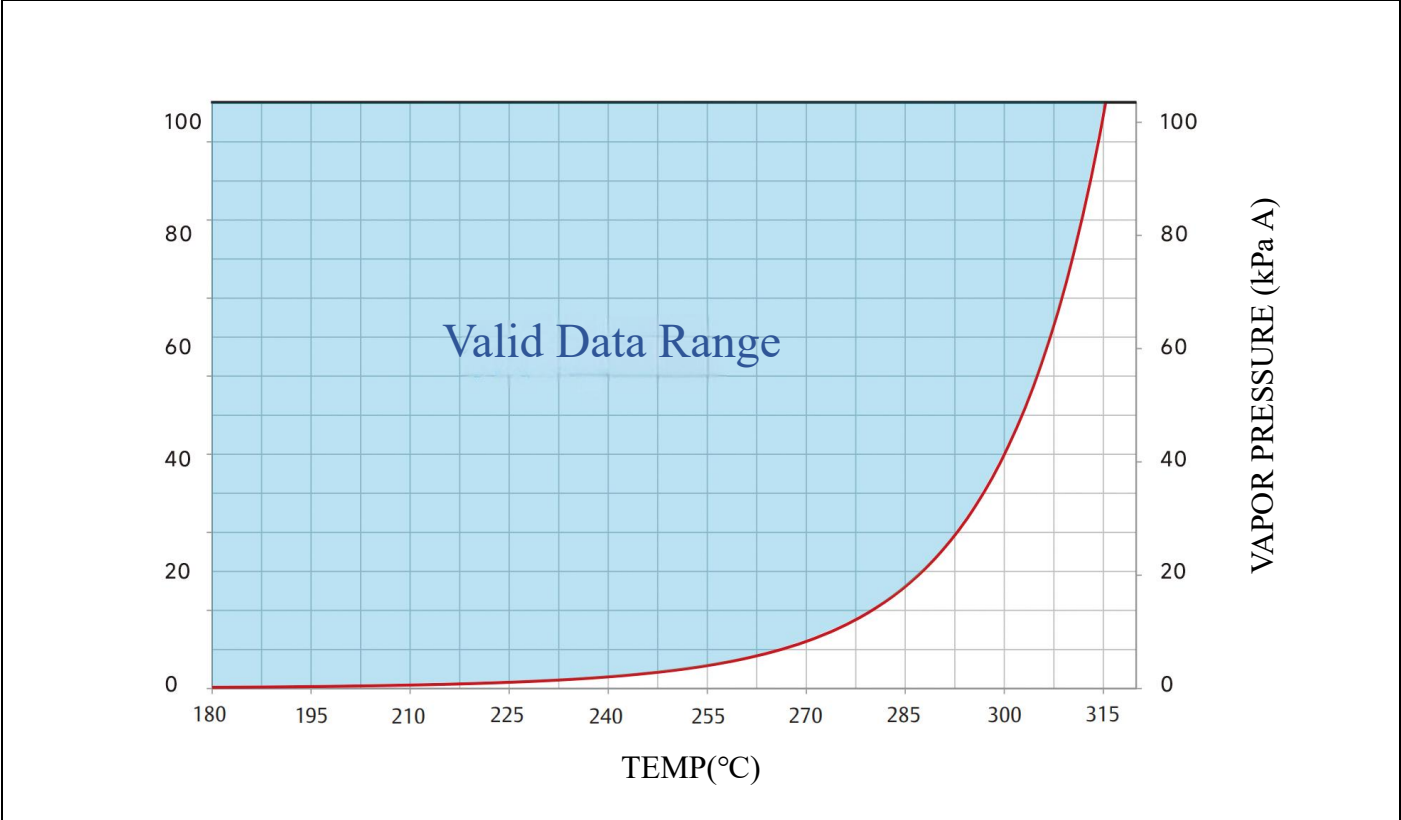
© Silicone 704

Specifications	
Max Temp at Min. Pressure	See Vapor-pressure Curve
Temp Limits at Atm Pressure	0 to 315°C
Viscosity at 25 °C	39cST
Specific Gravity at 25 °C	1.07
Coefficient of Thermal Expansion	0.00095 cc/cc/°C
Chemical Name	Tetramethyl Tetraphenyl Trisiloxane
Chemical Composition	(C ₆ H ₅) ₂ Si [(CH ₃) ₂ SiO] ₂ Si(CH ₃) ₂

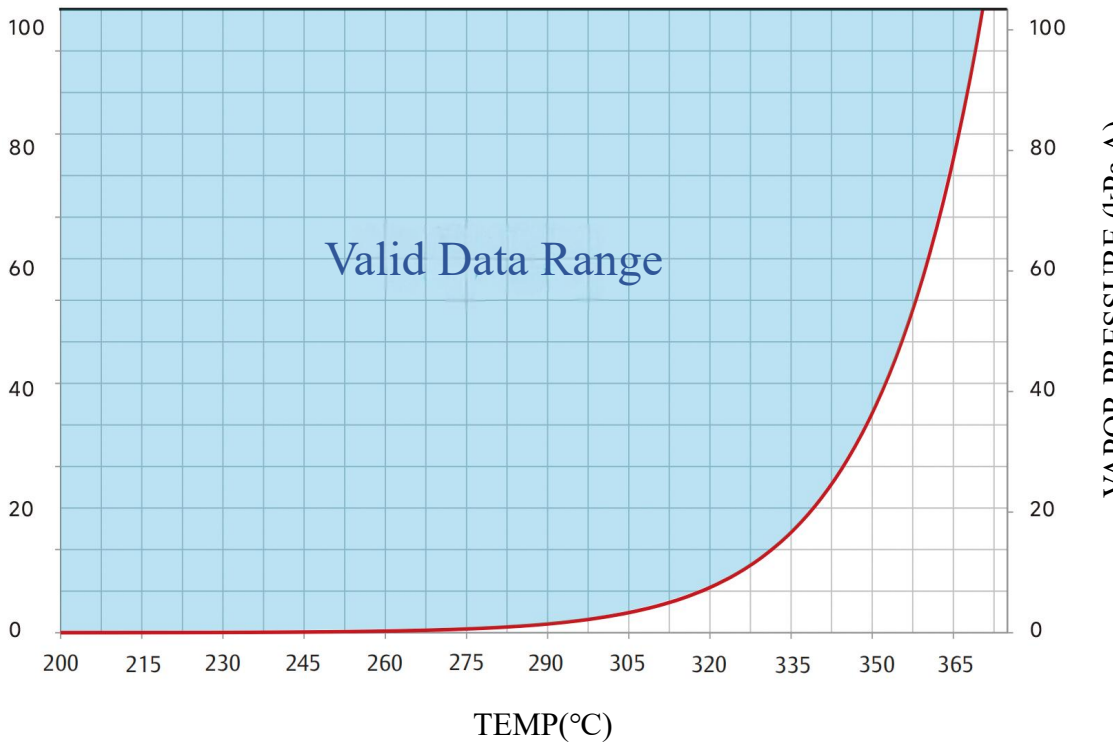
Description

Silicone 704 is a reliable and commonly used fill fluid. Its operational temperature range extends from 0 °C up to 315 °C. Therefore, if your application involves environments below 0 °C, capillary heat tracing must be considered. When using this fluid, capillaries with an internal diameter of either 1.092 mm or 1.905 mm can be selected. For applications below 100 kPaA, use “Silicone 704 for Vacuum Applications.”

Silicone 550 Vapor Pressure Results



© Silicone 705

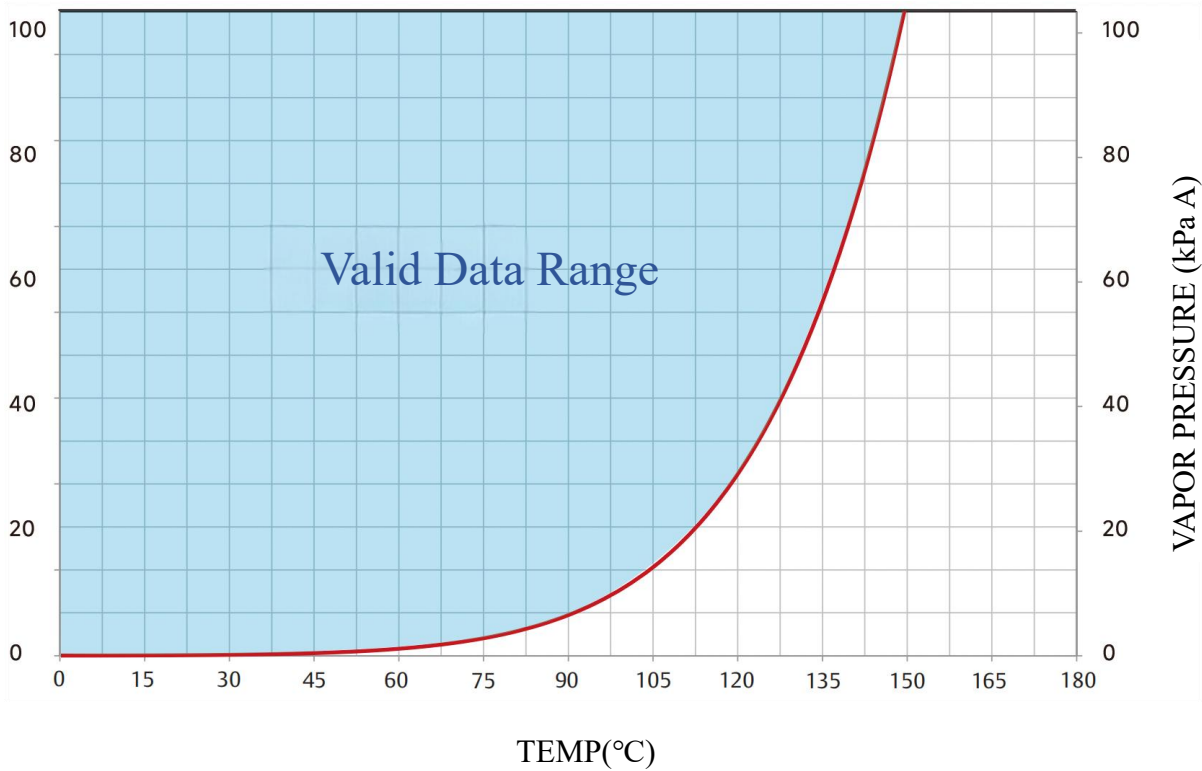
Specifications																			
Max Temp at Min. Pressure	See Vapor-pressure Curve																		
Temp Limits at Atm Pressure	20 to 370°C																		
Viscosity at 25 °C	175cST																		
Specific Gravity at 25 °C	1.09																		
Coefficient of Thermal Expansion	0.00077 cc/cc/°C																		
Chemical Name	Trimethyl Pentaphenyl Trisiloxane																		
Chemical Composition	(C ₆ H ₅) ₃ Si [O-Si (CH ₃)(C ₆ H ₅)] O-Si (CH ₃) ₃																		
Description																			
Silicone 705 can withstand higher operating temperatures. Compared to Silicone 704, Silicone 705 has a higher molecular weight, which results in higher viscosity. Consequently, capillary heat tracing is typically required to ensure proper pressure transmission. The 1.905 mm ID capillary (Code D, G, or J) is required for Silicone 550 because of its higher viscosity, to ensure optimal response time. For applications below 100 kPaA, use "Silicone 705 for Vacuum Applications."																			
Silicone 705 Vapor Pressure Results																			
 <table border="1"><caption>Approximate data points from the Silicone 705 Vapor Pressure curve</caption><thead><tr><th>TEMP(°C)</th><th>VAPOR PRESSURE (kPa A)</th></tr></thead><tbody><tr><td>200</td><td>0.1</td></tr><tr><td>250</td><td>0.5</td></tr><tr><td>300</td><td>2.0</td></tr><tr><td>320</td><td>5.0</td></tr><tr><td>340</td><td>15.0</td></tr><tr><td>350</td><td>30.0</td></tr><tr><td>360</td><td>80.0</td></tr><tr><td>365</td><td>100.0</td></tr></tbody></table>		TEMP(°C)	VAPOR PRESSURE (kPa A)	200	0.1	250	0.5	300	2.0	320	5.0	340	15.0	350	30.0	360	80.0	365	100.0
TEMP(°C)	VAPOR PRESSURE (kPa A)																		
200	0.1																		
250	0.5																		
300	2.0																		
320	5.0																		
340	15.0																		
350	30.0																		
360	80.0																		
365	100.0																		

© SYLTHERM XLT

Specifications	
Temp Limits at Atm Pressure	-105 to 145°C
Viscosity at 25 °C	1.6 cST
Specific Gravity at 25 °C	0.85
Coefficient of Thermal Expansion	0.001198 cc/cc/°C
Chemical Name	Dimethylpolysiloxane

Description
SYLTHERM XLT is a low-viscosity silicone fluid specifically designed for low-temperature applications.

SYLTHERM XLT Vapor Pressure Results



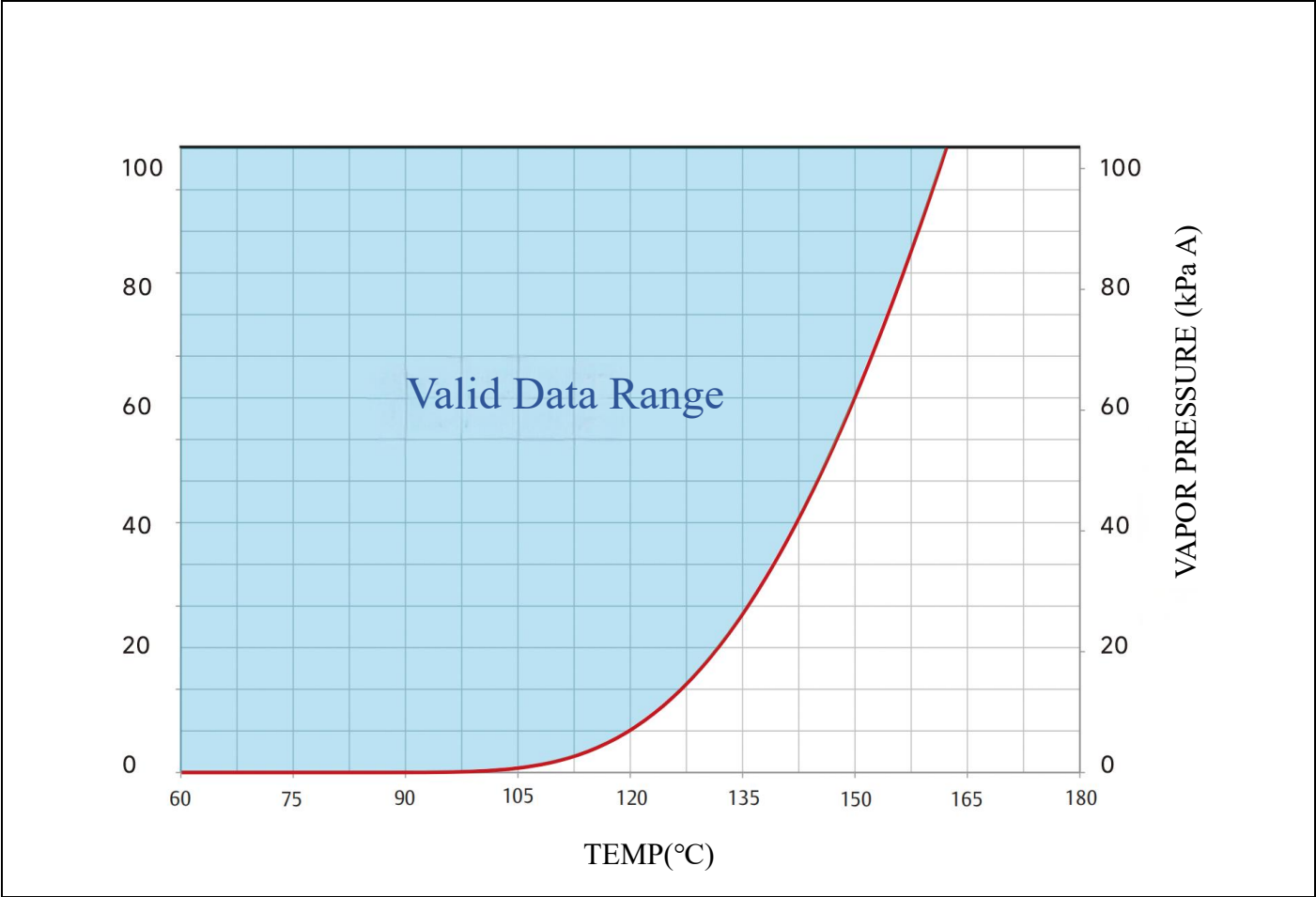
© Inert Fluid (Fluorinated Oil)

Specifications	
Temp Limits at Atm Pressure	-45 to 160°C
Viscosity at 25 °C	6.5 cST
Specific Gravity at 25 °C	1.85
Coefficient of Thermal Expansion	0.000864 cc/cc/°C
Chemical Name	Chlorotrifluoroethylene Polymer (CTFE)

Description

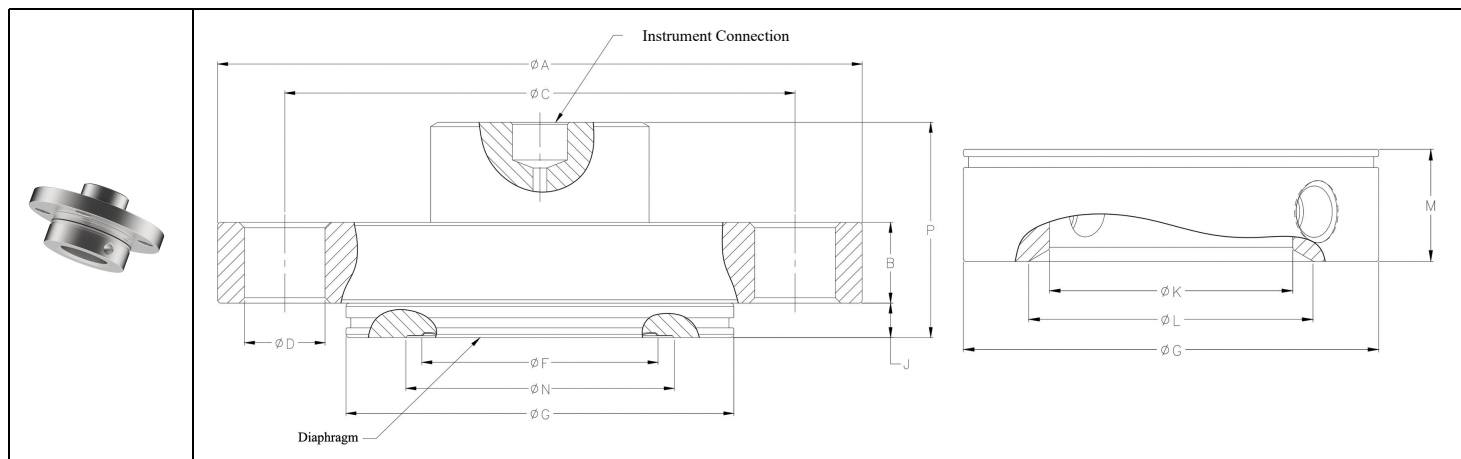
Inert Fluid (Fluorinated Oil) is the standard inert fill fluid for Zongneng remote seal systems. This inert fill fluid is essentially non-reactive to a wide range of chemicals, including halogens, oxygen, and other specialty gases. Furthermore, due to product contamination concerns, silicone is prohibited in certain applications (e.g., paint manufacturing). Compared to standard Silicone 200, inert fluid has a higher vapor pressure, which limits its use in vacuum applications. Additionally, inert fluid is not suitable for food-grade applications.

Inert Fluid (Fluorinated Oil) Vapor Pressure Results



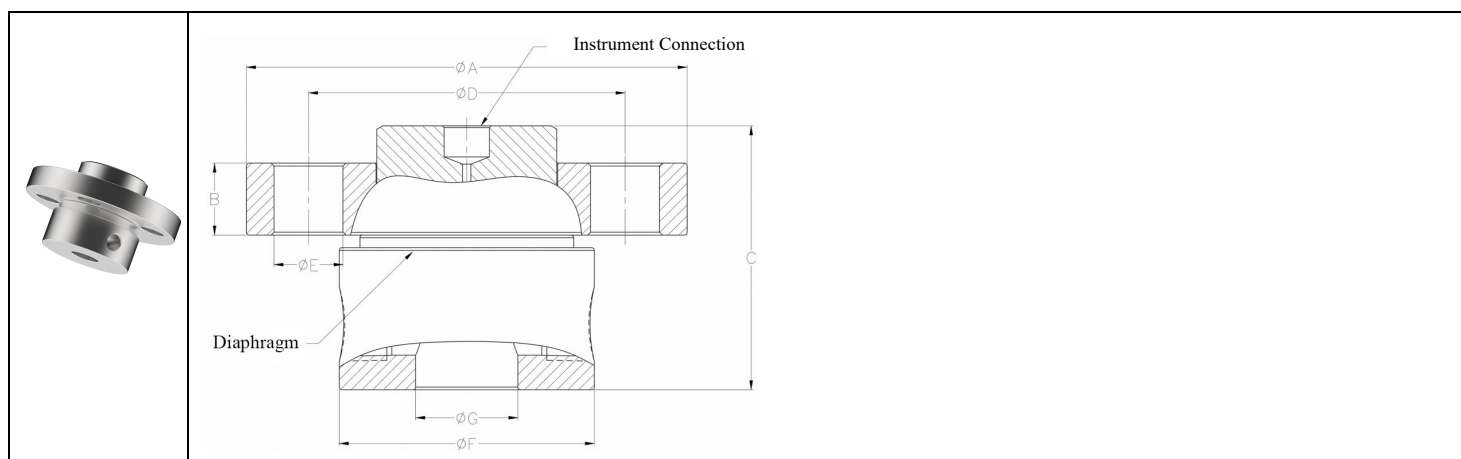
ZONER RTS Remote Seal Assembly Design Drawings and Dimension Table

① ≥ 2-inch Flange-Type Seal Assembly, RF Face, Flat Flange, Two-Piece Design Drawing (FT Option Code))



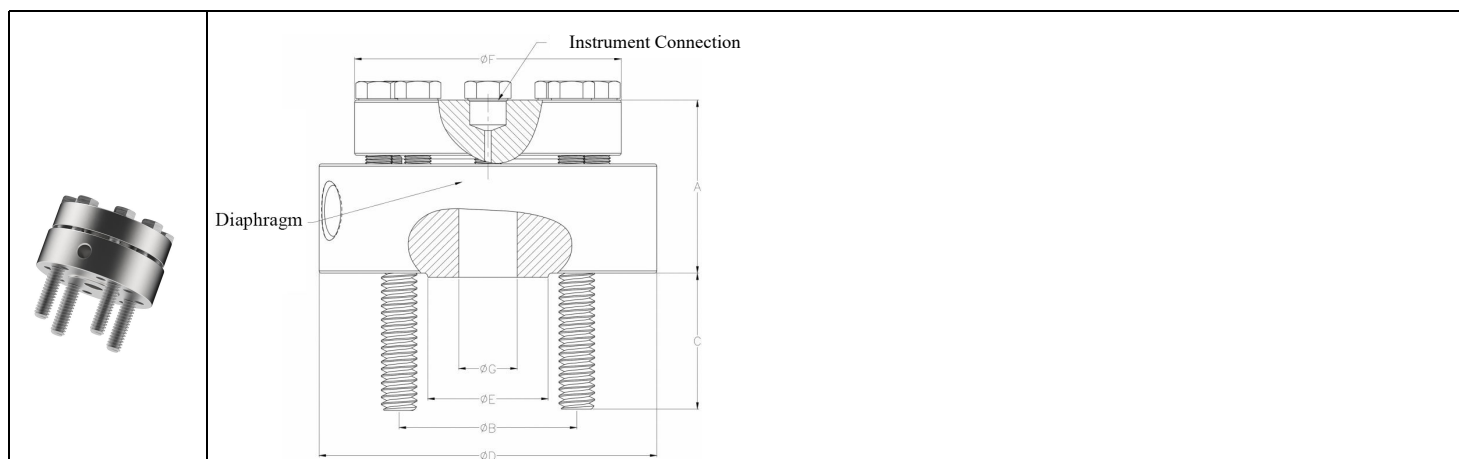
Pipe Size	Class	Flange Diameter "A" mm (in.)	Flange Thickness "B" mm (in.)	Bolt Circle "C" mm (in.)	Bolt Hole Diameter "D" mm (in.)	Bolt Number	Actual Diaphragm Test Diameter "F" mm (in.)	Raised Face Outside Diameter "G" mm (in.)	Inner Diameter "K" mm (in.)	Counterbore Diameter "L" mm (in.)	1/4-NPT F.C. Thickness "M" mm (in.)	1/2-NPT F.C. Thickness "N" mm (in.)	Minimum Gasket Inner Diameter "O" mm (in.)	Raised Face Height "J" mm (in.)	Height "P" mm (in.)	Weight kg (lb)
HG/T 20615-2009																
2-in.	150	150 (5.91)	17.5 (0.69)	120.7 (4.75)	18 (0.71)	4	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.50)	8.1 (0.32)	51 (2.00)	3.33 (7.40)
	300	165 (6.50)	20.7 (0.81)	127.0 (5.00)	18 (0.71)	8	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.50)	8.1 (0.32)	51 (2.00)	4.05 (8.99)
	600	165 (6.50)	25.4 (1.00)	127.0 (5.00)	18 (0.71)	8	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.50)	8.1 (0.32)	51 (2.00)	4.70 (10.44)
	900/1500	215 (8.46)	38.1 (1.50)	165.1 (6.50)	26 (1.02)	8	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.50)	13 (0.51)	70 (2.76)	11.08 (24.62)
	2500	235 (9.25)	50.9 (2.00)	171.4 (6.75)	30 (1.18)	8	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.50)	13 (0.51)	70 (2.76)	16.52 (36.71)
3-in.	150	190 (7.48)	22.3 (0.88)	152.4 (6.00)	18 (0.71)	4	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	6.21 (13.79)
	300	210 (8.27)	27.0 (1.06)	168.3 (6.63)	22 (0.87)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	8.03 (17.84)
	600	210 (8.27)	31.8 (1.25)	168.3 (6.63)	22 (0.87)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	9.14 (20.31)
	900	240 (9.45)	38.1 (1.50)	190.5 (7.50)	26 (1.02)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	70 (2.76)	14.94 (33.21)
	1500	265 (10.43)	47.7 (1.88)	203.2 (8.00)	33 (1.30)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	70 (2.76)	21.04 (46.76)
	2500	305 (12.01)	66.7 (2.62)	228.6 (9.00)	36 (1.42)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	95 (3.66)	36.60 (81.34)
4-in.	150	230 (9.06)	22.3 (0.88)	190.5 (7.50)	18 (0.71)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	8.80 (19.56)
	300	255 (10.04)	30.2 (1.19)	200.0 (7.88)	22 (0.87)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	13.30 (29.56)
	600	275 (10.83)	38.1 (1.50)	215.9 (8.50)	26 (1.02)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	18.33 (40.73)
	900	290 (11.42)	44.5 (1.75)	235.0 (9.25)	33 (1.30)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	70 (2.76)	23.92 (53.16)
	1500	310 (12.20)	54.0 (2.12)	241.3 (9.50)	36 (1.42)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	70 (2.76)	32.27 (71.72)
	2500	355 (13.98)	76.2 (3.00)	273.0 (10.75)	42 (1.65)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	95 (3.74)	56.57 (125.72)
HG/T 20592-2009																
DN 50	PN 40	165 (6.50)	18 (0.71)	125 (4.92)	18 (0.71)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.50)	8.1 (0.32)	51 (2.00)	4.06 (9.02)
	PN 63	180 (7.09)	24 (0.94)	135 (5.31)	22 (0.87)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.50)	8.1 (0.32)	51 (2.00)	5.66 (12.58)
	PN100	195 (7.68)	26 (1.02)	145 (5.71)	26 (1.02)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.50)	8.1 (0.32)	51 (2.00)	6.85 (15.23)
	PN160	195 (7.68)	36 (1.42)	145 (5.71)	26 (1.02)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.50)	13 (0.51)	70 (2.76)	7.25 (16.12)
DN 80	PN 40	200 (7.87)	22 (0.87)	160 (6.30)	18 (0.71)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	6.76 (15.03)
	PN 63	215 (8.46)	26 (1.02)	170 (6.69)	22 (0.87)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	8.49 (18.87)
	PN 100	230 (9.06)	30 (1.18)	180 (7.09)	26 (1.02)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	10.50 (23.34)
	PN 160	230 (9.06)	44 (1.73)	180 (7.09)	26 (1.02)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	70 (2.76)	11.62 (25.83)
DN 100	PN 10/16	220 (8.66)	18 (0.71)	180 (7.09)	18 (0.71)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	7.24 (16.08)
	PN 40	235 (9.25)	22 (0.87)	190 (7.48)	22 (0.87)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	9.14 (20.31)
	PN 63	250 (9.84)	28 (1.10)	200 (7.87)	26 (1.02)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	12.03 (26.74)
	PN 100	265 (10.43)	34 (1.34)	210 (8.27)	30 (1.18)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	8.1 (0.32)	51 (2.00)	15.42 (34.26)
	PN 160	265 (10.43)	50 (1.97)	210 (8.27)	30 (1.18)	8	85 (3.35)	157 (6.20)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.70)	13 (0.51)	70 (2.76)	16.85 (37.44)

② < 2 inch Flange-Type Seal Assembly, RF Face, Flat Flange, Two-Piece Standard Design Drawing (FT Option Code)



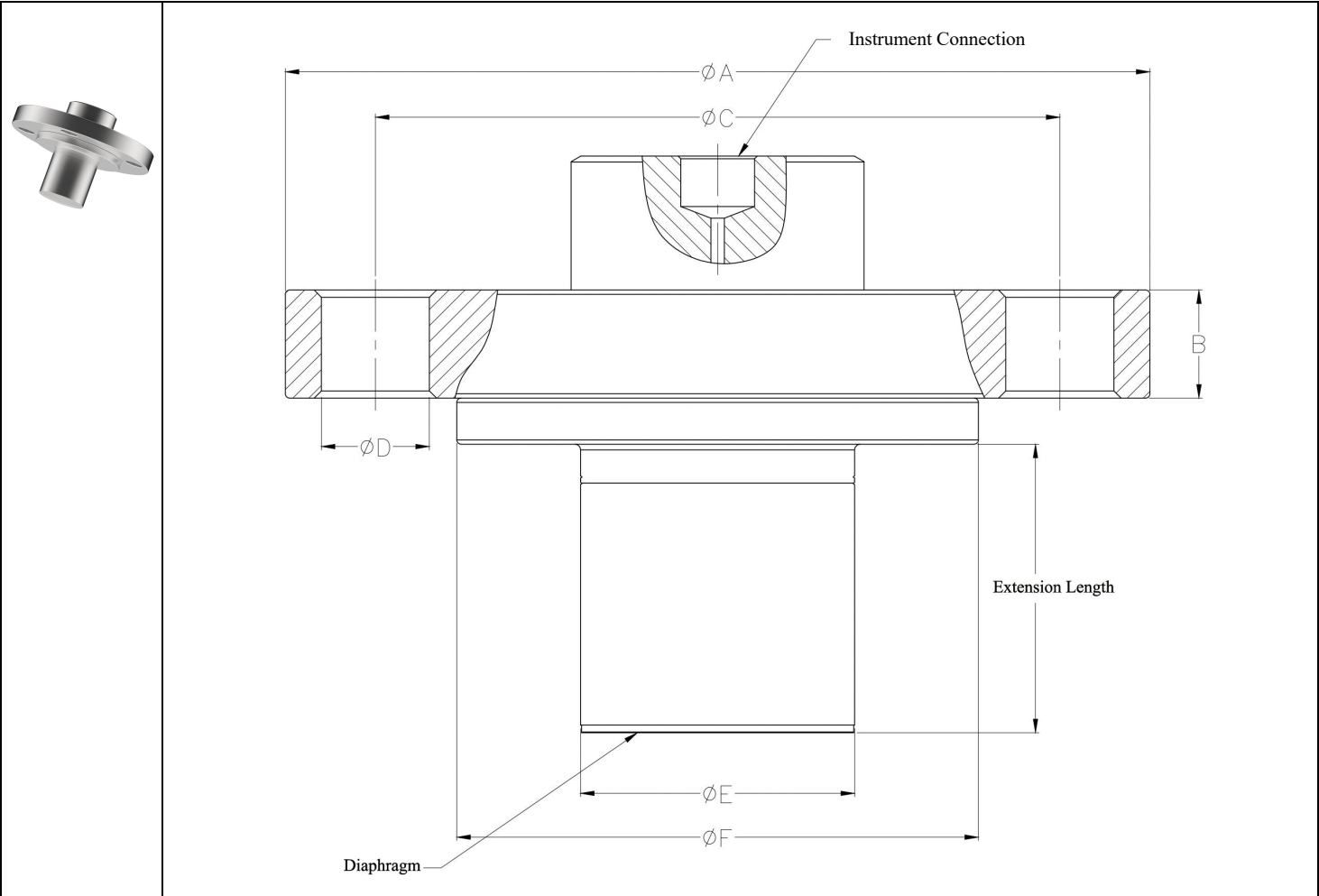
Pipe Size	Class	Flange Diameter “A”mm (in.)	Flange Thickness “B”mm (in.)	Overall Height“C” mm (in.)		Bolt Circle Diameter “D”mm (in.)	Bolt Hole Diameter “E”mm (in.)	Bolt Number	Lower Housing Diameter “F”mm (in.)	Lower Housing Inner Diameter “G”mm (in.)	Weight kg (lb)	
				No Connection or ¼-in. NPT Flushing Connection	½-in. NPT Flushing Connection						No Connection or ¼-in. NPT Flushing Connection	½-in.NPT Flushing Connection
HG/T 20615-2009												
½-in.	2500	135 (5.31)	30.2 (1.19)	83.3 (3.28)	92.5 (3.64)	88.9 (3.50)	22 (0.87)	4	66.5 (2.62)	15.75 (0.62)	4.20 (9.26)	4.37 (9.63)
¾-in.	300	115 (4.53)	14.3 (0.56)	66.8 (2.63)	75.9 (2.99)	82.6 (3.25)	18 (0.71)	4	66.5 (2.62)	20.83 (0.82)	2.25 (4.95)	2.41 (5.32)
	600	115 (4.53)	15.9 (0.63)	66.8 (2.63)	75.9 (2.99)	82.6 (3.25)	18 (0.71)	4	66.5 (2.62)	20.83 (0.82)	2.34 (5.15)	2.51 (5.52)
	900/1500	130 (5.12)	25.4 (1.00)	83.3 (3.28)	92.5 (3.64)	88.9 (3.50)	22 (0.87)	4	66.5 (2.62)	20.83 (0.82)	3.63 (8.01)	3.80 (8.38)
	2500	140 (5.51)	31.8 (1.25)	83.3 (3.28)	92.5 (3.64)	95.2 (3.75)	22 (0.87)	4	66.5 (2.62)	20.83 (0.82)	4.66 (10.28)	4.83 (10.65)
1-in.	150	110 (4.33)	12.7 (0.50)	66.8 (2.63)	75.9 (2.99)	79.4 (3.13)	16 (0.63)	4	66.5 (2.62)	26.67 (1.05)	1.97 (4.34)	2.13 (4.69)
	300	125 (4.92)	15.9 (0.63)	66.8 (2.63)	75.9 (2.99)	88.9 (3.50)	18 (0.71)	4	66.5 (2.62)	26.67 (1.05)	2.47 (5.45)	2.64 (5.81)
	600	125 (4.92)	17.5 (0.69)	66.8 (2.63)	75.9 (2.99)	88.9 (3.50)	18 (0.71)	4	66.5 (2.62)	26.67 (1.05)	2.60 (5.73)	2.76 (6.08)
	900/1500	150 (5.91)	28.6 (1.13)	83.3 (3.28)	92.5 (3.64)	101.6 (4.00)	26 (1.02)	4	66.5 (2.62)	26.67 (1.05)	4.73 (10.43)	4.73 (10.43)
	2500	160 (6.30)	35.0 (1.38)	83.3 (3.28)	92.5 (3.64)	108.0 (4.25)	26 (1.02)	4	66.5 (2.62)	26.67 (1.05)	6.10 (13.44)	6.26 (13.8)
1½-in.	150	125 (4.92)	15.9 (0.63)	66.8 (2.63)	75.9 (2.99)	98.4 (3.87)	16 (0.63)	4	73.2 (2.88)	40.89 (1.61)	2.65 (5.83)	2.81 (6.20)
	300	155 (6.10)	19.1 (0.75)	66.8 (2.63)	75.9 (2.99)	114.3 (4.50)	22 (0.87)	4	73.2 (2.88)	40.89 (1.61)	3.81 (8.40)	3.98 (8.78)
	600	155 (6.10)	22.3 (0.88)	66.8 (2.63)	75.9 (2.99)	114.3 (4.50)	22 (0.87)	4	73.2 (2.88)	40.89 (1.61)	4.22 (9.29)	4.38 (9.66)
	900/1500	180 (7.09)	31.8 (1.25)	83.3 (3.28)	92.5 (3.64)	123.8 (4.87)	30 (1.18)	4	73.2 (2.88)	40.89 (1.61)	6.65 (14.65)	6.81 (15.02)
HG/T 20592-2009												
DN20	PN63/PN100	130 (5.12)	20 (0.79)	66.8 (2.63)	75.9 (2.99)	90 (3.54)	18 (0.71)	4	68.1 (2.68)	28.4 (1.12)	3.11 (6.87)	3.29 (7.26)
DN25	PN16/PN40	115 (4.53)	16 (0.63)	66.8 (2.63)	75.9 (2.99)	85 (3.35)	14 (0.55)	4	68.1 (2.68)	28.4 (1.12)	2.39 (5.27)	2.56 (5.64)
	PN63/PN100/PN160	140 (5.51)	22 (0.87)	66.8 (2.63)	75.9 (2.99)	100 (3.94)	18 (0.71)	4	68.1 (2.68)	28.4 (1.12)	3.62 (7.97)	3.78 (8.34)
DN40	PN16/PN40	150 (5.91)	16 (0.63)	66.8 (2.63)	75.9 (2.99)	110 (4.33)	18 (0.71)	4	74.7 (2.94)	43.2 (1.70)	3.38 (7.45)	3.55 (7.82)
	PN63/PN100	170 (6.69)	24 (0.94)	66.8 (2.63)	75.9 (2.99)	125 (4.92)	22 (0.87)	4	74.7 (2.94)	43.2 (1.70)	3.38 (7.45)	5.38 (11.87)
	PN160	170 (6.69)	34 (1.34)	66.8 (2.63)	75.9 (2.99)	125 (4.92)	22 (0.87)	4	74.7 (2.94)	43.2 (1.70)	5.53 (12.18)	5.69 (12.55)

③ < 2 inch Flange-Type Seal Assembly, RF Face, Flat Flange, Two-Piece Stud Bolt Design Drawing
(FT Option Code)



Pipe Size	Class	Overall Height “A” mm (in.)		Stud Bolt Circle Diameter “B”mm (in.)	Stud Bolt (Size,Length) “C”mm (in.)	Lower Housing Diameter “D”mm (in.)	Class	Raised Face Diameter “E”mm (in.)	Lower Housing Diameter “F”mm (in.)	Lower Housing Inner Diameter “G”mm (in.)	Weight kg (lb)	
		No Connection or ¼-in.NPT Flushing Connection	½-in. NPTFlushing Connection								No Connection or¼-in.NPT Flushing Connection	½-in.NPT Flushing Connection
HG/T 20615-2009												
½-in.	150	53.6 (2.11)	62.7 (2.47)	60.3(2.38)	49.3 (1.94)	95.0 (3.74)	150	35.1 (1.38)	95.0 (3.74)	15.75 (0.62)	2.81 (6.20)	4.55 (10.01)
	300	53.6(2.11)	62.7 (2.47)	66.7 (2.62)	49.3 (1.94)	95.0 (3.74)	300	35.1 (1.38)	95.0 (3.74)	15.75 (0.62)	2.89 (6.37)	4.55 (10.01)
	600	60.2 (2.37)	64.0 (2.52)	66.5 (2.62)	44.5 (1.75)	950. (3.74)	600	35.1 (1.38)	95.0 (3.74)	15.75 (0.62)	2.93 (6.46)	4.27 (9.41)
	900 /1500	70.9 (2.79)	83.6 (3.29)	82.6 (3.25)	75.9 (2.99)	120.4 (4.74)	900 /1500	35.1 (1.38)	101.6 (4.00)	15.75 (0.62)	5.31 (11.70)	6.78 (14.94)
¾-in.	150	53.6 (2.11)	62.7 (2.47)	69.9 (2.75)	49.3 (1.94)	98.6 (3.88)	150	42.9 (1.69)	95.0 (3.74)	20.83 (0.82)	2.92 (6.43)	4.52 (9.96)
HG/T 20592-2009												
DN 10	PN 40	53.6 (2.11)	62.7 (2.47)	59.9 (2.36)	45.7 (1.80)	95.0 (3.74)	PN 40	39.9 (1.57)	95.0 (3.74)	13.21 (0.52)	2.78 (6.12)	4.54 (10.00)
	PN 63/100	53.6 (2.11)	62.7 (2.47)	70.1 (2.76)	45.7 (1.80)	95.0 (3.74)	PN 63/100	39.9 (1.57)	95.0 (3.74)	13.21 (0.52)	2.96 (6.51)	4.50 (9.92)
DN 15	PN 40	53.6 (2.11)	62.7 (2.47)	65.0 (2.56)	45.7 (1.80)	95.0 (3.74)	PN 40	45.0 (1.77)	95.0 (3.74)	17.27 (0.68)	2.77 (6.10)	4.48 (9.88)
	PN 63/100	53.6 (2.11)	62.7 (2.47)	74.9 (2.95)	45.7 (1.80)	104.9 (4.13)	PN 63/100	45.0 (1.77)	95.0 (3.74)	17.27 (0.68)	3.12 (6.87)	4.48 (9.88)

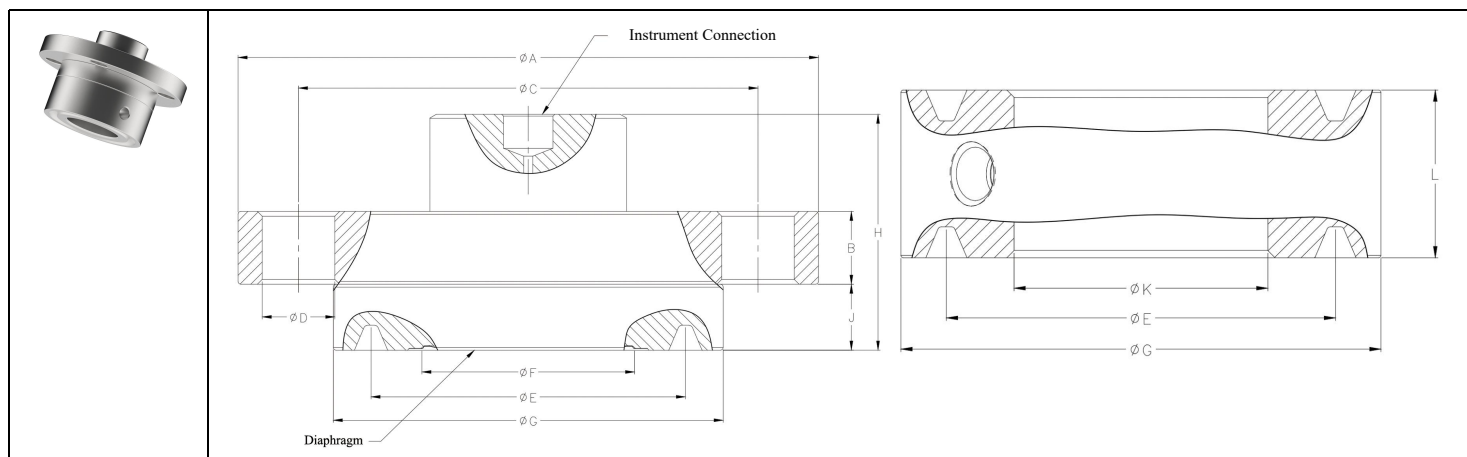
④Flange-Type Seal Assembly, RF Face, Extended Flange, Two-Piece Design Drawing(EF Option Code)



HG/T 20615-2009	HG/T 20592-2009	Insertion Sleeve Diameter “E”mm (in.)
1½-in.	DN40	37 (1.45)
2-in.	DN50	48 (1.90)
3-in.	DN80	66 (2.58)
3-in. Sch 40	DN80	73 (2.85)
3-in. Headbox	DN80 Headbox	74 (2.875)
4-in.	DN100	89 (3.50)
4-in. Sch 40	DN100	94 (3.70)
4-in. Headbox	DN100 Headbox	96 (3.78)

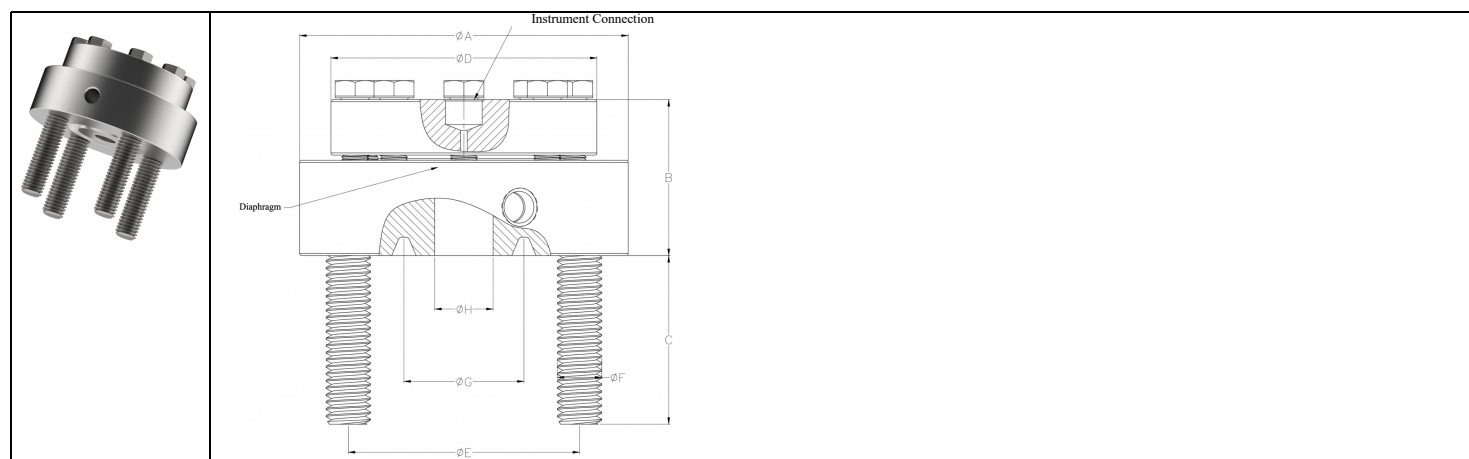
Pipe Size	Class	Flange Diameter "A"mm (in.)	Flange Thickness "B"mm (in.)	Bolt Circle "C"mm (in.)	Bolt Hole Diameter "D"mm (in.)	Bolt Number	Raised Face Diameter "F"mm (in.)	Weight in Kilograms (pounds) Extension Length								
								25mm (1-in.)	50mm (2-in.)	75mm (3-in.)	100mm (4-in.)	125mm (5-in.)	150mm (6-in.)	175mm (7-in.)	200mm (8-in.)	225mm (9-in.)
HG/T 20615-2009																
1½-in.	150	125 (4.92)	15.9 (0.63)	98.4 (3.87)	16 (0.63)	4	73 (2.87)	2.49 (5.53)	2.70 (5.99)	2.91 (6.46)	3.11 (6.92)	3.32 (7.38)	3.53 (7.85)	3.74 (8.31)	3.95 (8.78)	3.36 (7.47)
	300	155 (6.10)	19.1 (0.75)	114.3 (4.50)	22 (0.87)	4	73 (2.87)	3.65 (8.11)	3.86 (8.57)	4.07 (9.04)	4.28 (9.50)	4.48 (9.96)	4.69 (10.43)	4.90 (10.89)	5.11 (11.36)	4.52 (10.05)
	600	155 (6.10)	22.3 (0.88)	114.3 (4.50)	22 (0.87)	4	73 (2.87)	4.05 (9.00)	4.56 (9.46)	4.47 (9.93)	4.68 (10.39)	4.89 (10.86)	5.09 (11.32)	5.30 (11.78)	5.51 (12.25)	4.92 (11.94)
	900/1500	180 (7.09)	31.8 (1.25)	123.8 (4.87)	30 (1.18)	4	73 (2.87)	6.86 (15.19)	7.05 (15.66)	7.25 (16.12)	7.47 (16.59)	7.67 (17.05)	7.88 (17.51)	8.09 (17.98)	8.30 (18.44)	8.42 (18.70)
	2500	205 (8.07)	44.5 (1.75)	146.0 (5.75)	33 (1.30)	4	73 (2.87)	11.42 (25.38)	11.63 (25.84)	1.84 (26.31)	12.05 (26.77)	12.25 (27.23)	12.47 (27.70)	12.67 (28.16)	12.88 (28.63)	13.00 (27.89)
2-in.	150	150 (5.91)	17.5 (0.69)	120.7 (4.75)	18 (0.71)	4	92 (3.62)	3.70 (8.22)	3.96 (8.80)	4.23 (9.41)	4.50 (10.00)	4.77 (10.60)	5.04 (11.19)	5.31 (11.79)	5.57 (12.38)	5.02 (11.16)
	300	165 (6.50)	20.7 (0.81)	127.0 (5.00)	18 (0.71)	8	92 (3.62)	4.41 (9.81)	4.68 (10.39)	4.95 (11.00)	5.22 (11.60)	5.49 (12.19)	5.76 (12.79)	6.02 (13.38)	6.29 (13.98)	5.74 (12.75)
	600	165 (6.50)	25.4 (1.00)	127.0 (5.00)	18 (0.71)	8	92 (3.62)	5.07 (11.26)	5.33 (11.84)	5.60 (12.44)	5.87 (13.05)	6.14 (13.64)	6.40 (14.23)	6.67 (14.83)	6.94 (15.42)	6.39 (14.20)
	900/1500	215 (8.46)	38.1 (1.50)	165.1 (6.50)	26 (1.02)	8	92 (3.62)	11.48 (25.50)	11.84 (26.31)	12.20 (27.12)	12.56 (27.92)	12.93 (28.73)	13.29 (29.54)	13.65 (30.34)	14.02 (31.15)	14.09 (31.32)
	2500	235 (9.25)	50.9 (2.00)	171.4 (6.75)	30 (1.18)	8	92 (3.62)	16.46 (36.58)	16.82 (37.38)	17.19 (38.19)	17.55 (39.00)	17.91 (39.80)	18.27 (40.61)	18.64 (41.42)	19.00 (42.22)	19.08 (42.40)
3-in.	150	190 (7.48)	22.3 (0.88)	152.4 (6.00)	18 (0.71)	4	127 (5.00)	7.15 (15.89)	7.94 (17.64)	8.77 (19.48)	9.57 (21.27)	10.39 (23.08)	11.20 (24.88)	12.01 (26.69)	12.83 (28.50)	10.11 (22.47)
	300	210 (8.27)	27.0 (1.06)	168.3 (6.63)	22 (0.87)	8	127 (5.00)	8.97 (19.94)	9.76 (21.69)	10.59 (23.53)	11.39 (25.32)	12.21 (27.13)	13.02 (28.93)	13.83 (30.74)	14.64 (32.54)	11.93 (26.52)
	600	210 (8.27)	31.8 (1.25)	168.3 (6.63)	22 (0.87)	8	127 (5.00)	10.09 (22.43)	10.88 (24.18)	11.71 (26.02)	12.51 (27.81)	13.33 (29.62)	14.14 (31.42)	14.95 (33.23)	15.76 (35.03)	13.05 (29.01)
	900	240 (9.45)	38.1 (1.50)	190.5 (7.50)	26 (1.02)	8	127 (5.00)	14.97 (33.26)	15.80 (35.10)	16.61 (36.90)	17.42 (38.71)	18.23 (40.51)	19.04 (42.32)	19.85 (44.12)	20.67 (45.93)	21.96 (48.80)
	1500	265 (10.43)	47.7 (1.88)	203.2 (8.00)	33 (1.30)	8	127 (5.00)	21.55 (47.88)	22.37 (49.71)	23.18 (51.52)	24.00 (53.33)	24.81 (55.13)	25.62 (56.94)	26.43 (58.74)	27.25 (60.55)	28.54 (63.42)
	2500	305 (12.00)	66.7 (2.63)	228.6 (9.00)	36 (1.42)	8	127 (5.00)	37.56 (83.46)	38.39 (85.30)	39.20 (87.10)	40.01 (88.91)	40.82 (90.71)	41.63 (92.52)	42.45 (94.33)	43.26 (96.13)	44.55 (99.00)
4-in.	150	230 (9.06)	22.3 (0.88)	190.5 (7.50)	18 (0.71)	8	158 (6.22)	12.87 (28.61)	17.63 (39.17)	22.33 (49.62)	27.03 (60.07)	31.73 (70.52)	36.42 (80.94)	41.14 (91.42)	45.85 (101.88)	14.28 (31.74)
	300	255 (10.04)	30.2 (1.19)	200.0 (7.87)	22 (0.87)	8	158 (6.22)	17.38 (38.62)	22.13 (49.18)	26.83 (59.63)	31.54 (70.08)	36.24 (80.54)	40.93 (90.96)	45.65 (101.44)	50.35 (111.89)	18.79 (41.75)
	600	275 (10.83)	38.1 (1.50)	215.9 (8.50)	26 (1.02)	8	158 (6.22)	21.77 (48.37)	26.52 (58.93)	31.22 (69.38)	35.92 (79.83)	40.63 (90.28)	45.32 (100.70)	50.04 (111.19)	54.74 (121.64)	23.18 (51.50)
	900	290 (11.42)	44.5 (1.75)	235.0 (9.25)	33 (1.30)	8	158 (6.22)	24.87 (55.27)	26.33 (58.50)	27.78 (61.73)	29.23 (64.96)	30.29 (67.31)	31.65 (70.34)	33.01 (73.36)	34.37 (76.38)	36.14 (80.30)
	1500	310 (12.20)	54.0 (2.13)	241.3 (9.50)	36 (1.42)	8	158 (6.22)	32.53 (72.28)	33.98 (75.51)	35.43 (78.74)	36.89 (81.97)	37.95 (84.33)	39.31 (87.35)	40.67 (90.37)	42.03 (93.39)	43.79 (97.31)
	2500	355 (13.98)	76.2 (3.00)	273.0 (10.75)	42 (1.65)	8	158 (6.22)	56.93 (126.52)	58.39 (129.75)	59.84 (132.98)	61.29 (136.20)	62.36 (138.57)	63.72 (141.59)	65.07 (144.61)	66.43 (147.63)	68.20 (151.55)
HG/T 20592-2009																
DN 50	PN 40	165 (6.50)	18 (0.71)	125 (4.92)	18 (0.71)	4	102 (4.02)	4.44 (9.87)	4.70 (10.45)	5.00 (11.06)	5.25 (11.66)	5.51 (12.25)	5.78 (12.84)	6.05 (13.44)	6.31 (14.03)	5.76 (12.81)
	PN 63	180 (7.09)	24 (0.94)	135 (5.31)	22 (0.87)	4	102 (4.02)	6.02 (13.37)	6.28 (13.96)	6.55 (14.56)	6.82 (15.16)	7.09 (15.75)	7.36 (16.35)	7.62 (16.94)	7.89 (17.54)	7.34 (16.31)
	PN 100	195 (7.68)	26 (1.02)	145 (5.71)	26 (1.02)	4	102 (4.02)	7.22 (16.05)	7.48 (16.63)	7.75 (17.23)	8.02 (17.83)	8.29 (18.43)	8.56 (19.02)	8.82 (19.61)	9.09 (20.21)	8.55 (18.99)
	PN 160	195 (7.68)	36 (1.42)	145 (5.71)	26 (1.02)	4	102 (4.02)	8.16 (18.14)	8.53 (18.95)	8.89 (19.76)	9.25 (20.56)	9.62 (21.37)	9.98 (22.18)	10.34(22.98)	10.71(23.79)	10.78(23.96)
DN 80	PN 40	200 (7.87)	22 (0.87)	160 (6.30)	18 (0.71)	8	138 (5.43)	7.58 (16.85)	8.31 (18.47)	9.04 (20.08)	9.77 (21.70)	10.49 (23.32)	11.22 (24.94)	11.95 (26.56)	12.68 (28.18)	10.79 (23.97)
	PN 63	215 (8.46)	26 (1.02)	170 (6.69)	22 (0.87)	8	138 (5.43)	9.32 (20.70)	10.04 (22.32)	10.77 (23.93)	11.50 (25.55)	12.23 (27.17)	12.96 (28.79)	13.68 (30.41)	14.41 (32.03)	12.52 (27.82)
	PN 100	230 (9.06)	30 (1.18)	180 (7.09)	26 (1.02)	8	138 (5.43)	11.38 (25.29)	12.11 (26.90)	12.83 (28.51)	13.56 (30.13)	14.29 (31.75)	15.02 (33.37)	15.75 (34.99)	16.47 (36.61)	14.58 (32.40)
	PN 160	230 (9.06)	44 (1.73)	180 (7.09)	26 (1.02)	8	138 (5.43)	13.25 (29.45)	14.00 (31.10)	14.72 (32.72)	15.45 (34.33)	16.18 (35.95)	16.91 (37.57)	17.64 (39.17)	18.36 (40.81)	19.58 (43.50)
DN 100	PN 10/16	220 (8.66)	18 (0.71)	180 (7.09)	18 (0.71)	8	158 (6.20)	8.65 (19.23)	9.93 (22.07)	11.23 (24.95)	12.53 (27.85)	13.83 (30.73)	15.13 (33.62)	16.43 (36.50)	17.73 (39.39)	13.41 (29.81)
	PN 40	235 (9.25)	22 (0.88)	190 (7.48)	22 (0.88)	8	158 (6.20)	10.50 (23.32)	11.77 (26.16)	13.07 (29.05)	14.37 (31.94)	15.67 (34.83)	16.97 (37.71)	18.27 (40.60)	19.57 (43.48)	15.26 (33.90)
	PN 63	250 (9.84)	28 (1.10)	200 (7.87)	26 (1.02)	8	158 (6.20)	13.42 (29.83)	14.70 (32.67)	16.00 (35.56)	17.30 (38.45)	18.60 (41.34)	19.90 (44.22)	21.20 (47.11)	22.50 (50.00)	18.18 (40.41)
	PN 100	265 (10.43)	34 (1.34)	210 (8.27)	30 (1.18)	8	158 (6.20)	16.82 (37.37)	18.09 (40.21)	19.40 (43.10)	20.70 (45.99)	22.00 (48.88)	23.29 (51.76)	24.59 (54.65)	25.89 (57.53)	21.58 (47.95)
	PN 160	265 (10.43)	50 (1.97)	210 (8.27)	30 (1.18)	8	158 (6.20)	19.12 (42.48)	20.43 (45.4)	21.73 (48.29)	23.03 (51.17)	24.32 (54.05)	25.62 (56.94)	26.92 (59.82)	28.22 (62.71)	29.98 (66.63)

⑤ ≥ 2 inch Flange-Type Seal Assembly, RTJ Face, Flat Flange, Two-piece design drawing (FJ Option Code)



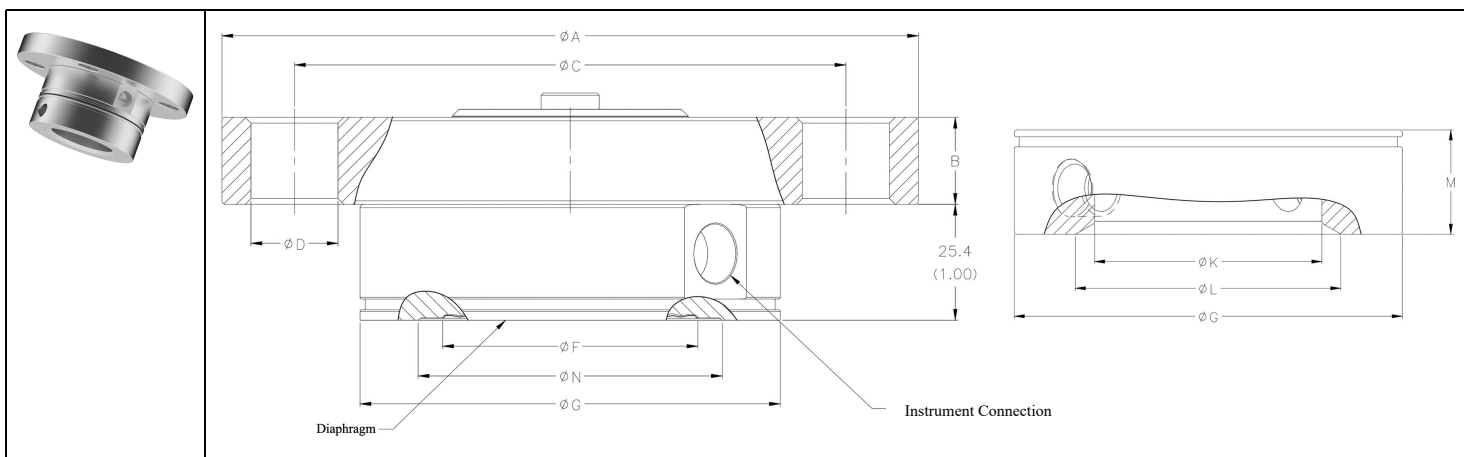
Pipe Size	Class	Flange Diameter "A" mm (in.)	Flange Thickness "B" mm (in.)	Bolt Circle Diameter "C" mm (in.)	Bolt Hole Diameter "D" mm (in.)	Bolt Number	Overall Height "H" mm (in.)	Raised Face Height "J" mm (in.)	RTJ Diameter "E" mm (in.)	Actual Diaphragm Test Diameter "F" mm (in.)	Raised Face Diameter "G" mm (in.)	Inner Diameter "K" mm (in.)	¼-NPT F.C. Thickness "L" mm (in.)	½-NPT F.C. Thickness "L" mm (in.)	Weight kg (lb)
HG/T 20615-2009															
2-in.	150	150 (5.91)	17.5 (0.69)	120.7 (4.75)	18 (0.71)	4	62 (2.43)	17 (0.68)	83 (3.25)	56 (2.20)	102 (4.00)	54 (2.12)	36 (1.40)	43 (1.70)	3.95 (8.78)
	300	165 (6.50)	20.7 (0.81)	127.0 (5.00)	18 (0.71)	8	62 (2.43)	17 (0.68)	83 (3.25)	56 (2.20)	108 (4.25)	54 (2.12)	36 (1.40)	43 (1.70)	4.75 (10.56)
	600	165 (6.50)	25.4 (1.00)	127.0 (5.00)	18 (0.71)	8	62 (2.43)	17 (0.68)	83 (3.25)	56 (2.20)	108 (4.25)	54 (2.12)	36 (1.40)	43 (1.70)	5.40 (12.01)
	900/1500	215 (8.46)	38.1 (1.50)	165.1 (6.50)	26 (1.02)	8	65 (2.57)	21 (0.82)	95 (3.75)	56 (2.20)	124 (4.88)	54 (2.12)	36 (1.40)	43 (1.70)	12.06 (26.81)
	2500	235 (9.25)	50.9 (2.00)	171.4 (6.75)	30 (1.18)	8	78 (3.07)	21 (0.82)	102 (4.00)	56 (2.20)	133 (5.25)	54 (2.12)	36 (1.40)	43 (1.70)	17.99 (39.98)
3-in.	150	190 (7.48)	22.3 (0.88)	152.4 (6.00)	18 (0.71)	4	62 (2.43)	17 (0.68)	114 (4.50)	85 (3.35)	133 (5.25)	91 (3.60)	38 (1.50)	46 (1.80)	7.22 (16.04)
	300	210 (8.27)	27.0 (1.06)	168.3 (6.63)	22 (0.87)	8	62 (2.43)	17 (0.68)	124 (4.88)	85 (3.35)	146 (5.75)	91 (3.60)	38 (1.50)	46 (1.80)	9.32 (20.72)
	600	210 (8.27)	31.8 (1.25)	168.3 (6.63)	22 (0.87)	8	62 (2.43)	17 (0.68)	124 (4.88)	85 (3.35)	146 (5.75)	91 (3.60)	38 (1.50)	46 (1.80)	10.44 (23.19)
	900	240 (9.45)	38.1 (1.50)	190.5 (7.50)	26 (1.02)	8	65 (2.57)	21 (0.82)	124 (4.88)	85 (3.35)	155 (6.12)	91 (3.60)	38 (1.50)	46 (1.80)	16.00 (35.56)
	1500	265 (10.43)	47.7 (1.88)	203.2 (8.00)	33 (1.30)	8	78 (3.07)	21 (0.82)	137 (5.38)	85 (3.35)	168 (6.62)	91 (3.60)	38 (1.50)	46 (1.80)	22.82 (50.72)
	2500	305 (12.01)	66.7 (2.62)	228.6 (9.00)	36 (1.42)	8	103 (4.07)	21 (0.82)	127 (5.00)	85 (3.35)	168 (6.62)	91 (3.60)	38 (1.50)	46 (1.80)	38.75 (86.12)

⑥ < 2 inch Flange-Type Seal Assembly, RTJ Face, Flat Flange, Two-piece design drawing (FJ Option Code)



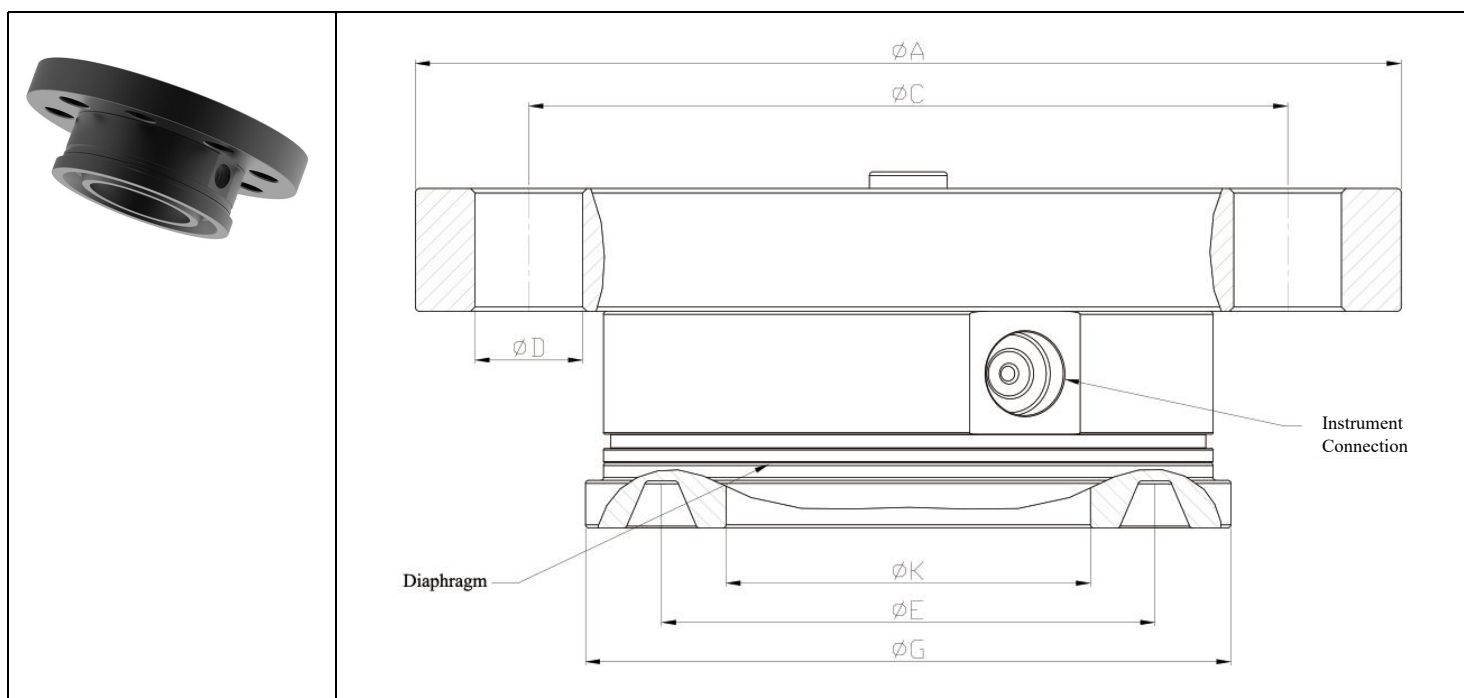
Pipe Size	Class	Lower Housing Diameter “A” mm (in.)	Overall Height“B” mm (in.)		Stud Length “C” mm (in.)	Lower Housing Diameter “D” mm (in.)	Bolt Circle “E” mm (in.)	Bolt Diameter “F” mm (in.)	RTJ Diameter“G” mm (in.)	Process Hole Diameter “H” mm (in.)	Weight kg (lb)
			With ¼ Flushing Connection	With ½ Flushing Connection							
HG/T 20615-2009											
½-in.	300/600	95.0 (3.74)	55.4 (2.18)	61.0 (2.40)	50.8 (2.00)	95.0 (3.74)	66.5 (2.62)	12.7 (0.50)	34.0 (1.34)	15.7 (0.62)	2.97 (6.55)
	900/1500	120.4 (4.74)	69.6 (2.74)	76.2 (3.00)	82.6 (3.25)	101.6 (4.00)	82.6 (3.25)	19.1 (0.75)	39.6 (1.56)	15.7 (0.62)	5.68 (2.51)
	2500	133.4 (5.25)	114.0 (4.49)	114.0 (4.49)	92.2 (3.63)	126.5 (4.98)	88.9 (3.50)	19.1 (0.75)	42.4 (1.67)	15.7 (0.62)	12.25 (26.99)
¾-in.	300/600	117.3 (4.62)	56.1 (2.21)	61.7 (2.43)	60.2 (2.37)	95.0 (3.74)	82.6 (3.25)	16.0 (0.63)	42.9 (1.69)	20.8 (0.82)	4.07 (8.96)
	900/1500	130.0 (5.12)	69.6 (2.74)	74.9 (2.95)	82.6 (3.25)	101.6 (4.00)	88.9 (3.50)	19.1 (0.75)	44.5 (1.75)	20.8 (0.82)	6.19 (3.63)
	2500	145.8 (5.74)	114.0 (4.49)	114.0 (4.49)	92.2 (3.63)	126.5 (4.98)	95.3 (3.75)	19.1 (0.75)	50.8 (2.00)	20.8 (0.82)	13.39 (29.49)
1-in.	150	107.7 (4.24)	54.1 (2.13)	61.7 (2.43)	50.8 (2.00)	95.0 (3.74)	79.2 (3.12)	12.7 (0.50)	47.8 (1.88)	26.7 (1.05)	3.31 (7.30)
	300/600	124.0 (4.88)	56.1 (2.21)	61.7 (2.43)	60.2 (2.37)	95.0 (3.74)	88.9 (3.50)	16.0 (0.63)	50.8 (2.00)	26.7 (1.05)	4.35 (9.58)
	900/1500	149.4 (5.88)	69.6 (2.74)	75.4 (2.97)	91.9 (3.62)	101.6 (4.00)	101.6 (4.00)	22.4 (0.88)	50.8 (2.00)	26.7 (1.05)	7.74 (17.05)
	2500	158.8 (6.25)	114.0 (4.49)	114.0 (4.49)	103.1 (4.06)	126.5 (4.98)	108 (4.25)	22.4 (0.88)	60.5 (2.38)	26.7 (1.05)	14.91 (32.85)
1½-in.	150	126.7 (4.99)	61.7 (2.43)	61.7 (2.43)	50.8 (2.00)	95.0 (3.74)	98.6 (3.88)	12.7 (0.50)	65.0 (2.56)	40.9 (1.61)	4.73 (10.43)
	300/600	155.4 (6.12)	61.7 (2.43)	61.7 (2.43)	82.6 (3.25)	95.0 (3.74)	114.3 (4.50)	19.1 (0.75)	68.3 (2.69)	40.9 (1.61)	7.11 (15.67)
	900/1500	177.5 (6.99)	77.5 (3.05)	77.5 (3.05)	88.9 (3.50)	101.6 (4.00)	124 (4.88)	25.4 (1.00)	68.3 (2.69)	40.9 (1.61)	11.24 (24.75)

⑦ Capillary Side Outlet, ≥2 inch Flange-Type Seal Assembly, RF Face, Flat Flange, Two-Piece Design Drawing
(FT Option Code F9 or Applicable Option Code)



Pipe Size	Class	Flange Diameter "A" mm (in.)	Flange Thickness "B" mm (in.)	Bolt Perimeter "C" mm (in.)	Bolt Hole Diameter "D" mm (in.)	Bolt Number	Actual Diaphragm Test Diameter "F" mm (in.)	Outside Diameter "G" mm (in.)	Inner Diameter "K" mm (in.)	Counterbore Diameter "L" mm (in.)	¼-NPT F.C. Thickness "M" mm (in.)	½-NPT F.C. Thickness "N" mm (in.)	Minimum Gasket Inner Diameter "N" mm (in.)	Weight kg (lb)
HG/T 20615-2009														
2-in.	150	150 (5.91)	17.5 (0.69)	120.7 (4.75)	18 (0.71)	4	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.5)	3.87 (8.61)
	300	165 (6.50)	20.7 (0.81)	127.0 (5.00)	18 (0.71)	8	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.5)	4.59 (10.20)
	600	165 (6.50)	25.4 (1.00)	127.0 (5.00)	18 (0.71)	8	56 (2.20)	92 (3.62)	54 (2.12)	63 (2.48)	25 (0.97)	33 (1.30)	64 (2.5)	5.24 (11.65)
	900/1500	215 (8.46)	38.1 (1.50)	165.1 (6.50)	26 (1.02)	8	56 (2.20)	92 (3.62)	54 (2.12)	N/A	25 (0.97)	33 (1.30)	64 (2.5)	11.18 (24.84)
	2500	235 (9.25)	50.9 (2.00)	171.4 (6.75)	30 (1.18)	8	56 (2.20)	92 (3.62)	54 (2.12)	N/A	25 (0.97)	33 (1.30)	64 (2.5)	16.61 (36.92)
3-in.	150	190 (7.48)	22.3 (0.88)	152.4 (6.00)	18 (0.71)	4	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	7.57 (16.83)
	300	210 (8.27)	27.0 (1.06)	168.3 (6.63)	22 (0.87)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	9.40 (20.88)
	600	210 (8.27)	31.8 (1.25)	168.3 (6.63)	22 (0.87)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	10.51 (23.35)
	900	240 (9.45)	38.1 (1.50)	190.5 (7.50)	26 (1.02)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	15.22 (33.83)
	1500	265 (10.43)	47.7 (1.88)	203.2 (8.00)	33 (1.30)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	19.98 (47.39)
	2500	305 (12.01)	66.7 (2.62)	228.6 (9.00)	36 (1.42)	8	85 (3.35)	127 (5.00)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	36.89 (81.97)
HG/T 20592-2009														
DN 50	PN 40	165 (6.50)	18 (0.71)	125 (4.92)	18 (0.71)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.5)	4.80 (10.67)
	PN 63	180 (7.09)	24 (0.94)	135 (5.31)	22 (0.87)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.5)	6.41 (14.24)
	PN 100	195 (7.68)	26 (1.02)	145 (5.71)	26 (1.02)	4	56 (2.20)	102 (4.00)	61 (2.40)	N/A	25 (0.97)	33 (1.30)	64 (2.5)	7.60 (16.89)
DN 80	PN 40	200 (7.87)	22 (0.87)	160 (6.30)	18 (0.71)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	8.44 (18.76)
	PN 63	215 (8.46)	26 (1.02)	170 (6.69)	22 (0.87)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	10.17 (22.60)
	PN 100	230 (9.06)	30 (1.18)	180 (7.09)	26 (1.02)	8	85 (3.35)	138 (5.43)	91 (3.60)	N/A	25 (0.97)	33 (1.30)	94 (3.7)	12.18 (27.07)

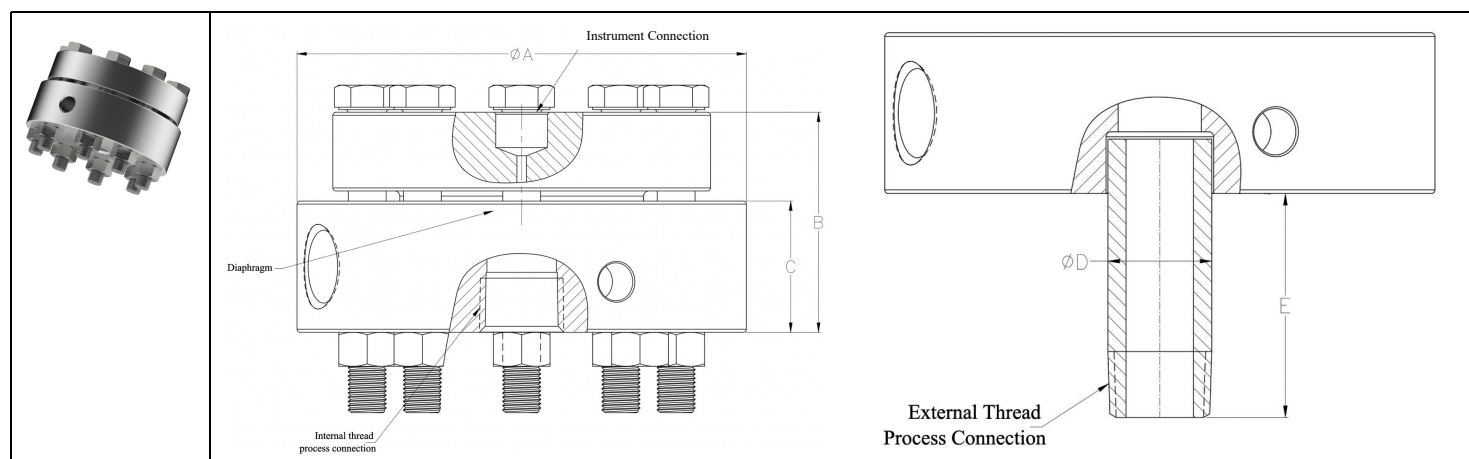
⑧ Thread-Type Seal Assembly Drawing



Pipe Size	Class	Flange Diameter "A"mm(in.)	Flange Thickness "B"mm(in.)	Bolt Circle Diameter "C"mm(in.)	Bolt Hole Diameter "D"mm (in.)	Bolt Number	Overall Height "H"mm (in.)	Raised Face Height "J"mm(in.)
HG/T 20615-2009								
2-in.	150	150(5.91)	17.5(0.69)	120.7 (4.75)	18(0.71)	4	62(2.43)	17(0.68)
	300	165(6.50)	20.7 (0.81)	127.05(0.0)	18(0.71)	8	62(2.43)	17(0.68)
	600	165(6.50)	25.4(1.00)	127.0(5.00)	18(0.71)	8	62(2.43)	17(0.68)
	900/1500	215(8.46)	38.1(1.50)	165.1(6.50)	26(1.02)	8	65(2.57)	21(0.82)
	2500	235(9.25)	50.9(2.00)	171.4(6.75)	30(1.18)	8	78(3.07)	21(0.82)
3-in.	150	190(7.48)	22.3(0.88)	152.4(6.00)	18(0.71)	4	62(2.43)	17(0.68)
	300	210(8.27)	27.0(1.06)	168.3(6.63)	22(0.87)	8	62(2.43)	17(0.68)
	600	210(8.27)	31.8(1.25)	168.3(6.63)	22(0.87)	8	62(2.43)	17(0.68)
	900	240(9.45)	38.1(1.50)	190.5(7.50)	26(1.02)	8	65(2.57)	21(0.82)
	1500	265(10.43)	47.7(1.88)	203.2(8.00)	33(1.30)	8	78(3.07)	21(0.82)
	2500	305(12.01)	66.7(2.62)	228.6(9.00)	36(1.42)	8	103(4.07)	21(0.82)

Pipe Size	Class	RTJ Diameter "E"mm (in.)	Actual Diaphragm Test Diameter "F"mm(in.)	Raised Face Diameter "G"mm(in.)	Inner Diameter "K"mm(in.)	¼-NPT F.C. Thickness "L"mm(in.)	½-NPT F.C. Thickness "M" mm (in.)	Weight kg(lb)
HG/T 20615-2009								
2-in.	150	83(3.25)	56(2.20)	102(4.00)	54(2.12)	36 (1.40)	43(1.70)	3.95(8.78)
	300	83(3.25)	56(2.20)	108(4.25)	54(2.12)	36(1.40)	43(1.70)	4.75(10.56)
	600	83(3.25)	56(2.20)	108(4.25)	54(2.12)	36 (1.40)	43(1.70)	5.40(12.01)
	900/1500	95(3.75)	56(2.20)	124(4.88)	54(2.12)	36(1.40)	43(1.70)	12.06(26.81)
	2500	102(4.00)	56(2.20)	133(5.25)	54(2.12)	36(1.40)	43(1.70)	17.99(39.98)
3-in.	150	114(4.50)	85(3.35)	133(5.25)	91(3.60)	38 (1.50)	46(1.80)	7.22 (16.04)
	300	124(4.88)	85(3.35)	146(5.75)	91(3.60)	38 (1.50)	46(1.80)	9.32(20.72)
	600	124(4.88)	85(3.35)	146(5.75)	91(3.60)	38(1.50)	46(1.80)	10.44(23.19)
	900	124(4.88)	85(3.35)	155(6.12)	91(3.60)	38 (1.50)	46(1.80)	16.00(35.56)
	1500	137(5.38)	85(3.35)	168(6.62)	91(3.60)	38 (1.50)	46(1.80)	22.82(50.72)
	2500	127(5.00)	85(3.35)	168(6.62)	91(3.60)	38 (1.50)	46(1.80)	38.75(86.12)

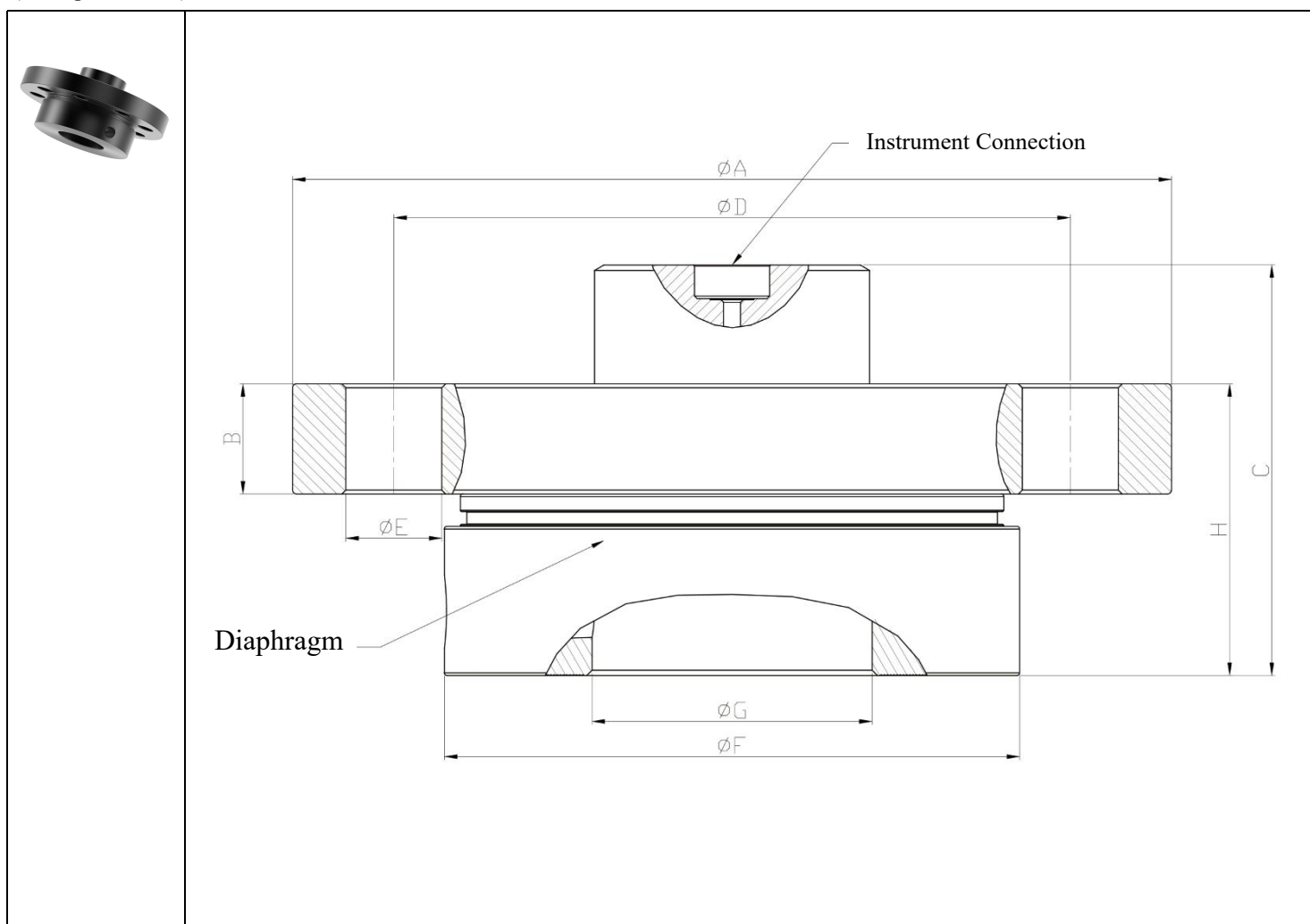
⑨ Thread-Type Seal Assembly Drawing



Rated Value	Overall Diameter 'A' mm (in.)		Overall Height 'B' mm (in.)		Lower Housing Thickness 'C' mm (in.)		Weight Kg (lb)	
	No Connection or 1/4-in.NPT Flushing Connection	1/2-in.NPT Flushing Connection	No Connection or 1/4-in.NPT Flushing Connection	1/2-in. NPT Flushing Connection	No Connection or 1/4-in.NPT Flushing Connection	1/2-in. NPT Flushing Connection	No Connection or 1/4-in.NPT Flushing Connection	1/2-in.NPT Flushing Connection
2500 psi (173 bar)	95 (3.74)	113.0 (4.45)	48.8 (1.92)	55.1 (2.17)	26.7 (1.05)	33.0 (1.30)	2.67 (5.89)	3.74 (8.24)
5000 psi (345 bar)	101.6 (4.00)	101.6 (4.00)	63.2 (2.49)	70.4 (2.77)	30.5 (1.20)	37.6 (1.48)	4.27 (9.41)	4.67 (10.29)
10000 psi (690 bar)	132.8 (5.23)	151.9 (5.98)	114.0 (4.49)	114.0 (4.49)	55.9 (2.20)	55.9 (2.20)	12.90 (28.45)	12.86 (28.36)
(4.1-in)1500 psi (103 bar)	146.1 (5.75)	160.0 (6.30)	49.9 (1.96)	56.2 (2.21)	26.7 (1.05)	33.0 (1.3)	5.86 (12.93)	7.84 (17.29)

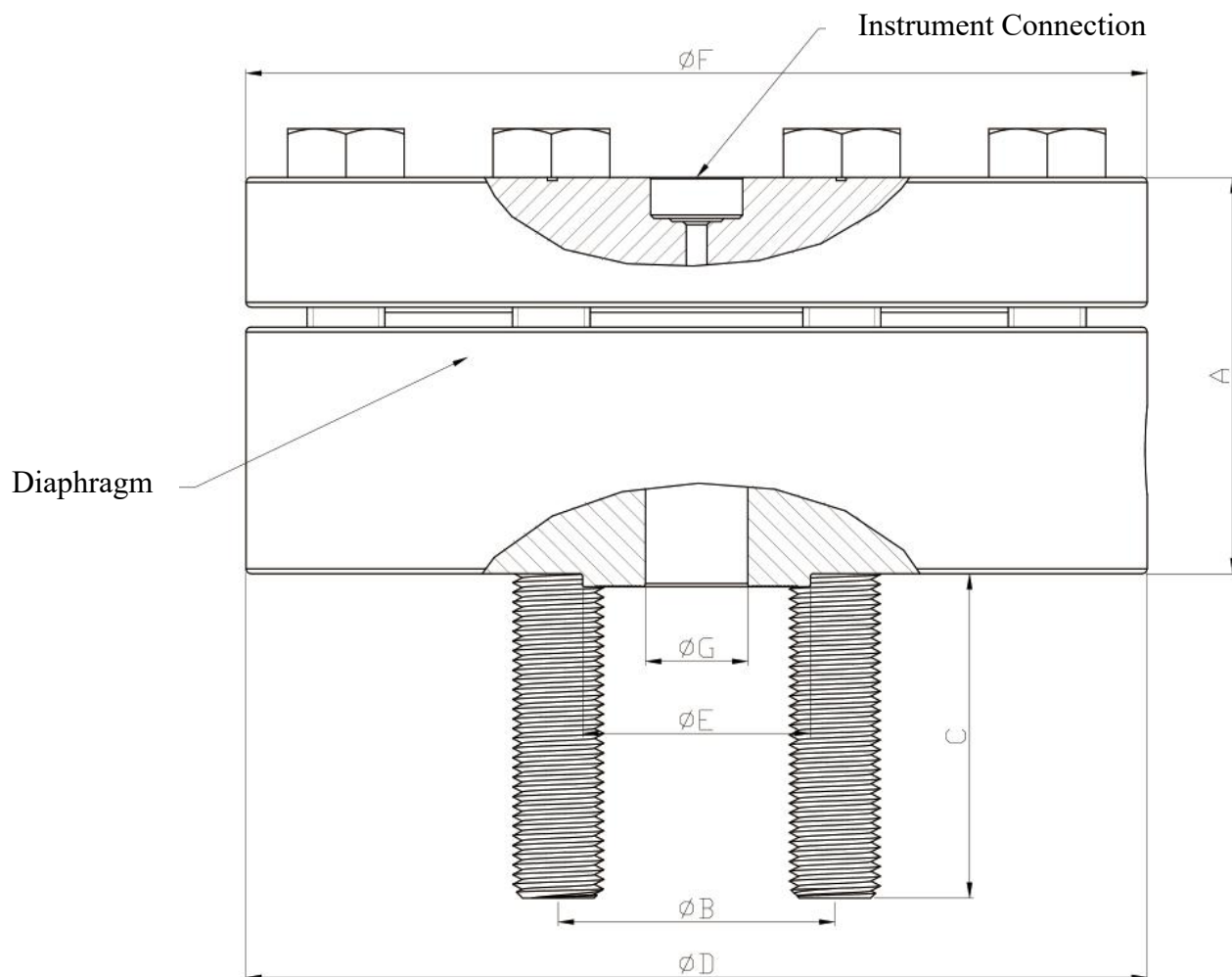
Process Connection Size	External Thread Process Connection Diameter 'D' mm (in.)	External Thread Process Connection Length 'E' mm (in.)
1/4-in NPT	13.7 (0.54)	33.3 (1.31)
3/8-in NPT	17.2 (0.68)	33.3 (1.31)
1/2-in NPT	21.3 (0.84)	46.0 (1.81)
3/4-in NPT	26.7 (1.05)	46.0 (1.81)
1-in NPT	33.4 (1.32)	52.3 (2.06)
1-1/4-in NPT	42.2 (1.66)	65.0 (2.56)
1-1/2-in NPT	48.3 (1.90)	71.4 (2.81)
M20X1.5	21.3 (0.84)	46.0 (1.81)

⑩ 4-Inch Enlarged Diaphragm, Flange-Type Seal Assembly, RF Face, Flat Flange, Double-Ended Stud Design Drawing
(XL Option Code).



Pipe Size	Class	Flange Diameter "A"mm	Flange Thickness "B"mm	Overall Height"C"mm		Bolt Circle Diameter "D"mm	Lower Ring Diameter "F"mm	Lower Housing Inner Diameter "G"mm	Falang Height"H"mm		Weight Kg	
				No Connection or ¼-in.NPT Flushing Connection	1/2-in.NPT Flushing Connection				No Connection or ¼-in.NPT Flushing Connection	1/2-in.NPT Flushing Connection	No Connection or ¼-in.NPT Flushing Connection	1/2-in.NPT Flushing Connection
ASME B16.5												
2-in	300#	165.1(6.50)	20.6(0.81)	76.6(3.01)	84.2(3.31)	127.0(5.00)	108.0(4.25)	52.58(2.07)	59.18(2.33)	66.80(2.63)	5.54(12.20)	5.91(13.02)
	600#	165.1(6.50)	25.4(1.00)	76.6(3.01)	84.2(3.31)	127.0(5.00)	108.0(4.25)	52.58(2.07)	64.01252)	71.63282)	6.19(13.65)	6.56(14.46)
	900#	215.9(8.50)	38.1(1.50)	76.6(3.01)	84.2(3.31)	165.1(6.50)	108.0(4.25)	5258(2.07)	76.713.02)	84.3.32)	12.18(26.83)	2.55(27.65)
3-in	150#	190.5(7.50)	22.4(0.88)	76.6(3.01)	84.2(3.31)	152.4(6.00)	127.0(5.00)	7.98(3.07)	60.96(240)	68.58(2.70)	7.6916.94)	8.12(17.89)
	300#	2096(8.25)	2691.06)	76.6(3.01)	84.2(3.31)	168.1(6.62)	127.0(5.00)	77.98(3.07)	65.53(2.58)	73.15(2.88)	9.53(20.99)	9.96(21.94)
	600#	209.6(8.25)	31.8(1.25)	76.6(3.01)	84.2(3.31)	168.16.62)	127.0(5.00)	77.98(3.07)	70.36(2.7)	77.98(3.07)	10.66(23.48)	11.09(24.43)
EN1092-1												
DN50	PN40	165.16.50)	20. (0.79)	76.6(3.01)	84.2(3.31)	125.0(4.92)	108.0(4.25)	54.61(2.15)	57.152.25)	64.77(2.55)	5.4(1.98)	5.8012.78)
	PN63	180.1(7.09)	25.9(1.02)	76.6(3.01)	84.2(3.31)	134.9(5.31)	108.0(4.25)	54.61(2.15)	62.99(2.48)	70.61(2.78)	7.03(15.48)	7.39(16.28)
	PN100	195.1(7.68)	27.9(1.10)	76.6(3.01)	84.2(3.31)	145.0(5.71)	108.0(4.25)	54.61(2.15)	65.02(2.56) 7	2.64(2.86)	8.24(18.16)	8.60(18.95)

- ⑪ 4-Inch Enlarged Diaphragm, Flange-Type Seal Assembly, RF Face, Flat Flange, Double-Ended Stud Design Drawing (XL Option Code).

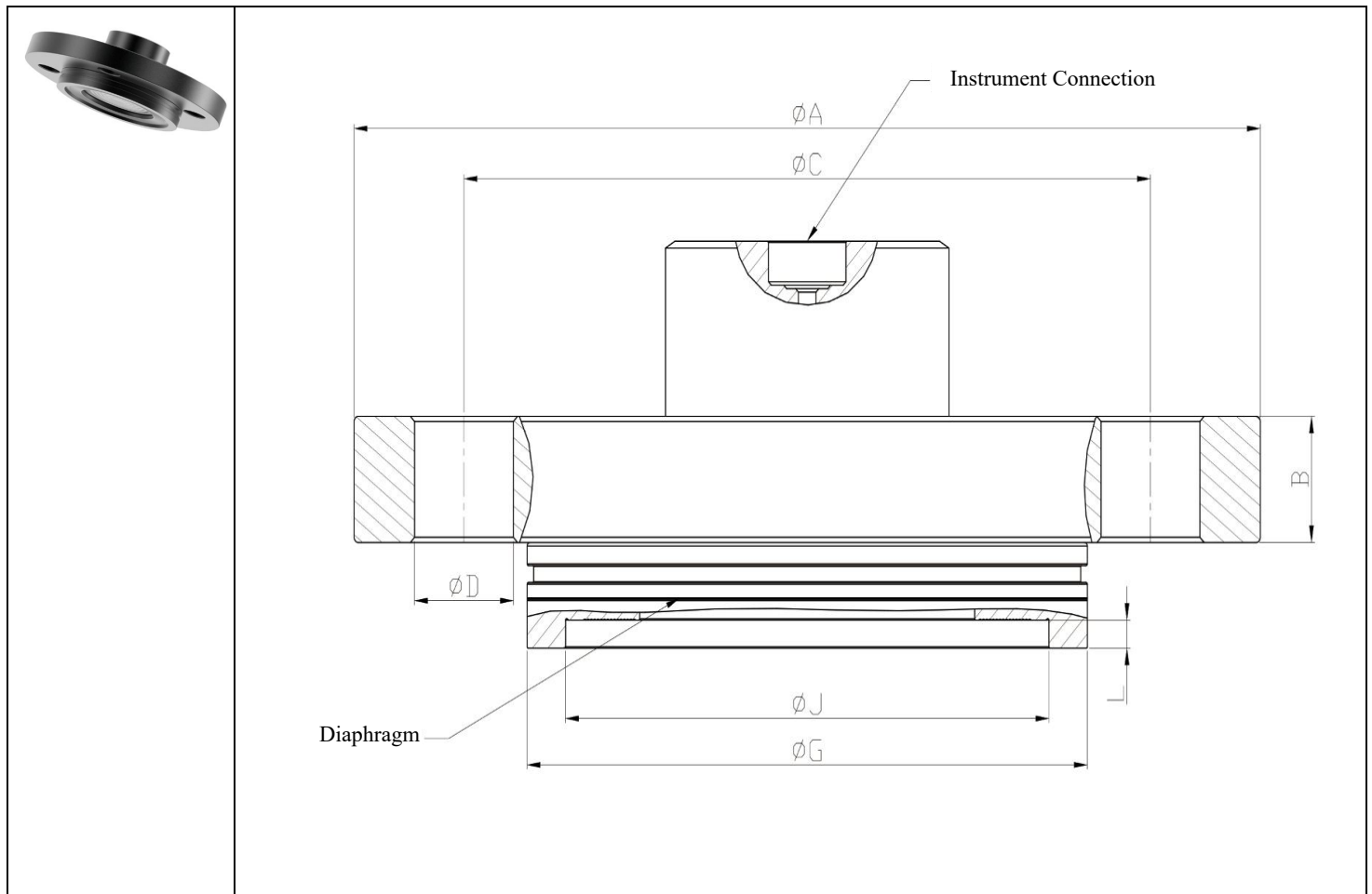


⑪ 4-Inch Enlarged Diaphragm, Flange-Type Seal Assembly, RF Face, Flat Flange, Double-Ended Stud Design Drawing
(XL Option Code).

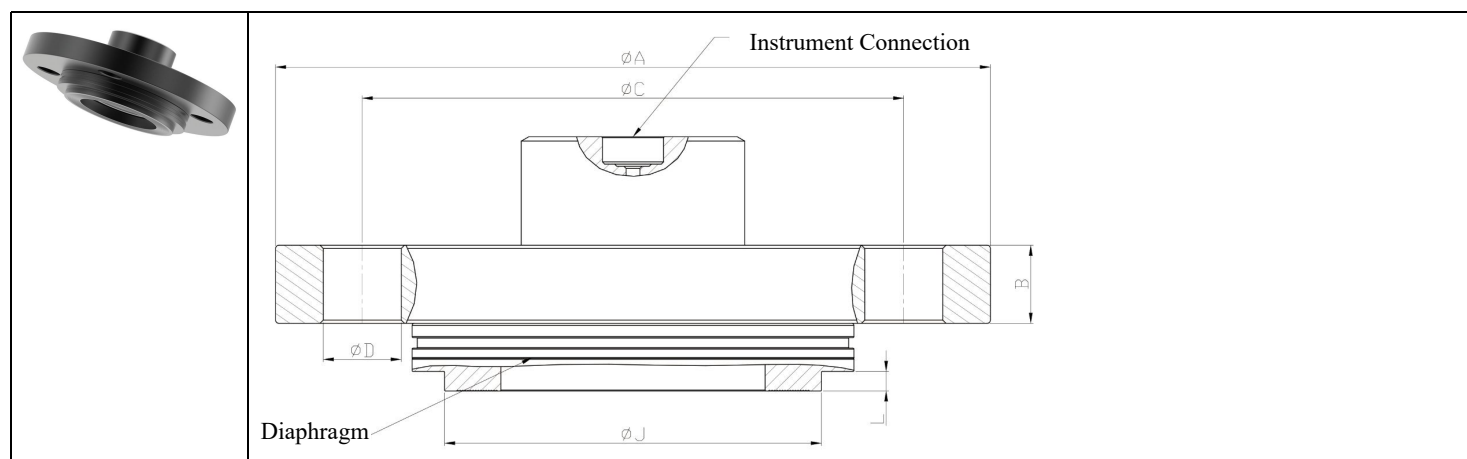
Pipe Size	Class	Overall Height "A" mm(in.)		Bolt Circle Diameter "B" mm(in.)	Bolt Hole Diameter "C" mm(in.)	Lower Housing Diameter "D"	
		No Connection or ¼-in.NPT Flushing Connection	½-in. NPT Flushing Connection			No Connection or ¼-in.NPT Flushing Connection	½-in. NPT Flushing Connection
ASME B16.5							
1/2-in	150#	2.41(61.3)	2.41(61.3)	2.38(60.5)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	300#	2.56(65.1)	2.56(65.1)	2.62(66.5)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	600#	2.56(65.1)	2.56(65.1)	2.62(66.5)	2.00(50.8)	5.47(138.9)	6.50(165.1)
	900#	3.06(77.8)	3.06(77.8)	3.25(82.6)	2.63(66.7)	5.75(146.1)	6.75(171.5)
3/4-in	150#	2.41(61.3)	2.41(61.3)	2.75(69.9)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	300#	2.65(67.4)	2.65(67.4)	3.25(82.6)	1.81(46.0)	5.47(138.9)	6.50(165.1)
	600#	2.65(67.4)	2.65(67.4)	3.25(82.6)	2.06(52.4)	5.47(138.9)	6.50(165.1)
	900#	2.86(72.7)	2.86(72.7)	3.50(88.9)	2.63(66.7)	5.75(146.1)	6.75(171.5)
1-in	150#	2.41(61.3)	2.41(61.3)	3.12(79.2)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	300#	2.65(67.4)	2.65(67.4)	3.50(88.9)	1.81(46.0)	5.47(138.9)	6.50(165.1)
	600#	2.65(67.4)	2.65(67.4)	3.50(88.9)	2.31(58.7)	5.47(138.9)	6.50(165.1)
	900#	3.06(77.8)	3.06(77.8)	4.00(101.6)	2.94(74.6)	5.75(146.1)	6.75(171.5)
1-1/2-in	150#	2.41(61.3)	2.41(61.3)	3.88(98.6)	1.75(44.5)	5.47(138.9)	6.50(165.1)
	300#	2.81(71.5)	2.81(71.5)	4.50(114.3)	2.13(54.0)	6.00(152.4)	6.50(165.1)
	600#	2.81(71.5)	2.81(71.5)	4.50(114.3)	2.63(66.7)	6.00(152.4)	6.50(165.1)
	900#	3.31(84.2)	3.31(84.2)	4.88(124.0)	3.25(82.6)	7.00(177.8)	7.00(177.8)
2-in	150#	2.41(61.3)	2.41(61.3)	4.75(120.7)	1.81(46.0)	6.00(152.4)	6.50(165.1)
EN1092-1							
DN25	PN40	2.41(61.3)	2.41(61.3)	3.35(85.1)	1.65(42.0)	5.47(138.9)	6.50(165.1)
	PN63	2.79(71.0)	2.79(71.0)	3.94(100.1)	2.01(51.0)	5.47(138.9)	6.50(165.1)
	PN100	2.79(71.0)	2.79(71.0)	3.94(100.1)	2.01(51.0)	5.75(146.1)	6.75(171.5)
DN40	PN40	2.41(61.3)	2.41(61.3)	4.33(110.0)	1.81(46.0)	5.91(150.1)	6.50(165.1)
	PN63	2.79(71.0)	2.79(71.0)	4.92(125.0)	1.81(46.0)	6.69(169.9)	6.75(171.5)
	PN100	2.79(71.0)	2.79(71.0)	4.92(125.0)	2.36(60.0)	6.69(169.9)	6.75(171.5)

Pipe Size	Class	Raised Face Diameter "E"	Upper Housing diameter "F"	Lower ring inner diameter "G"	Weight kg(lb)	
					No Connection or ¼-in.NPT Flushing Connection	½-in. NPT Flushing Connection
ASME B16.5						
1/2-in	150#	1.38(35.1)	5.47(138.9)	0.62(15.75)	14.30(6.49)	17.31(7.86)
	300#	1.38(35.1)	5.47(138.9)	0.62(15.75)	15.03(6.82)	18.34(8.33)
	600#	1.38(35.1)	5.47(138.9)	0.62(15.75)	15.14(6.87)	18.46(8.38)
	900#	1.38(35.1)	5.75(146.1)	0.62(15.75)	21.40(9.71)	25.37(11.51)
3/4-in	150#	1.69(42.9)	5.47(138.9)	0.82(20.83)	14.30(6.49)	17.31(7.86)
	300#	1.69(42.9)	5.47(138.9)	0.82(20.83)	15.93(7.23)	19.43(8.82)
	600#	1.69(42.9)	5.47(138.9)	0.82(20.83)	16.02(7.27)	19.52(8.86)
	900#	1.69(42.9)	5.75(146.1)	0.82(20.83)	20.32(9.22)	23.88(10.84)
1-in	150#	2.00(50.8)	5.47(138.9)	1.05(26.67)	14.30(6.49)	17.31(7.86)
	300#	2.00(50.8)	5.47(138.9)	1.05(26.67)	15.93(7.23)	19.43(8.82)
	600#	2.00(50.8)	5.47(138.9)	1.05(26.67)	16.1(7.31)	19.60(8.90)
	900#	2.00(50.8)	5.75(146.1)	1.05(26.67)	22.44(10.19)	26.41(11.99)
1-1/2-in	150#	2.88(73.2)	5.47(138.9)	1.61(40.89)	14.36(6.52)	17.37(7.88)
	300#	2.88(73.2)	5.47(138.9)	1.61(40.89)	19.28(8.75)	21.21(9.63)
	600#	2.88(73.2)	5.47(138.9)	1.61(40.89)	19.53(8.87)	21.47(9.74)
	900#	2.88(73.2)	5.75(146.1)	1.61(40.89)	30.85(14.00)	30.85(14.00)
2-in	150#	3.62(91.9)	5.47(138.9)	1.61(40.89)	16.25(7.38)	17.78(8.07)
EN1092-1						
DN25	PN40	2.68(68.0)	5.47(138.9)	.12(28.45)	14.27(6.48)	17.28(7.84)
	PN63	2.68(68.0)	5.47(138.9)	1.12(28.45)	17.36(7.88)	20.37(9.25)
	PN100	2.68(68.0)	5.75(146.1)	.12(28.45)	19.09(8.67)	22.51(10.22)
DN40	PN40	3.47(88.0)	5.47(138.9)	1.70(43.18)	16.00(7.26)	17.79(8.08)
	PN63	3.47(88.0)	5.47(138.9)	1.70(43.18)	21.91(9.95)	22.11(10.04)
	PN100	3.47(88.0)	5.75(146.1)	1.70(43.18)	23.22(10.54)	23.45(10.64)

⑫ Flange-Type Seal Assembly with Size ≥ 2 Inches, FM Face, Flat Flange, Loose-Ring Design Drawing (FM Option Code).

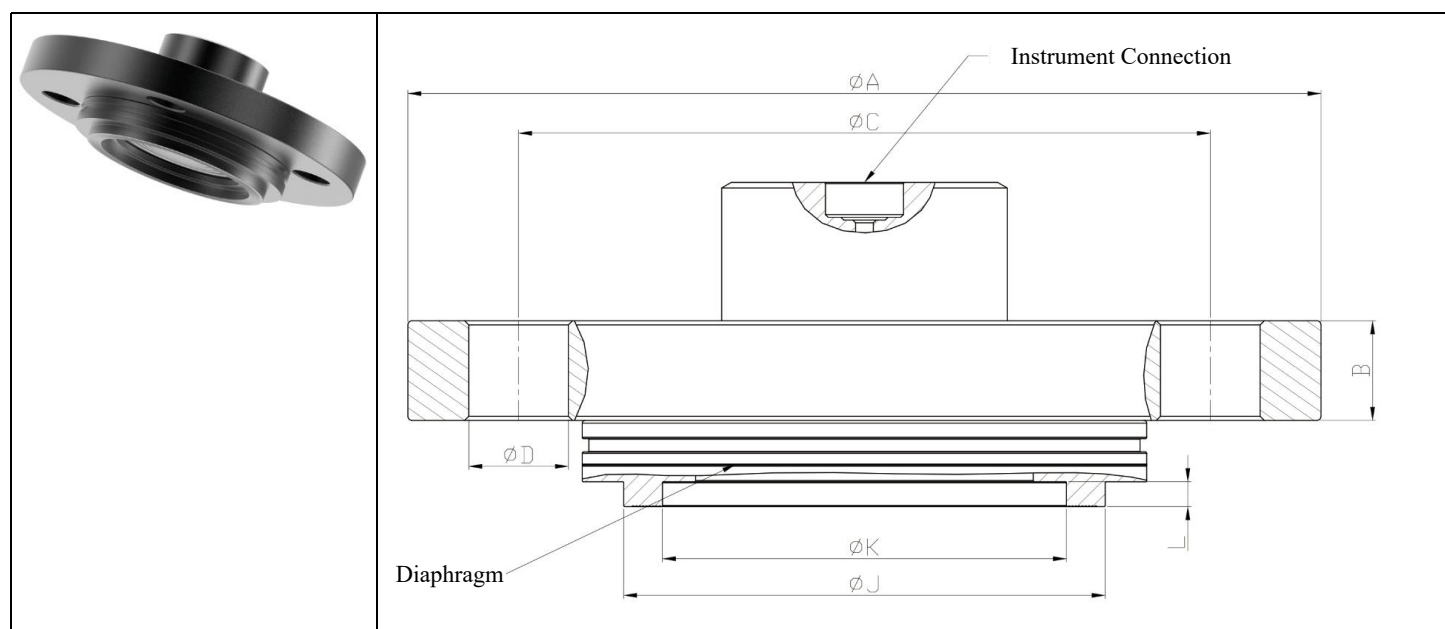


Pipe Size	Class	Overall Height“A”mm(in.)		Bolt Circle “B”mm(in.)	Bolt Hole Diameter “C”mm(in.)	Lower Ring Diameter“D”	
		No Connection or ¼-in.NPT Flushing Connection	½-in. NPT Flushing Connection			No Connection or ¼-in.NPT Flushing Connection	½-in. NPT Flushing Connection
ASME B16.5							
1/2-in	150#	2.41(61.3)	2.41(61.3)	2.38(60.5)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	300#	2.56(65.1)	2.56(65.1)	2.62(66.5)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	600#	2.56(65.1)	2.56(65.1)	2.62(66.5)	2.00(50.8)	5.47(138.9)	6.50(165.1)
	900#	3.06(77.8)	3.06(77.8)	3.25(82.6)	2.63(66.7)	5.75(146.1)	6.75(171.5)
3/4-in	150#	2.41(61.3)	2.41(61.3)	2.75(69.9)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	300#	2.65(67.4)	2.65(67.4)	3.25(82.6)	1.81(46.0)	5.47(138.9)	6.50(165.1)
	600#	2.65(67.4)	2.65(67.4)	3.25(82.6)	2.06(52.4)	5.47(138.9)	6.50(165.1)
	900#	2.86(72.7)	2.86(72.7)	3.50(88.9)	2.63(66.7)	5.75(146.1)	6.75(171.5)
1-in	150#	2.41(61.3)	2.41(61.3)	3.12(79.2)	1.50(38.1)	5.47(138.9)	6.50(165.1)
	300#	2.65(67.4)	2.65(67.4)	3.50(88.9)	1.81(46.0)	5.47(138.9)	6.50(165.1)
	600#	2.65(67.4)	2.65(67.4)	3.50(88.9)	2.31(58.7)	5.47(138.9)	6.50(165.1)
	900#	3.06(77.8)	3.06(77.8)	4.00(101.6)	2.94(74.6)	5.75(146.1)	6.75(171.5)
1-1/2-in	150#	2.41(61.3)	2.41(61.3)	3.88(98.6)	1.75(44.5)	5.47(138.9)	6.50(165.1)
	300#	2.81(71.5)	2.81(71.5)	4.50(114.3)	2.13(54.0)	6.00(152.4)	6.50(165.1)
	600#	2.81(71.5)	2.81(71.5)	4.50(114.3)	2.63(66.7)	6.00(152.4)	6.50(165.1)
	900#	3.31(84.2)	3.31(84.2)	4.88(124.0)	3.25(82.6)	7.00(177.8)	7.00(177.8)
2-in	150#	2.41(61.3)	2.41(61.3)	4.75(120.7)	1.81(46.0)	6.00(152.4)	6.50(165.1)
EN1092-1							
DN25	PN40	2.41(61.3)	2.41(61.3)	3.35(85.1)	1.65(42.0)	5.47(138.9)	6.50(165.1)
	PN63	2.79(71.0)	2.79(71.0)	3.94(100.1)	2.01(51.0)	5.47(138.9)	6.50(165.1)
	PN100	2.79(71.0)	2.79(71.0)	3.94(100.1)	2.01(51.0)	5.75(146.1)	6.75(171.5)
DN40	PN40	2.41(61.3)	2.41(61.3)	4.33(110.0)	1.81(46.0)	5.91(150.1)	6.50(165.1)
	PN63	2.79(71.0)	2.79(71.0)	4.92(125.0)	1.81(46.0)	6.69(169.9)	6.75(171.5)
	PN100	2.79(71.0)	2.79(71.0)	4.92(125.0)	2.36(60.0)	6.69(169.9)	6.75(171.5)

⑬ Flange-Type Seal Assembly with Size ≥ 2 Inches, M Face, Flat Flange, Loose-Ring Design (MM Option Code).


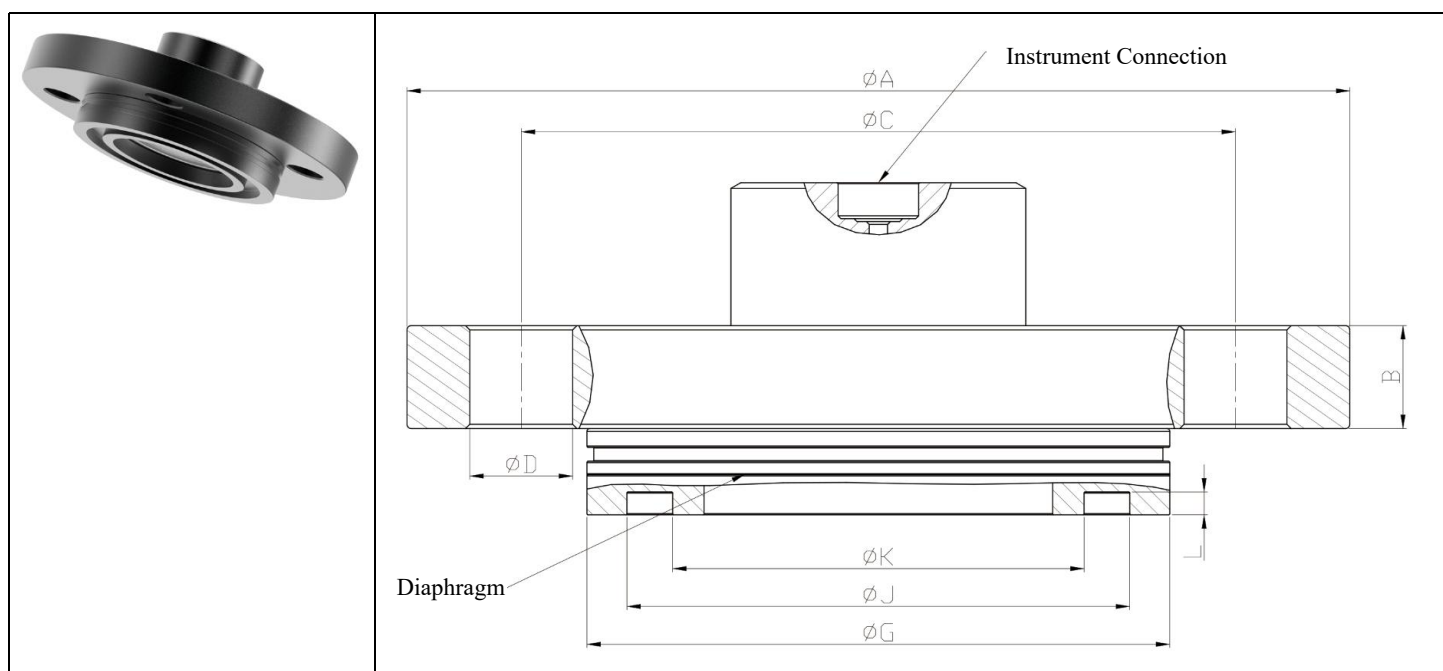
Pipe Size	Class	Flange Diameter "A"mm(in.)	Flange Thickness "B"mm(in.)	Bolt Circle "C"mm(in.)	Bolt Hole Diameter "D"mm(in.)	Bolt Number	Raised Face Diameter "J"mm(in.)	Raised Face Height "L"mm(in.)
HG/T 20615-2009								
2-in.	300	165(6.50)	20.7(0.81)	127.0(5.00)	18(0.71)	8	92(3.62)	7(0.27)
	600	165(6.50)	25.4(1.00)	127.0(5.00)	18(0.71)	8	92(3.62)	7(0.27)
	900/1500	215(8.46)	38.1(1.50)	165.1(6.50)	26(1.02)	8	92(3.62)	7(0.27)
	2500	235(9.25)	50.9(2.00)	171.4(6.75)	30(1.18)	8	92(3.62)	7(0.27)
3-in.	300	210(8.27)	27.0(1.06)	168.3(6.63)	22(0.87)	8	127(5.00)	7(0.27)
	600	210(8.27)	31.8(1.25)	168.3(6.63)	22(0.87)	8	127(5.00)	7(0.27)
	900	240(9.45)	38.1(1.50)	190.5(7.50)	26(1.02)	8	127(5.00)	7(0.27)
	1500	265(10.43)	47.7(1.88)	203.2(8.00)	33(1.30)	8	127(5.00)	7(0.27)
	2500	305(12.01)	66.7(2.62)	228.6(9.00)	36(1.42)	8	127(5.00)	7(0.27)
4-in.	300	255(10.04)	30.2(1.19)	200.0(7.88)	22(0.87)	8	157(6.20)	7(0.27)
	600	275(10.83)	38.1(1.50)	215.9(8.50)	26(1.02)	8	157(6.20)	7(0.27)
	900	290(11.42)	44.5(1.75)	235.0(9.25)	33(1.30)	8	157(6.20)	7(0.27)
	1500	310(12.20)	54.0(2.12)	241.3(9.50)	36(1.42)	8	157(6.20)	7(0.27)
	2500	355(13.98)	76.2(3.00)	273.0(10.75)	42(1.65)	8	157(6.20)	7(0.27)
HG/T 20592-2009								
DN 50	PN 40	165(6.50)	18(0.71)	125(4.92)	18(0.71)	4	87(3.43)	4.5(0.17)
	PN 63	180(7.09)	24(0.94)	135(5.31)	22(0.87)	4	87(3.43)	4.5(0.17)
	PN100	195(7.68)	26(1.02)	145(5.71)	26(1.02)	4	87(3.43)	4.5(0.17)
	PN160	195(7.68)	36(1.42)	145(5.71)	26(1.02)	4	87(3.43)	4.5(0.17)
DN 80	PN 40	200(7.87)	22(0.87)	160(6.30)	18(0.71)	8	120(4.72)	4.5(0.17)
	PN 63	215(8.46)	26(1.02)	170(6.69)	22(0.87)	8	120(4.72)	4.5(0.17)
	PN 100	230(9.06)	30(1.18)	180(7.09)	26(1.02)	8	120(4.72)	4.5(0.17)
	PN 160	230(9.06)	44(1.73)	180(7.09)	26(1.02)	8	120(4.72)	4.5(0.17)
DN 100	PN 40	235(9.25)	22(0.87)	190(7.48)	22(0.87)	8	149(5.87)	5(0.19)
	PN 63	250(9.84)	28(1.10)	200(7.87)	26(1.02)	8	149(5.87)	5(0.19)
	PN 100	265(10.43)	34(1.34)	210(8.27)	30(1.18)	8	149(5.87)	5(0.19)
	PN 160	265(10.43)	50(1.97)	210(8.27)	30(1.18)	8	149(5.87)	5(0.19)

⑭ Flange-Type Seal Assembly with Size ≥ 2 Inches, Tongue Face, Flat Flange, Loose-Ring Design Drawing (TT Option Code).



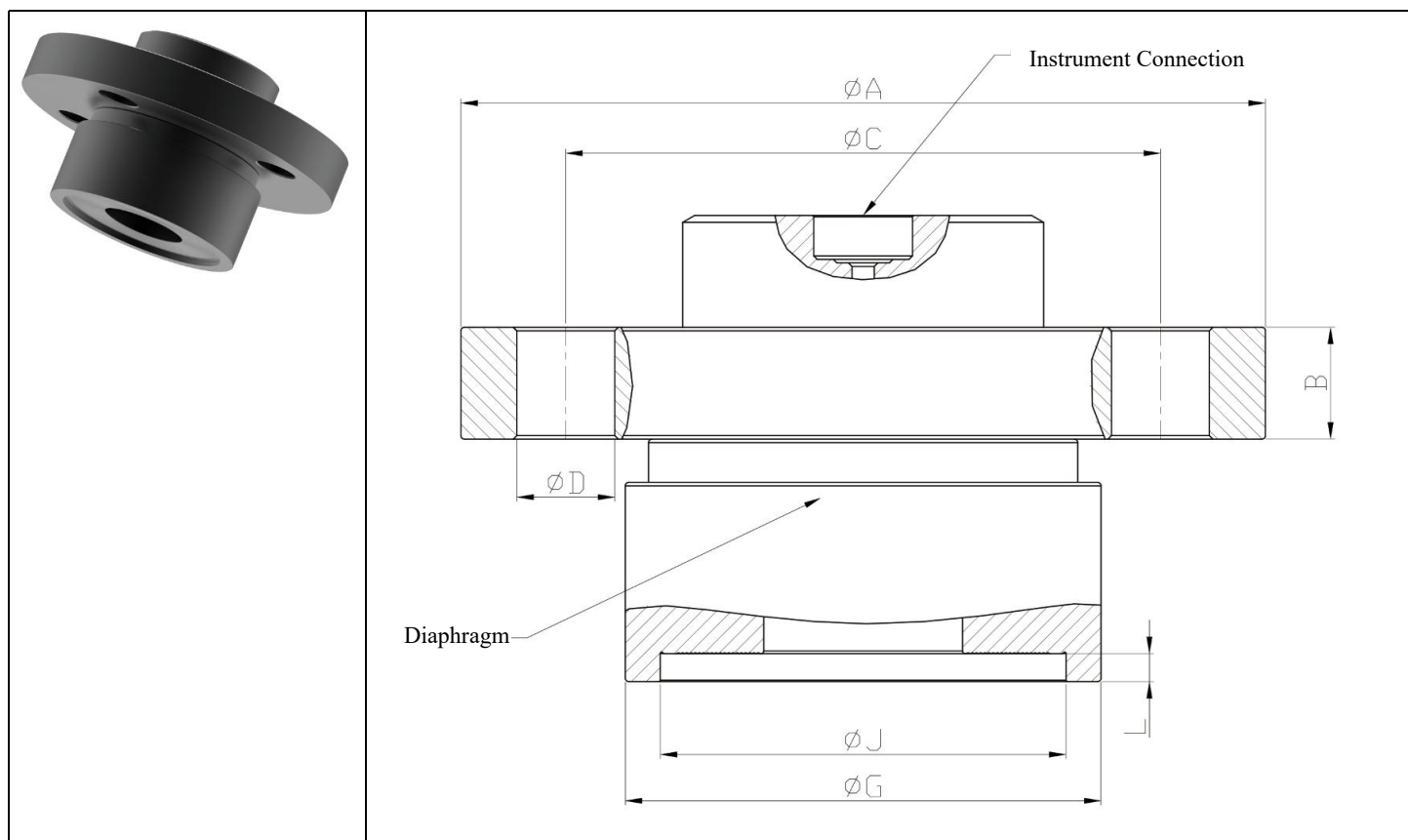
Pipe Size	Class	Flange Diameter "A"mm (in.)	Flange Thickness "B"mm(in.)	Bolt Circle Diameter "C"mm(in.)	Bolt Hole Diameter "D"mm(in.)	Bolt Number	Raised Face Diameter "J"mm(in.)	Raised Face Height "L"mm(in.)	Raised Face Inner Diameter "K"mm (in.)
HG/T 20615-2009									
2-in.	300	165(6.50)	20.7(0.81)	127.0(5.00)	18(0.71)	8	92(3.62)	7(0.27)	73(2.87)
	600	165(6.50)	25.4(1.00)	127.0(5.00)	18(0.71)	8	92(3.62)	7(0.27)	73(2.87)
	900/1500	215(8.46)	38.1(1.50)	165.1(6.50)	26(1.02)	8	92(3.62)	7(0.27)	73(2.87)
	2500	235(9.25)	50.9(2.00)	171.4(6.75)	30(1.18)	8	92(3.62)	7(0.27)	73(2.87)
3-in.	300	210(8.27)	27.0(1.06)	168.3(6.63)	22(0.87)	8	127(5.00)	7(0.27)	108(4.25)
	600	210(8.27)	31.8(1.25)	168.3(6.63)	22(0.87)	8	127(5.00)	7(0.27)	108(4.25)
	900	240(9.45)	38.1(1.50)	190.5(7.50)	26(1.02)	8	127(5.00)	7(0.27)	108(4.25)
	1500	265(10.43)	47.7(1.88)	203.2(8.00)	33(1.30)	8	127(5.00)	7(0.27)	108(4.25)
	2500	305(12.01)	66.7(2.62)	228.6(9.00)	36(1.42)	8	127(5.00)	7(0.27)	108(4.25)
4-in.	300	255(10.04)	30.2(1.19)	200.0(7.88)	22(0.87)	8	157(6.20)	7(0.27)	131.8(5.19)
	600	275(10.83)	38.1(1.50)	215.9(8.50)	26(1.02)	8	157(6.20)	7(0.27)	131.8(5.19)
	900	290(11.42)	44.5(1.75)	235.0(9.25)	33(1.30)	8	157(6.20)	7(0.27)	131.8(5.19)
	1500	310(12.20)	54.0(2.12)	241.3(9.50)	36(1.42)	8	157(6.20)	7(0.27)	131.8(5.19)
	2500	355(13.98)	76.2(3.00)	273.0(10.75)	42(1.65)	8	157(6.20)	7(0.27)	131.8(5.19)
HG/T 20592-2009									
DN 50	PN 40	165(6.50)	18(0.71)	125(4.92)	18(0.71)	4	87(3.43)	4.5(0.17)	73(2.87)
	PN 63	180(7.09)	24(0.94)	135(5.31)	22(0.87)	4	87(3.43)	4.5(0.17)	73(2.87)
	PN100	195(7.68)	26(1.02)	145(5.71)	26(1.02)	4	87(3.43)	4.5(0.17)	73(2.87)
	PN160	195(7.68)	36(1.42)	145(5.71)	26(1.02)	4	87(3.43)	4.5(0.17)	73(2.87)
DN 80	PN 40	200 (7.87)	22(0.87)	160(6.30)	18(0.71)	8	120(4.72)	4.5(0.17)	106(4.17)
	PN 63	215(8.46)	26(1.02)	170(6.69)	22(0.87)	8	120(4.72)	4.5(0.17)	106(4.17)
	PN 100	230(9.06)	30(1.18)	180(7.09)	26(1.02)	8	120(4.72)	4.5(0.17)	106(4.17)
	PN 160	230(9.06)	44(1.73)	180(7.09)	26(1.02)	8	120(4.72)	4.5(0.17)	106(4.17)
DN 100	PN 40	235(9.25)	22(0.87)	190(7.48)	22(0.87)	8	149(5.87)	5(0.19)	129(5.08)
	PN 63	250(9.84)	28(1.10)	200 (7.87)	26(1.02)	8	149(5.87)	5(0.19)	129(5.08)
	PN 100	265(10.43)	34(1.34)	210(8.27)	30(1.18)	8	149(5.87)	5(0.19)	129(5.08)
	PN 160	265(10.43)	50(1.97)	210(8.27)	30(1.18)	8	149(5.87)	5(0.19)	129(5.08)

⑮ Flange-type seal assembly with size ≥ 2 inches, groove facing, flat flange, loose-ring design drawing (GG option code).



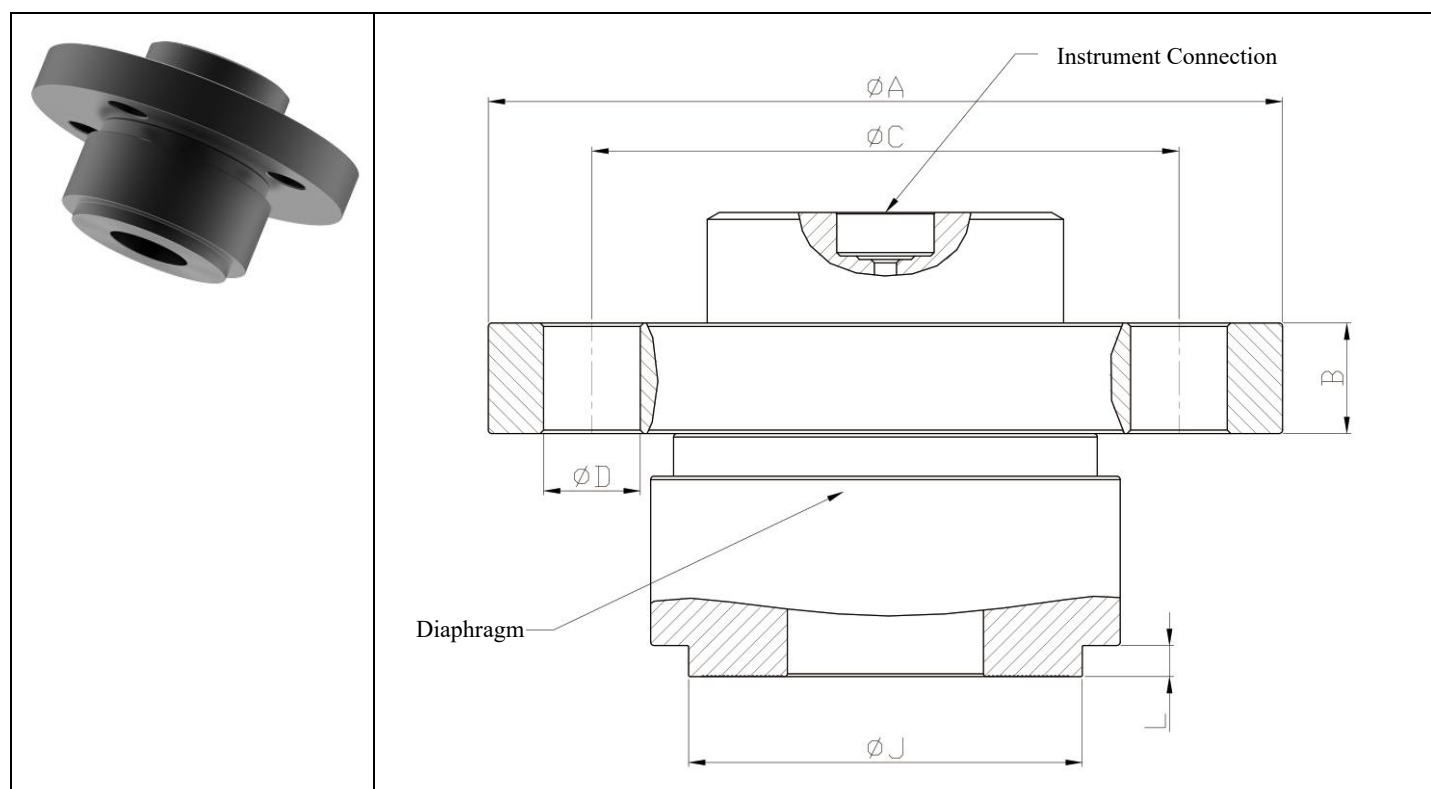
Pipe Size	Class	Flange Diameter "A"mm (in.)	Flange Thickness "B"mm(in.)	Bolt Circle "C"mm(in.)	Bolt Hole Diameter "D"mm (in.)	Bolt Number	Groove Outside Diameter "J"mm(in.)	Raised Face Diameter "G"mm(in.)	Groove Inner Diameter "K"mm(in.)	Groove Depth "L"mm(in.)
HG/T 20615-2009										
2-in.	300	165(6.50)	20.7(0.81)	127.0(5.00)	18(0.71)	8	93.7(3.69)	103(4.06)	71.4(2.81)	5(0.19)
	600	165(6.50)	25.4(1.00)	127.0(5.00)	18(0.71)	8	93.7(3.69)	103(4.06)	71.4(2.81)	5(0.19)
	900/1500	215(8.46)	38.1(1.50)	165.1(6.50)	26(1.02)	8	93.7(3.69)	103(4.06)	71.4(2.81)	5(0.19)
	2500	235(9.25)	50.9(2.00)	171.4(6.75)	30(1.18)	8	93.7(3.69)	103(4.06)	71.4(2.81)	5(0.19)
3-in.	300	210(8.27)	27.0(1.06)	168.3(6.63)	22(0.87)	8	128.6(5.06)	138(5.43)	106.4(4.19)	5(0.19)
	600	210(8.27)	31.8(1.25)	168.3(6.63)	22(0.87)	8	128.6(5.06)	138(5.43)	106.4(4.19)	5(0.19)
	900	240(9.45)	38.1(1.50)	190.5(7.50)	26(1.02)	8	128.6(5.06)	138(5.43)	106.4(4.19)	5(0.19)
	1500	265(10.43)	47.7(1.88)	203.2(8.00)	33(1.30)	8	128.6(5.06)	138(5.43)	106.4(4.19)	5(0.19)
	2500	305(12.01)	66.7(2.62)	228.6(9.00)	36(1.42)	8	128.6(5.06)	138(5.43)	106.4(4.19)	5(0.19)
4-in.	300	255(10.04)	30.2(1.19)	200.0(7.88)	22(0.87)	8	158.8(6.25)	168(6.61)	130.2(5.12)	5(0.19)
	600	275(10.83)	38.1(1.50)	215.9(8.50)	26(1.02)	8	158.8(6.25)	168(6.61)	130.2(5.12)	5(0.19)
	900	290(11.42)	44.5(1.75)	235.0(9.25)	33(1.30)	8	158.8(6.25)	168(6.61)	130.2(5.12)	5(0.19)
	1500	310(12.20)	54.0(2.12)	241.3(9.50)	36(1.42)	8	158.8(6.25)	168(6.61)	130.2(5.12)	5(0.19)
	2500	355(13.98)	76.2(3.00)	273.0(10.75)	42(1.65)	8	158.8(6.25)	168(6.61)	130.2(5.12)	5(0.19)
HG/T 20592-2009										
DN 50	PN 40	165(6.50)	18(0.71)	125(4.92)	18(0.71)	4	88(3.46)	102(4.02)	72(2.83)	4(0.15)
	PN 63	180(7.09)	24(0.94)	135(5.31)	22(0.87)	4	88(3.46)	102(4.02)	72(2.83)	4(0.15)
	PN100	195(7.68)	26(1.02)	145(5.71)	26(1.02)	4	88(3.46)	102(4.02)	72(2.83)	4(0.15)
	PN160	195(7.68)	36(1.42)	145(5.71)	26(1.02)	4	88(3.46)	102(4.02)	72(2.83)	4(0.15)
DN 80	PN 40	200(7.87)	22(0.87)	160(6.30)	18(0.71)	8	121(4.76)	138(5.43)	105(4.13)	4(0.15)
	PN 63	215(8.46)	26(1.02)	170(6.69)	22(0.87)	8	121(4.76)	138(5.43)	105(4.13)	4(0.15)
	PN 100	230(9.06)	30(1.18)	180(7.09)	26(1.02)	8	121(4.76)	138(5.43)	105(4.13)	4(0.15)
	PN 160	230(9.06)	44(1.73)	180(7.09)	26(1.02)	8	121(4.76)	138(5.43)	105(4.13)	4(0.15)
DN 100	PN 40	235(9.25)	22(0.87)	190(7.48)	22(0.87)	8	150(5.91)	162(6.38)	128(5.04)	4.5(0.17)
	PN 63	250(9.84)	28(1.10)	200(7.87)	26(1.02)	8	150(5.91)	162(6.38)	128(5.04)	4.5(0.17)
	PN 100	265(10.43)	34(1.34)	210(8.27)	30(1.18)	8	150(5.91)	162(6.38)	128(5.04)	4.5(0.17)
	PN 160	265(10.43)	50(1.97)	210(8.27)	30(1.18)	8	150(5.91)	162(6.38)	128(5.04)	4.5(0.17)

⑩ Flange-Type Seal Assembly with Size <2 Inches, FM Face, Flat Flange, Loose-Ring Design Drawing (FM Option Code).



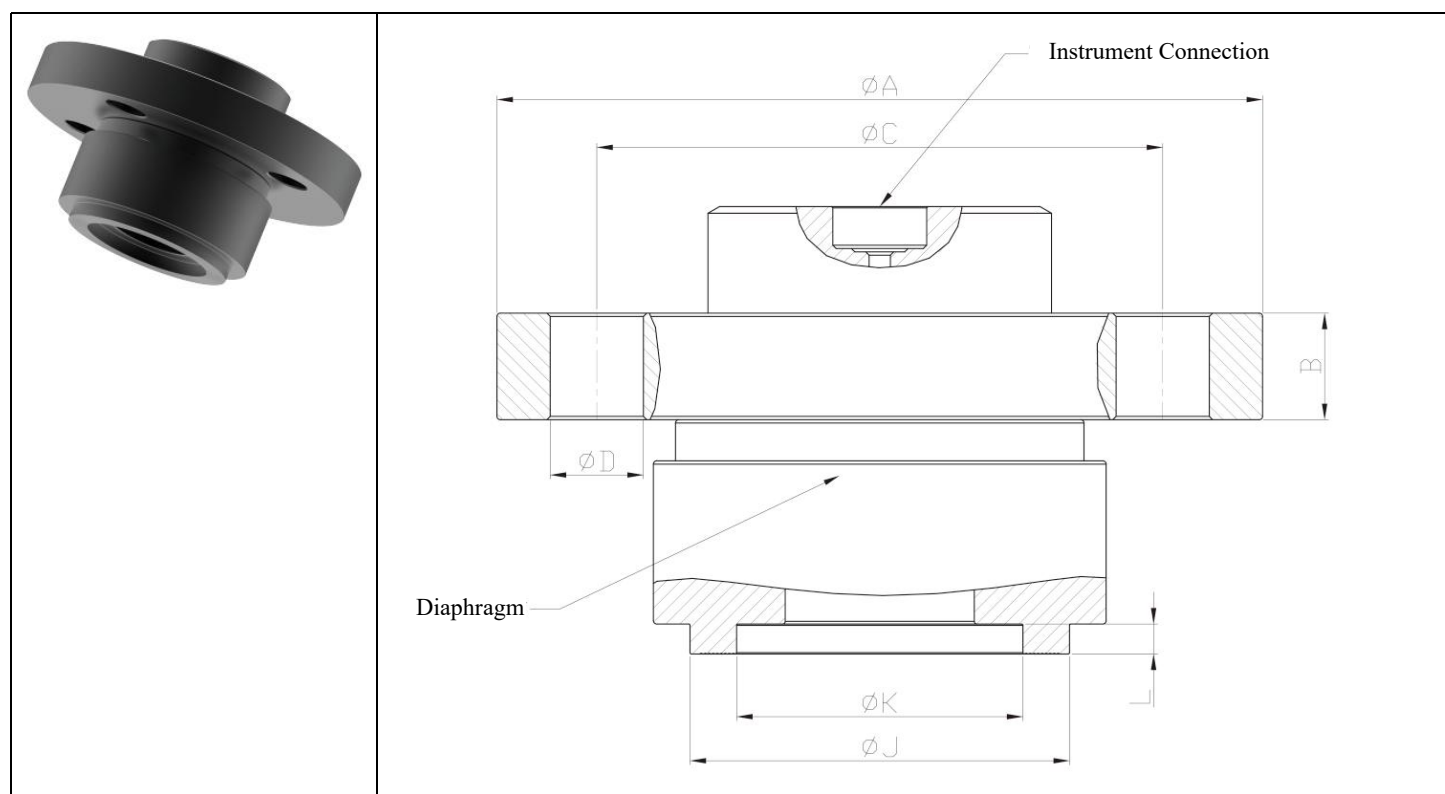
Pipe Size	Class	Flange Diameter "A"mm(in.)	Flange Thickness "B"mm(in.)	Bolt Circle Diameter "C"mm(in.)	Bolt Hole Diameter "D"mm(in.)	Bolt Number	Raised Face Diameter "G"mm(in.)	Groove Outside Diameter "J"mm(in.)	Groove Depth "L"mm(in.)
HG/T 20615-2009									
V2-in.	2500	135(5.31)	30.2(1.19)	88.9(3.50)	22(0.87)	4	46(1.81)	36.5(1.44)	5(0.19)
3/4-in.	300	115(4.53)	14.3(0.56)	82.6(3.25)	18(0.71)	4	54(2.13)	44.4(2.4)	5(0.19)
	600	115(4.53)	15.9(0.63)	82.6(3.25)	18(0.71)	4	54(2.13)	44.4(2.4)	5(0.19)
	900/1500	130(5.12)	25.4(1.00)	88.9(3.50)	22(0.87)	4	54(2.13)	44.4(2.4)	5(0.19)
	2500	140(5.51)	31.8(1.25)	95.2(3.75)	22(0.87)	4	54(2.13)	44.4(2.4)	5(0.19)
1-in.	300	125(4.92)	15.9(0.63)	88.9(3.50)	18(0.71)	4	62(2.44)	52.4(2.06)	5(0.19)
	600	125(4.92)	17.5(0.69)	88.9(3.50)	18(0.71)	4	62(2.44)	52.4(2.06)	5(0.19)
	900/1500	150(5.91)	28.6(1.13)	101.6(4.00)	26(1.02)	4	62(2.44)	52.4(2.06)	5(0.19)
	2500	160(6.30)	35.0(1.38)	108.0(4.25)	26(1.02)	4	62(2.44)	52.4(2.06)	5(0.19)
1V2-in.	300	155(6.10)	19.1(0.75)	114.3(4.50)	22(0.87)	4	84(3.31)	74.6(2.94)	5(0.19)
	600	155(6.10)	22.3(0.88)	114.3(4.50)	22(0.87)	4	84(3.31)	74.6(2.94)	5(0.19)
	900/1500	180(7.09)	31.8(1.25)	123.8(4.87)	30(1.18)	4	84(3.31)	74.6(2.94)	5(0.19)
HG/T 20592-2009									
DN20	PN63/PN100	130(5.12)	20(0.79)	90(3.54)	18(0.71)	4	58(2.28)	51(2.01)	4(0.15)
DN25	PN40	115(4.53)	16(0.63)	85(3.35)	14(0.55)	4	68(2.68)	58(2.28)	4(0.15)
	PN63/PN100/PN160	140(5.51)	22(0.87)	100(3.94)	18(0.71)	4	68(2.68)	58(2.28)	4(0.15)
DN40	PN40	150(5.91)	16(0.63)	110(4.33)	18(0.71)	4	88(3.46)	76(2.99)	4(0.15)
	PN63/PN100	170(6.69)	24(0.94)	125(4.92)	22(0.87)	4	88(3.46)	76(2.99)	4(0.15)
	PN160	170(6.69)	34(1.34)	125(4.92)	22(0.87)	4	88(3.46)	76(2.99)	4(0.15)

⑰ Flange-Type Seal Assembly with Size <2 Inches, M Face, Flat Flange, Loose-Ring Design Drawing (MM Option Code).



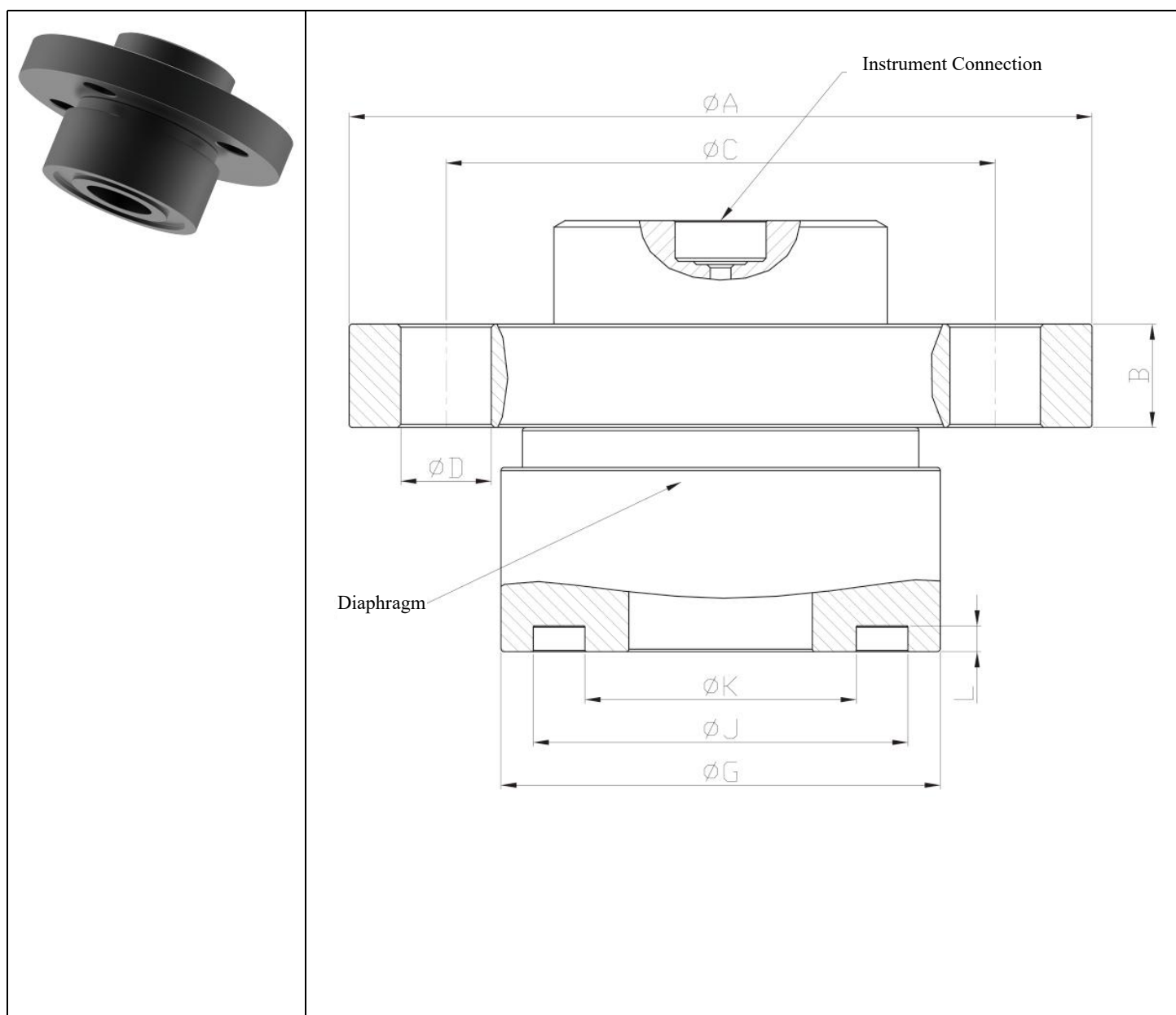
Pipe Size	Class	Flange Diameter "A"mm(in.)	Flange Thickness "B"mm(in.)	Bolt Circle Diameter "C"mm(in.)	Bolt Hole Diameter "D"mm(in.)	Bolt Number	Raised Face Outside Diameter "J"mm(in.)	Raised Face Height "L"mm(in.)
HG/T 20615-2009								
Y2-in.	2500	135(5.31)	30.2(1.19)	88.9(3.50)	22(0.87)	4	34.9(1.37)	7(0.27)
34-in.	300	115(4.53)	14.3(0.56)	82.6(3.25)	18(0.71)	4	42.9(1.69)	7(0.27)
	600	115(4.53)	15.9(0.63)	82.6(3.25)	18(0.71)	4	42.9(1.69)	7(0.27)
	900/1500	130(5.12)	25.4(1.00)	88.9(3.50)	22(0.87)	4	42.9(1.69)	7(0.27)
	2500	140(5.51)	31.8(1.25)	95.2(3.75)	22(0.87)	4	42.9(1.69)	7(0.27)
1-in.	300	125(4.92)	15.9(0.63)	88.9(3.50)	18(0.71)	4	50.9(2)	7(0.27)
	600	125(4.92)	17.5(0.69)	88.9(3.50)	18(0.71)	4	50.9(2)	7(0.27)
	900/1500	150(5.91)	28.6(1.13)	101.6(4.00)	26(1.02)	4	50.9(2)	7(0.27)
	2500	160(6.30)	35.0(1.38)	108.0(4.25)	26(1.02)	4	50.9(2)	7(0.27)
1V2-in.	300	155(6.10)	19.1(0.75)	114.3(4.50)	22(0.87)	4	73(2.87)	7(0.27)
	600	155(6.10)	22.3(0.88)	114.3(4.50)	22(0.87)	4	73(2.87)	7(0.27)
	900/1500	180(7.09)	31.8(1.25)	123.8(4.87)	30(1.18)	4	73(2.87)	7(0.27)
HG/T 20592-2009								
DN20	PN63/PN100	130(5.12)	20(0.79)	90(3.54)	18(0.71)	4	50(1.97)	4.5(0.17)
DN25	PN40	115(4.53)	16(0.63)	85(3.35)	14(0.55)	4	57(2.24)	4.5(0.17)
	PN63/PN100 /PN160	140(5.51)	22(0.87)	100(3.94)	18(0.71)	4	57(2.24)	4.5(0.17)
DN40	PN40	150(5.91)	16(0.63)	110(4.33)	18(0.71)	4	75(2.95)	4.5(0.17)
	PN63/PN100	170(6.69)	24(0.94)	125(4.92)	22(0.87)	4	75(2.95)	4.5(0.17)
	PN160	170(6.69)	34(1.34)	125(4.92)	22(0.87)	4	75(2.95)	4.5(0.17)

⑱ Flange-Type Seal Assembly with Size <2 Inches, Tongue Face, Flat Flange, Loose-Ring Design Drawing (TT Option Code).



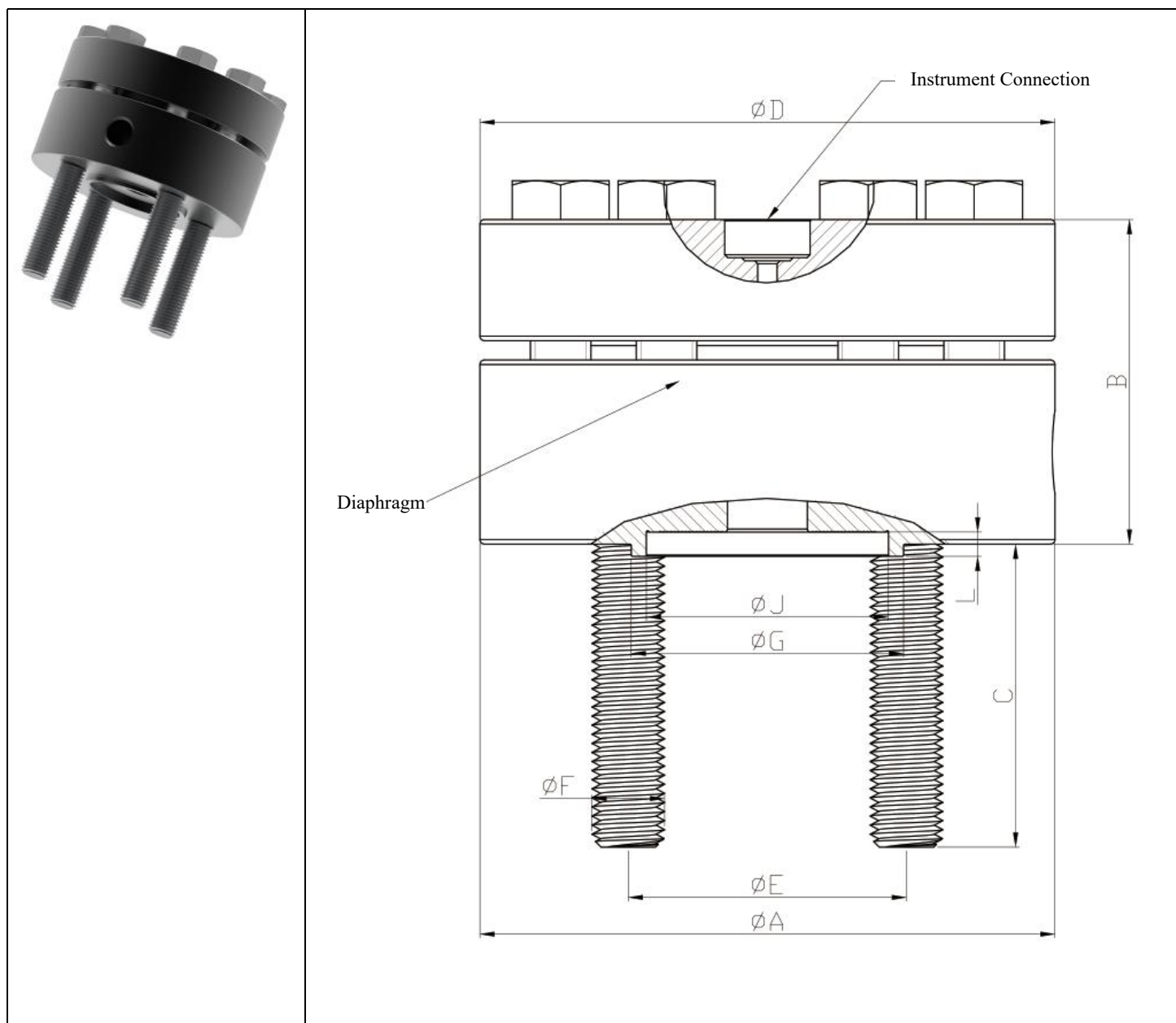
Pipe Size	Class	Flange Diameter "A"mm(in.)	Flange Thickness "B"mm(in.)	Bolt Circle Diameter "C"mm(in.)	Bolt Hole Diameter "D"mm(in.)	Bolt Number	Raised Face Outside Diameter "J"mm(in.)	Raised Face Height "L"mm(in.)
HG/T 20615-2009								
V2-in.	2500	135(5.31)	30.2(1.19)	88.9(3.50)	22(0.87)	4	34.9(1.37)	7(0.27)
3/4-in.	300	115(4.53)	14.3(0.56)	82.6(3.25)	18(0.71)	4	42.9(1.69)	7(0.27)
	600	115(4.53)	15.9(0.63)	82.6(3.25)	18(0.71)	4	42.9(1.69)	7(0.27)
	900/1500	130(5.12)	25.4(1.00)	88.9(3.50)	22(0.87)	4	42.9(1.69)	7(0.27)
	2500	140(5.51)	31.8(1.25)	95.2(3.75)	22(0.87)	4	42.9(1.69)	7(0.27)
1-in.	300	125(4.92)	15.9(0.63)	88.9(3.50)	18(0.71)	4	50.9(2)	7(0.27)
	600	125(4.92)	17.5(0.69)	88.9(3.50)	18(0.71)	4	50.9(2)	7(0.27)
	900/1500	150(5.91)	28.6(1.13)	101.6(4.00)	26(1.02)	4	50.9(2)	7(0.27)
	2500	160(6.30)	35.0(1.38)	108.0(4.25)	26(1.02)	4	50.9(2)	7(0.27)
1V2-in.	300	155(6.10)	19.1(0.75)	114.3(4.50)	22(0.87)	4	73(2.87)	7(0.27)
	600	155(6.10)	22.3(0.88)	114.3(4.50)	22(0.87)	4	73(2.87)	7(0.27)
	900/1500	180(7.09)	31.8(1.25)	123.8(4.87)	30(1.18)	4	73(2.87)	7(0.27)
HG/T 20592-2009								
DN20	PN63/PN100	130(5.12)	20(0.79)	90(3.54)	18(0.71)	4	50(1.97)	4.5(0.17)
DN25	PN40	115(4.53)	16(0.63)	85(3.35)	14(0.55)	4	57(2.24)	4.5(0.17)
	PN63/PN100/PN160	140(5.51)	22(0.87)	100(3.94)	18(0.71)	4	57(2.24)	4.5(0.17)
DN40	PN40	150(5.91)	16(0.63)	110(4.33)	18(0.71)	4	75(2.95)	4.5(0.17)
	PN63/PN100	170(6.69)	24(0.94)	125(4.92)	22(0.87)	4	75(2.95)	4.5(0.17)
	PN160	170(6.69)	34(1.34)	125(4.92)	22(0.87)	4	75(2.95)	4.5(0.17)

①9 Flange-Type Seal Assembly with Size <2 Inches, Groove Face, Flat Flange, Loose-Ring Design Drawing (GG Option Code).



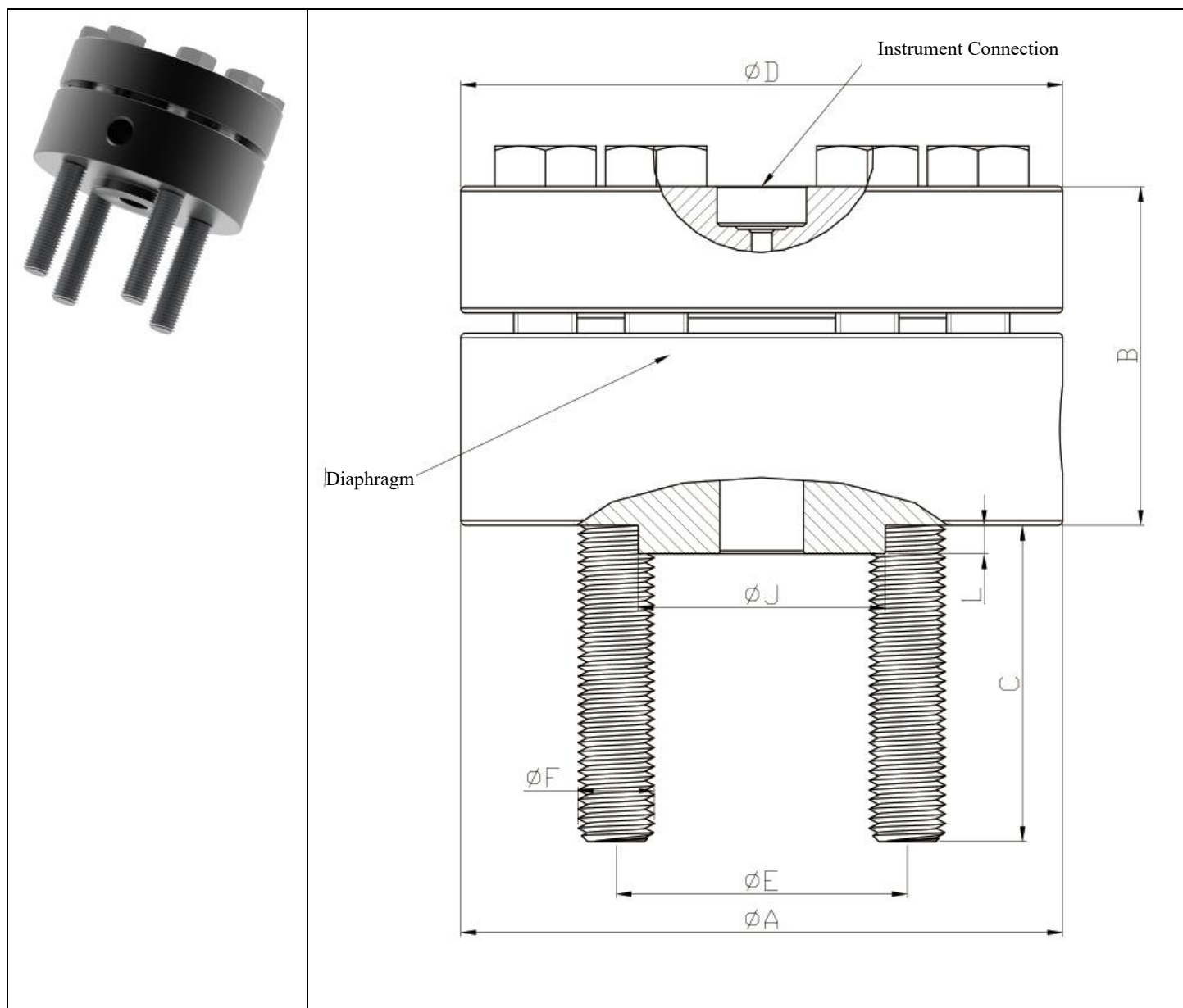
Pipe Size	Class	Lower Ring Diameter “A”mm(in.)	Overall Height “B”mm(in.)		Stud Bolt (Size, Length) “C”mm (in.)	Upper Housing Diameter “D”mm (in.)	Stud Bolt Circle Diameter “E”mm(in.)	Bolt Diameter “F”mm (in.)	Raised Face Diameter “G”mm (in.)	Groove Outside Diameter “J”mm(in.)	Groove Depth "L"mm(in.)
			No Connection or ¼- in. NPT Flushing Connection	½-in. NPT Flushing Connection							
HG/T 20615-2009											
V2-in.	300	95.0(3.74)	55.1(2.17)	62.7(2.47)	49.3(1.94)	95.0(3.74)	66.5(2.62)	M14	46(1.81)	36.5(1.44)	5(0.19)
	600	95.0(3.74)	60.2(2.37)	64.0(2.52)	44.5(1.75)	95.0(3.74)	66.5(2.62)	M14	46(1.81)	36.5(1.44)	5(0.19)
	900/1500	120.4(4.74)	70.9(2.79)	83.6(3.29)	75.9(2.99)	101.6(4.00)	82.6(3.25)	M20	46(1.81)	36.5(1.44)	5(0.19)
HG/T 20592-2009											
DN 10	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	59.9(2.36)	M12	40(1.57)	35(1.38)	4(0.15)
	PN 63/100	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	70.1(2.76)	M12	40(1.57)	35(1.38)	4(0.15)
DN 15	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	65.0(2.56)	M12	45(1.77)	40(1.57)	4(0.15)
	PN 63/100	104.9(4.13)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	74.9(2.95)	M12	45(1.77)	40(1.57)	4(0.15)

② Flange-Type Seal Assembly with Size <2 Inches, FM Face, Flat Flange, Double-Ended Stud Design Drawing (FM Option Code).



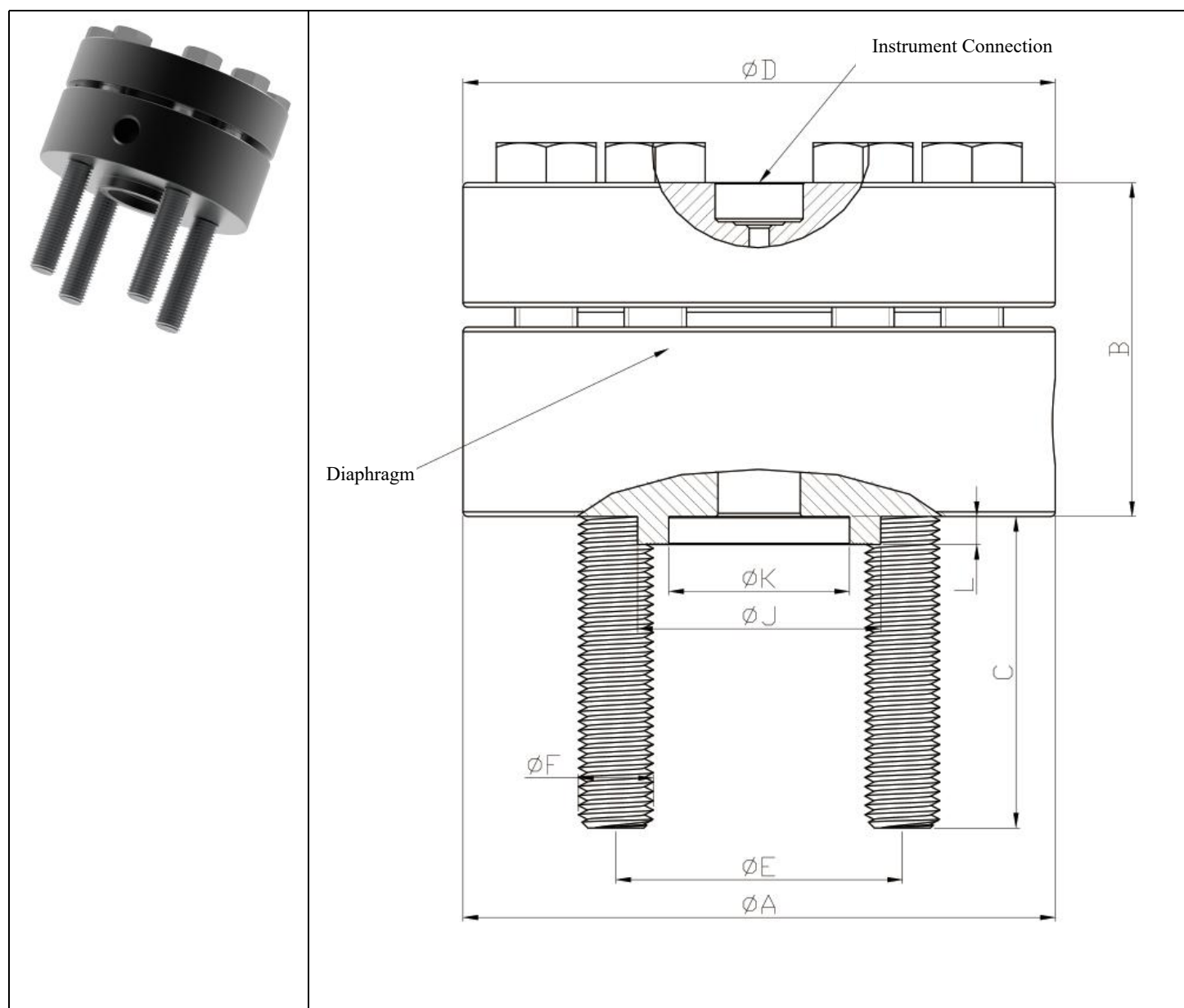
Pipe Size	Class	Lower Housing Diameter “A”mm(in.)	Overall Height“B”mm(in.)		Stud Bolt (Size, Length) “C”mm (in.)	Upper Housing Diameter “D”mm (in.)	Stud Bolt Circle Diameter “E”mm(in.)	Bolt Circle Diameter “F”mm (in.)	Raised Face Diameter “G”mm (in.)	Groove Outside Diameter “J”mm(in.)	Groove Depth "L"mm(in.)
			No Connection or ¼- in. NPT Flushing Connection	½-in. NPT Flushing Connection							
HG/T 20615-2009											
V2-in.	300	95.0(3.74)	55.1(2.17)	62.7(2.47)	49.3(1.94)	95.0(3.74)	66.5(2.62)	M14	46(1.81)	36.5(1.44)	5(0.19)
	600	95.0(3.74)	60.2(2.37)	64.0(2.52)	44.5(1.75)	95.0(3.74)	66.5(2.62)	M14	46(1.81)	36.5(1.44)	5(0.19)
	900/1500	120.4(4.74)	70.9(2.79)	83.6(3.29)	75.9(2.99)	101.6(4.00)	82.6(3.25)	M20	46(1.81)	36.5(1.44)	5(0.19)
HG/T 20592-2009											
DN 10	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	59.9(2.36)	M12	40(1.57)	35(1.38)	4(0.15)
	PN 63/100	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	70.1(2.76)	M12	40(1.57)	35(1.38)	4(0.15)
DN 15	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	65.0(2.56)	M12	45(1.77)	40(1.57)	4(0.15)
	PN 63/100	104.9(4.13)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	74.9(2.95)	M12	45(1.77)	40(1.57)	4(0.15)

② Flange-Type Seal Assembly with Size <2 Inches, M Face, Flat Flange, Double-Ended Stud Design Drawing (MM Option Code).



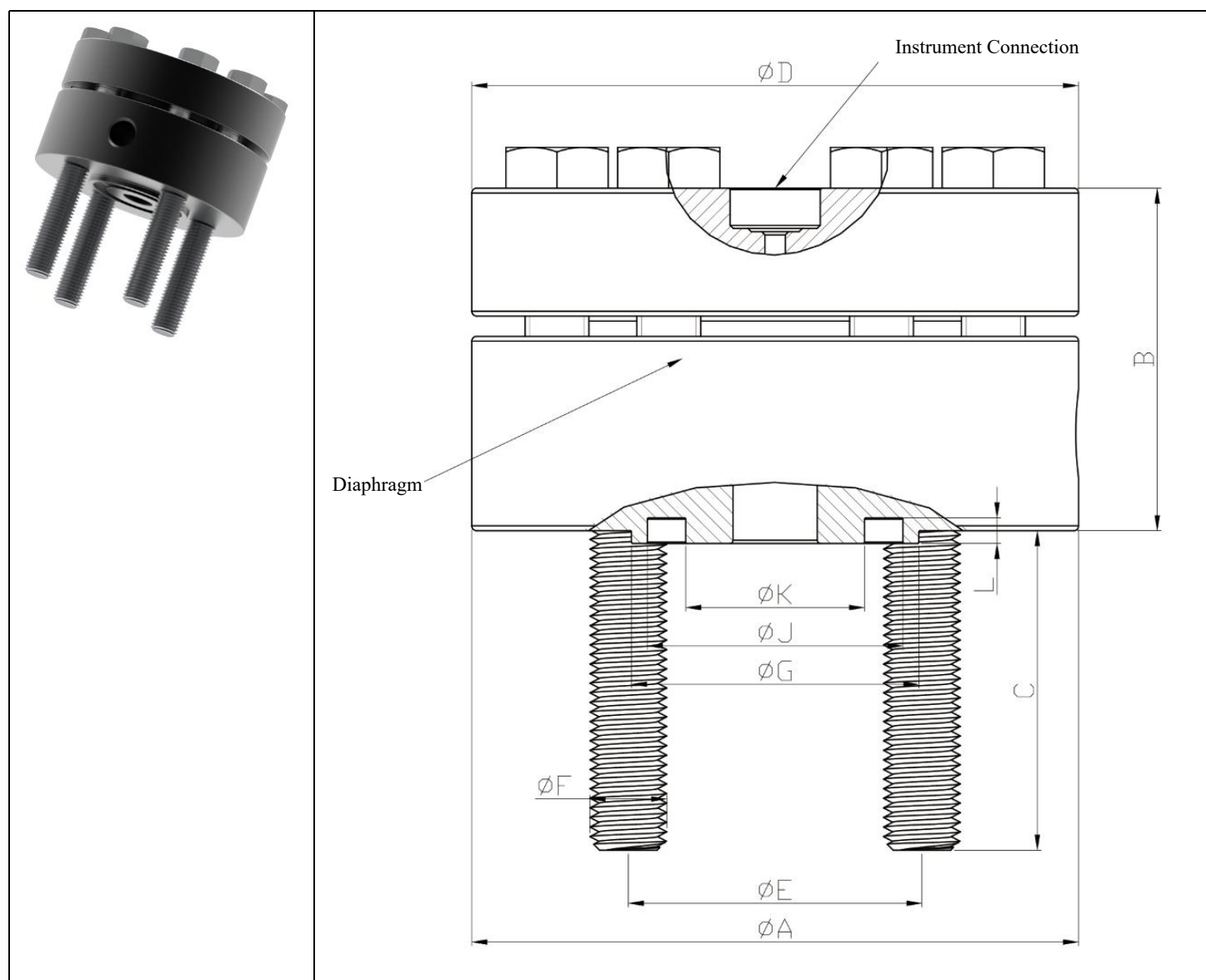
Pipe Size	Class	Lower Housing Diameter “A”mm (in.)	Overall Height“B”mm(in.)		Stud Bolt Circle (Size,Length) "C"mm(in.)	Upper Housing Diameter “D”mm (in.)	Stud Bolt Circle Diameter “E”mm (in.)	Bolt Circle Diameter “F”mm (in.)	Raised Face Outside Diameter “J”mm(in.)	Raised Face Height "L"mm(in.)
			No Connection or ¼-in. NPT Flushing Connection	½-in. NPT Flushing Connection						
HG/T 20615-2009										
V ₂ -in.	300	95.0(3.74)	55.1(2.17)	62.7(2.47)	49.3(1.94)	95.0(3.74)	66.5(2.62)	M14	34.9(1.37)	7(0.27)
	600	95.0(3.74)	60.2(2.37)	64.0(2.52)	44.5(1.75)	95.0(3.74)	66.5(2.62)	M14	34.9(1.37)	7(0.27)
	900/1500	120.4 (4.74)	70.9(2.79)	83.6(3.29)	75.9(2.99)	101.6(4.00)	82.6(3.25)	M20	34.9(1.37)	7(0.27)
HG/T 20592-2009										
DN 10	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	59.9(2.36)	M12	34(1.34)	4.5(0.17)
	PN 63/100	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	70.1(2.76)	M12	34(1.34)	4.5(0.17)
DN 15	PN 40	95.0(3.74)	53.6 (2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	65.0(2.56)	M12	39(1.54)	4.5(0.17)
	PN 63/100	104.9(4.13)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	74.9(2.95)	M12	39(1.54)	4.5(0.17)

② Flange-Type Seal Assembly with Size <2 Inches, Tongue Facing, Flat Flange, Double-Ended Stud Drawing (TT Option Code).



Pipe Size	Class	Lower Housing Diameter “A”mm (in.)	Overall Height “B”mm(in.)		Stud Bolt Circle (Size, Length) "C"mm(in.)	Upper Housing Diameter “D”mm (in.)	Stud Bolt Circle Diameter “E”mm (in.)	Bolt Circle Diameter “F”mm (in.)	Raised Face Outside Diameter “J”mm(in.)	Raised Face Height "L"mm(in.)
			No Connection or ¼-in. NPT Flushing Connection	½-in. NPT Flushing Connection						
HG/T 20615-2009										
V ₂ -in.	300	95.0(3.74)	55.1(2.17)	62.7(2.47)	49.3(1.94)	95.0(3.74)	66.5(2.62)	M14	34.9(1.37)	7(0.27)
	600	95.0(3.74)	60.2(2.37)	64.0(2.52)	44.5(1.75)	95.0(3.74)	66.5(2.62)	M14	34.9(1.37)	7(0.27)
	900/1500	120.4 (4.74)	70.9(2.79)	83.6(3.29)	75.9(2.99)	101.6(4.00)	82.6(3.25)	M20	34.9(1.37)	7(0.27)
HG/T 20592-2009										
DN 10	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	59.9(2.36)	M12	34(1.34)	4.5(0.17)
	PN 63/100	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	70.1(2.76)	M12	34(1.34)	4.5(0.17)
DN 15	PN 40	95.0(3.74)	53.6 (2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	65.0(2.56)	M12	39(1.54)	4.5(0.17)
	PN 63/100	104.9(4.13)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	74.9(2.95)	M12	39(1.54)	4.5(0.17)

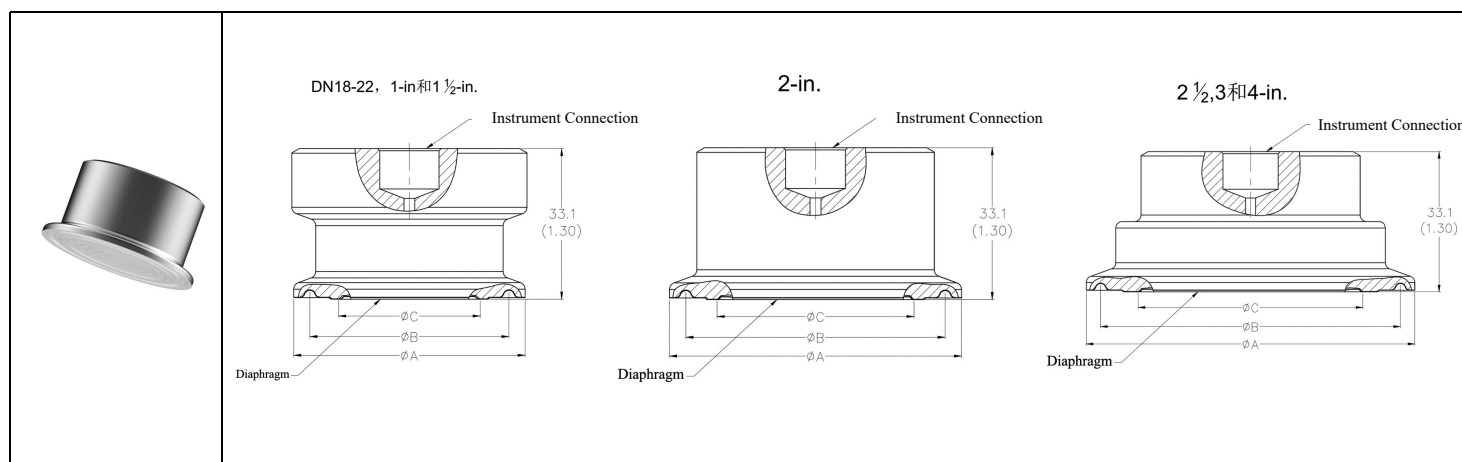
② Flange-Type Seal Assembly with Size <2 Inches, Groove Facing, Flat Flange, Double-Ended Stud Drawing (GG Option Code).



Pipe Size	Class	Lower Housing Diameter "A" mm(in.)	Overall Height "B" mm(in.)		Bolt Stud (Length) "C"mm(in.)	Upper Housing Diameter "D"mm (in.)	Bolt Circle Diameter "E"mm(in.)	Bolt Hole Diameter "F"mm(in.)	Raised Face Diameter "G"mm(in.)	Groove Outside Diameter "J"mm(in.)	Groove Inner Diameter "K"mm(in.)	Groove Depth "L"mm(in.)
			No Connection or ¼-in. NPT Flushing Connection	½-in. NPT Flushing Connection								
HG/T 20615-2009												
V-in	300	95.0(3.74)	55.1 (2.17)	627(247)	49.3(1.94)	95.03.74)	66.5(2.62)	M14	46(1.81)	36.5(1.44)	23.8(0.93)	5(0.19)
	600	95.0(3.74)	60.2(2.37)	64.0(2.52)	44.5(1.75)	95.0(3.74)	6.52.62)	M14	461.81)	36.5(1.44)	23,810.93	50.19)
	900/1500	120.4(4.74)	70.9 (2.79)	83.6(3.29)	75.9(2.99)	101.64.00)	82.6(3.25)	M20	461.81)	36.5(1.44)	23.8(0.93)	5(0.19)
HG/T 20592-2009												
DN 10	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	59.9(2.36)	M12	40(1.5)	351.38)	240.94)	40.15)
	PN63/100	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	70.1(2.76)	M12	40(1.57)	351.38)	24(0.94)	40.15)
DN15	PN 40	95.0(3.74)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	65.0(2.56)	M12	451.77)	40(1.57)	2961.14)	4(0.15)
	PN 63/100	104.9(4.13)	53.6(2.11)	62.7(2.47)	45.7(1.80)	95.0(3.74)	74.9(2.95)	M12	451.7)	40(1.57)	291.14)	40.15)

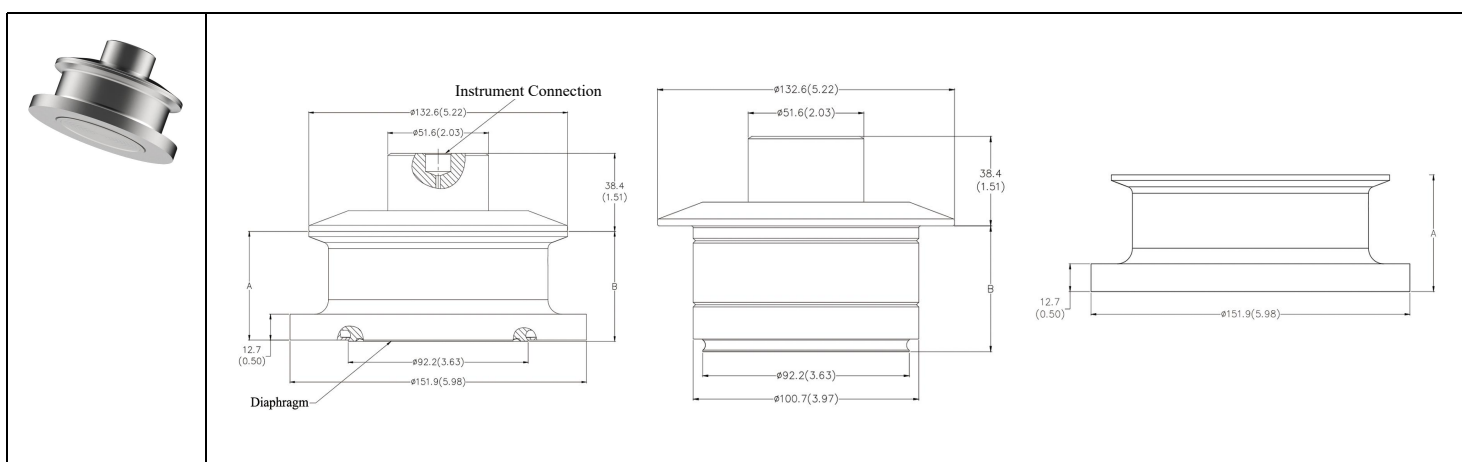
ZONER Hygienic Seal Assembly Design Drawings and Dimension Table

① Hygienic Seal Assembly, Tri-Clamp Seal Drawing (SC Option Code)



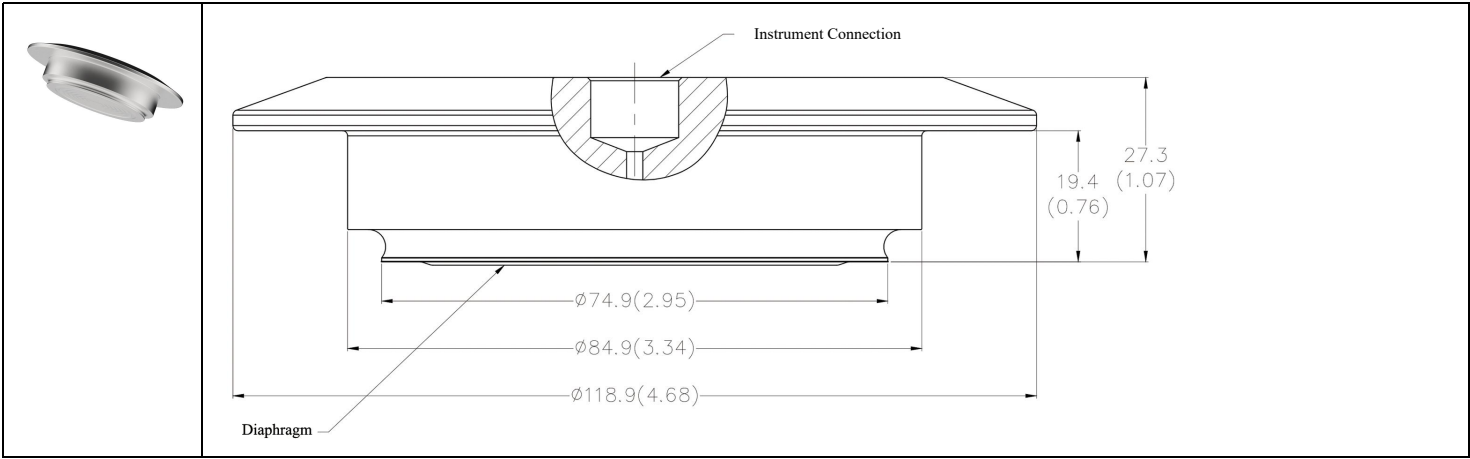
Pipe Size	Class	Outside Diameter “A” mm(in.)	O-ring Groove Diameter “B” mm(in.)	Diaphragm Diameter “C” mm(in.)	Weight kg (lb)
DN18-22 Clamp, 3A	PN 40	34 (1.34)	27.5 (1.08)	17.2 (0.68)	0.36 (0.79)
1-in, 1 1/2-in Clamp, 3A	PN 40	50.5 (1.99)	43.5 (1.71)	31 (1.21)	0.44 (0.97)
2-in Clamp, 3A	PN 40	64 (2.52)	56.5 (2.22)	43 (1.68)	0.55 (1.23)
2 1/2-in Clamp, 3A	PN 40	77.5 (3.05)	70.5 (2.78)	53 (2.07)	0.70 (1.56)
3-in Clamp, 3A	PN 40	91 (3.58)	83.5 (3.29)	66 (2.58)	0.89 (1.98)
4-in Clamp, 3A	PN 40	119 (4.69)	110 (4.33)	93 (3.66)	1.36 (3.02)

② Hygienic Seal Assembly, Tank Nozzle Short-Body Seal Drawing (SS Option Code)

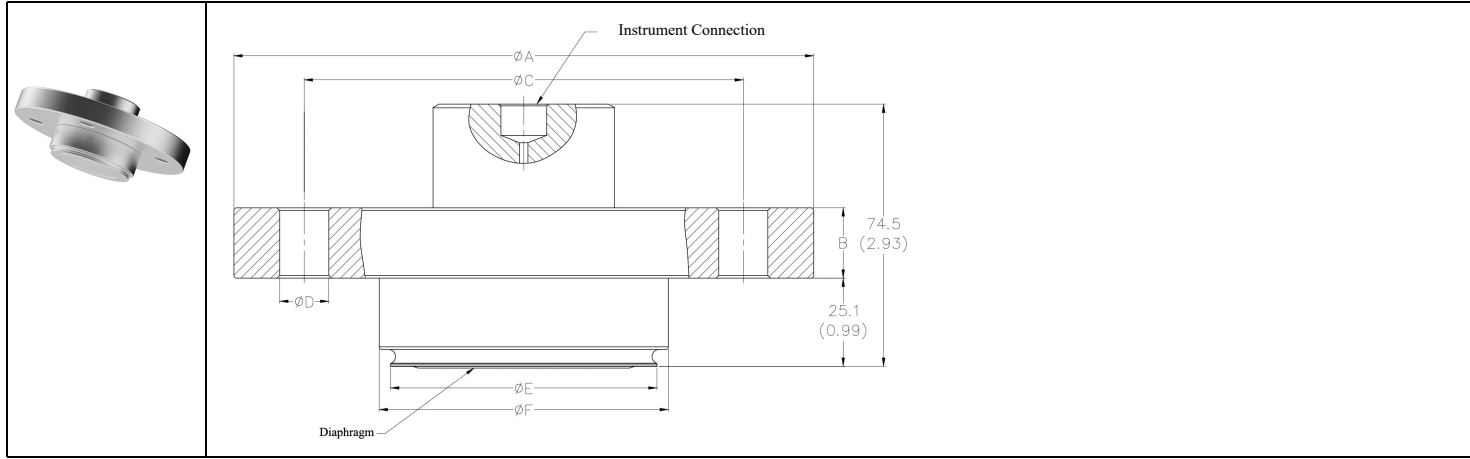


Pipe Size	Extension Length	“A” mm(in.)	“B” mm(in.)	Weight kg (lb)
4-in. SCH 5	2-in.	53 (2.10)	54 (2.12)	4.14 (9.20)
	6-in.	155 (6.10)	156 (6.12)	5.70 (12.66)

③ Hygienic Seal Assembly, Hygienic Thin-Wall Tank Clamp Seal Drawing and Size （ST Option Code）

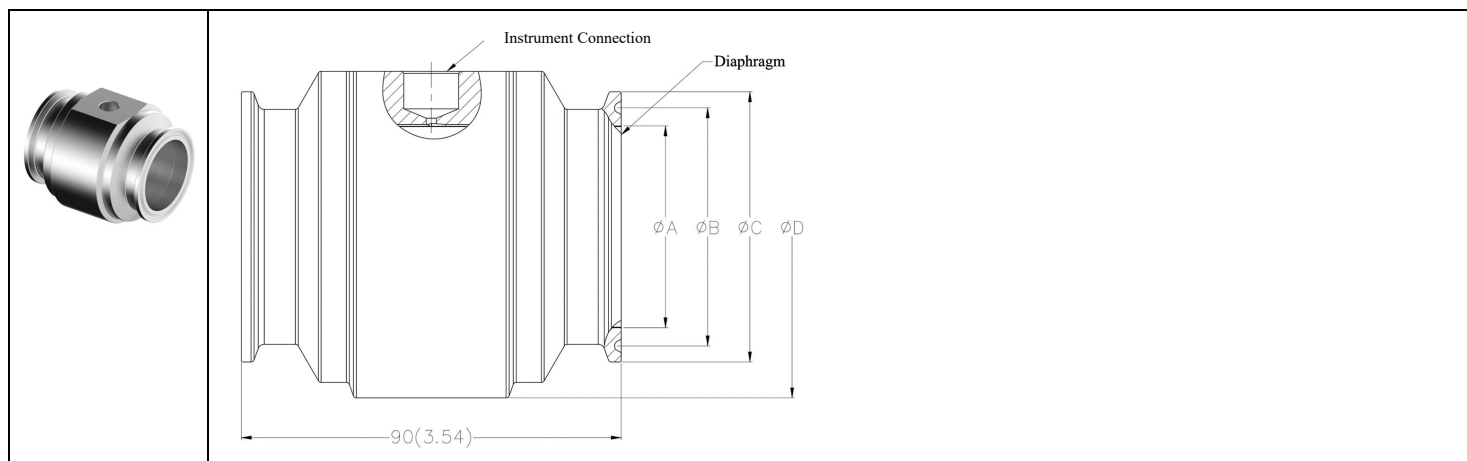


④ Hygienic Seal Assembly, Hygienic Flange Tank Nozzle Extended-Body Seal Drawing （EE Option Code）



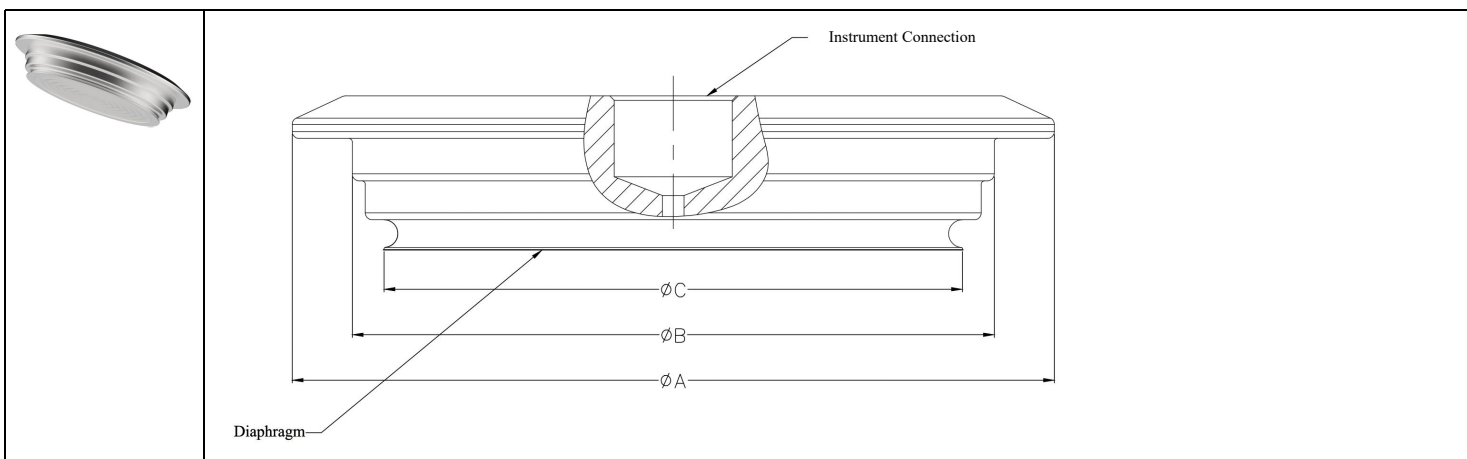
Pipe Size	Flange Diameter “A” mm(in.)	Flange Thickness “B” mm(in.)	Bolt Circle Diameter “C” mm(in.)	Bolt Hole Diameter “D” mm(in.)	Bolt Number	Standard Diaphragm Diameter “E” mm(in.)	Extension Diameter “F” mm(in.)	Weight kg (lb)
DN50	165 (6.50)	20 (0.79)	125 (4.92)	14 (0.55)	4	76 (2.99)	82 (3.24)	4.72 (10.48)
DN80	200 (7.87)	24 (0.94)	160 (6.30)	14 (0.55)	8	102 (4.04)	108 (4.24)	7.80 (17.34)

⑤ Hygienic Seal Assembly, Tri-Clamp Coaxial Seal Drawing (VC Option Code)



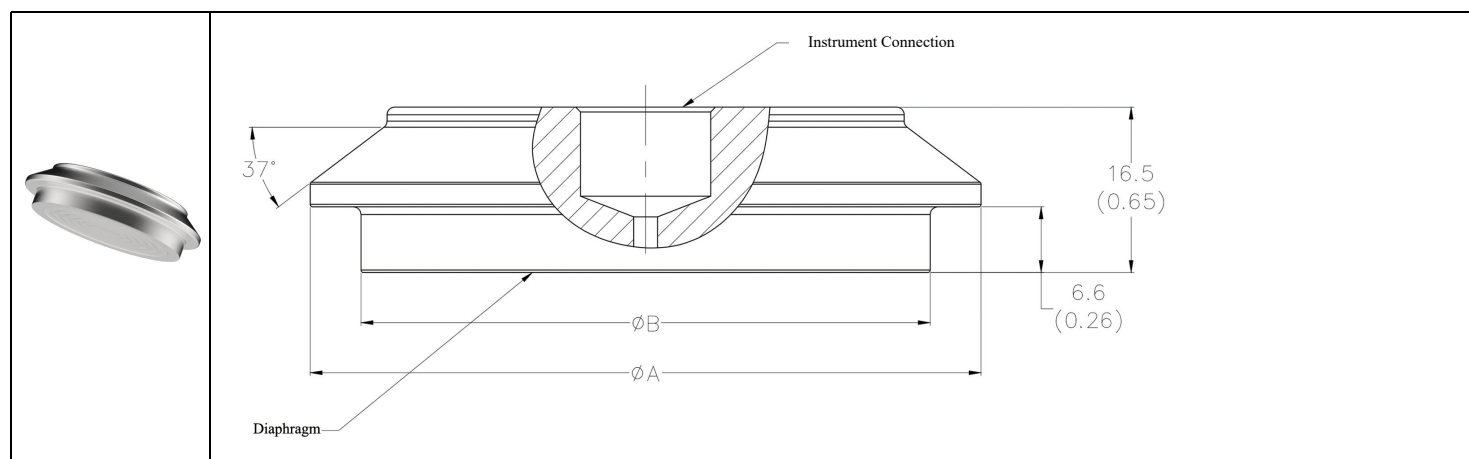
Pipe Size	Inner Diameter "A" mm(in.)	Groove Diameter "B" mm(in.)	Flange Diameter "C" mm(in.)	Outside Diameter "D" mm(in.)	Weight kg (lb)
1-in.	22 (0.88)	43.5 (1.71)	50.5 (1.99)	59 (2.33)	1.20 (2.67)
1½-in.	35 (1.37)	43.5 (1.71)	50.5 (1.99)	69 (2.73)	1.21 (2.69)
2-in.	48 (1.87)	56.5 (2.22)	64 (2.52)	81 (3.19)	1.54 (3.43)
3-in.	73 (2.87)	83.5 (3.29)	91 (3.58)	105 (4.14)	2.14 (4.76)
4-in.	97 (3.82)	110 (4.33)	119 (4.69)	129 (5.06)	2.81 (6.24)

⑥ Hygienic Seal Assembly, Tuchenhausen VARIVENT Compatible Connection Seal Drawing (SV Option Code)



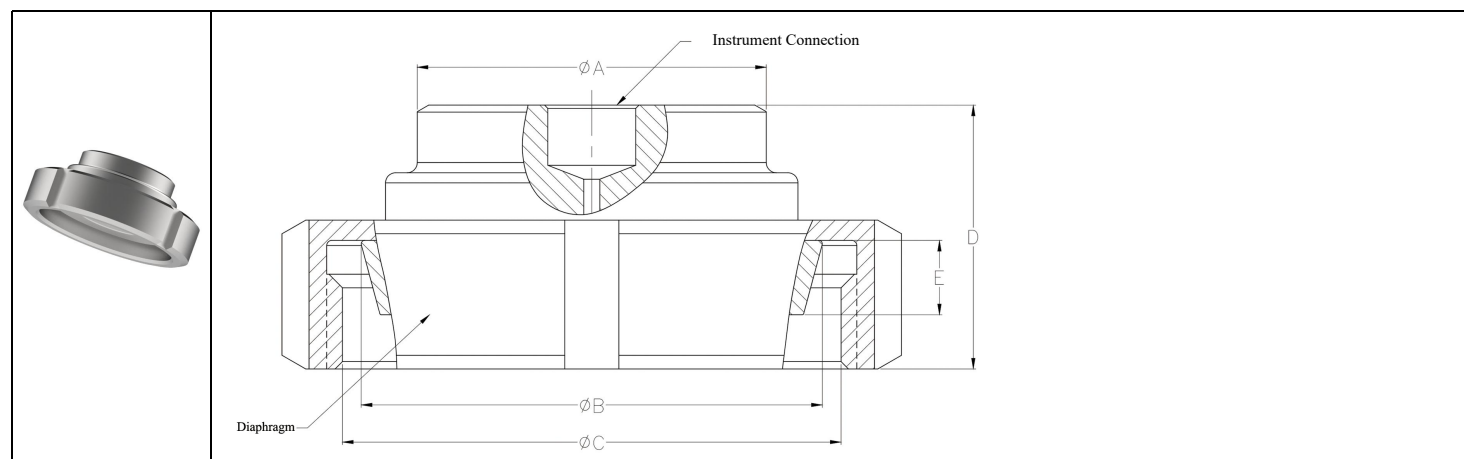
Connection	Class	Outside Diameter "A" mm(in.)	Diameter "B" mm(in.)	Diaphragm Diameter "C" mm (in.)	Weight kg (lb)
Varivent B Connection, 3A	PN 40	52.7 (2.07)	31 (1.22)	-	0.7 (1.54)
Varivent F Connection, 3A	PN 40	66 (2.60)	53 (2.09)	-	0.9 (1.98)
Varivent N Connection , 3A	PN 40	84 (3.31)	71 (2.80)	63.7 (2.51)	1.1 (2.43)

⑦ Hygienic Seal Assembly, Cherry-Burrell “I-Line” Seal Drawing (SH Option Code)



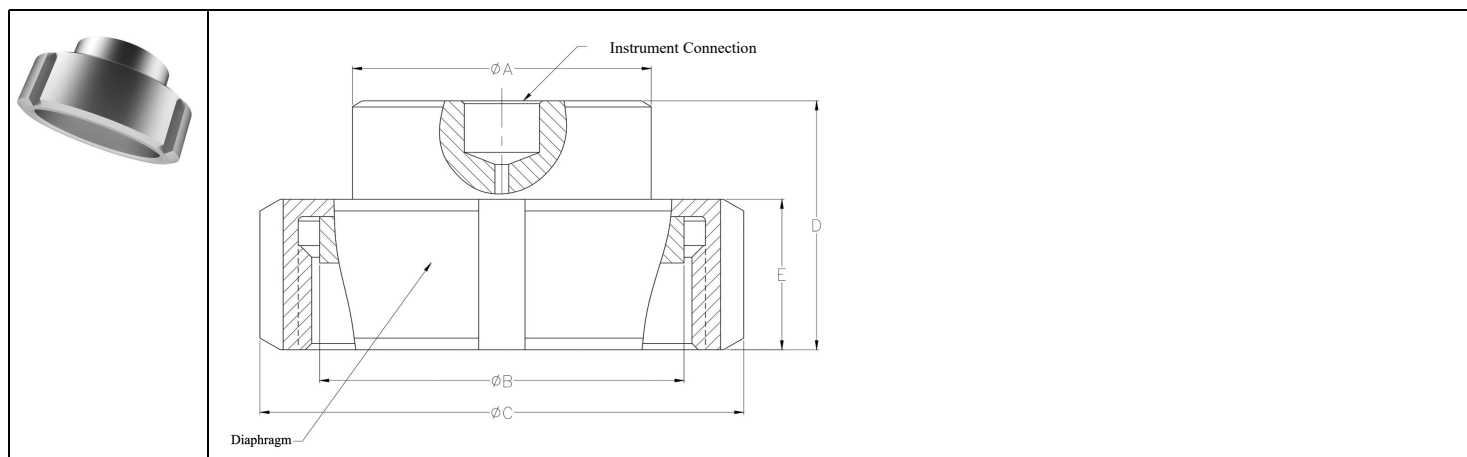
Size	Outside Diameter “A” mm(in.)	Extension Diameter “B” mm(in.)	Weight kg (lb)
2-in.	67 (2.64)	57 (2.24)	0.33 (0.74)
3-in.	98 (3.88)	84 (3.31)	0.79 (1.76)

⑧ Hygienic Seal Assembly, Dairy Process Connection – DIN 11851 Internal Thread Seal Drawing (SL Option Code)



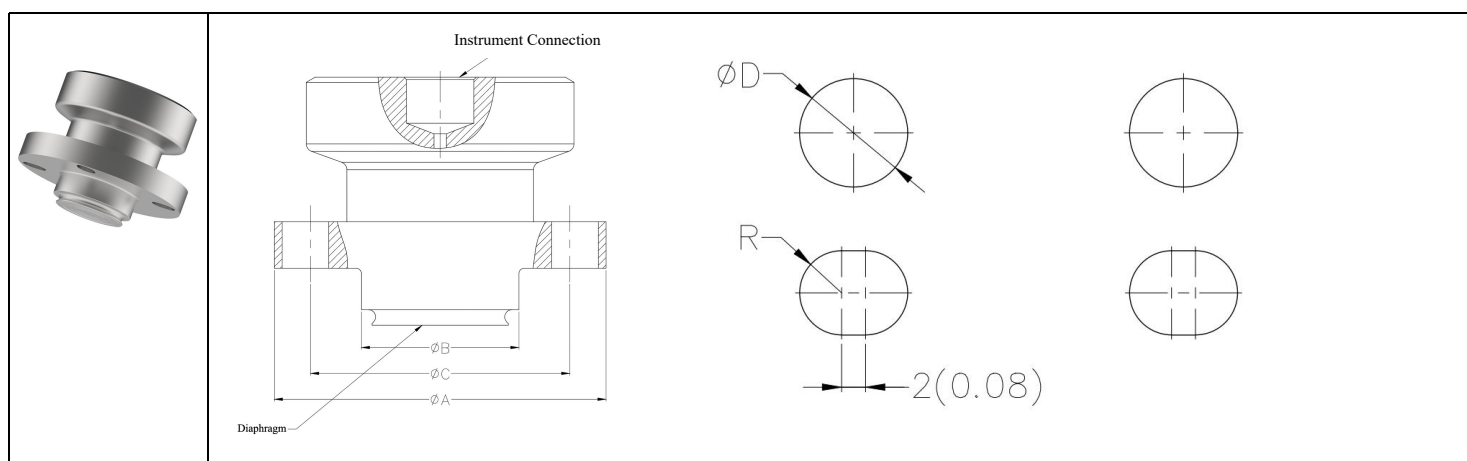
Connection	Process Connection Size	Class	Hub Inner Diameter “A” mm(in.)	“B” mm(in.)	Thread Diameter “C” mm(in.)	Hub Height “D” mm(in.)	“E” mm(in.)	Weight kg (lb)
DIN11851 B40 Connection	DN40	PN 40	48 (1.89)	56 (2.20)	Rd 65 x 1/6-in.	30 (1.18)	10 (0.39)	0.9 (1.98)
DIN11851 B50 Connection	DN50	PN 25	61 (2.40)	69 (2.70)	Rd 78 x 1/6-in.	31 (1.22)	11 (0.43)	1.1 (2.43)

⑨ Hygienic Seal Assembly, SMS Hygienic Dairy Process Connection Internal Thread Seal Drawing



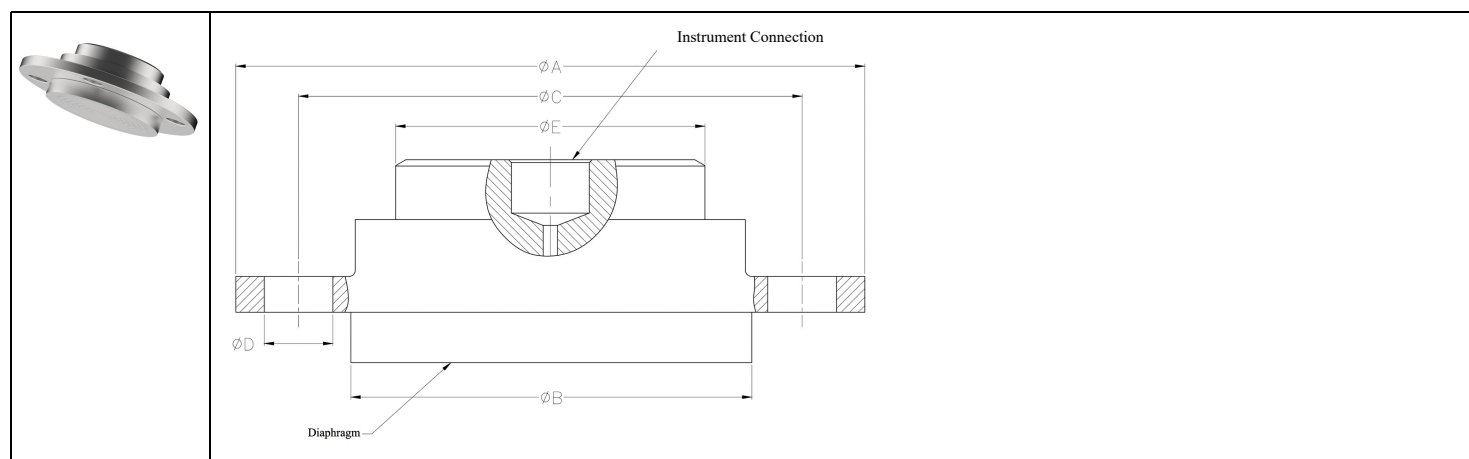
Connection	Class	Hub Inner Diameter "A" mm(in.)	"B" mm(in.)	Outside Diameter "C" mm(in.)	"E" mm(in.)	Weight kg (lb)
SMS 1-in Connection, 3A	PN 25	48 (1.89)	35.5 (1.4)	51 (2.01)	20 (0.79)	0.7 (1.54)
SMS 1½-in Connection, 3A	PN 25	48 (1.89)	55 (2.17)	74 (2.91)	25 (0.98)	0.8 (1.76)
SMS 2-in Connection, 3A	PN 25	48 (1.89)	65 (2.56)	84 (3.31)	26 (1.02)	0.9 (1.98)

⑩ Hygienic Seal Assembly, NEUMO Compatible Connection Seal Drawing



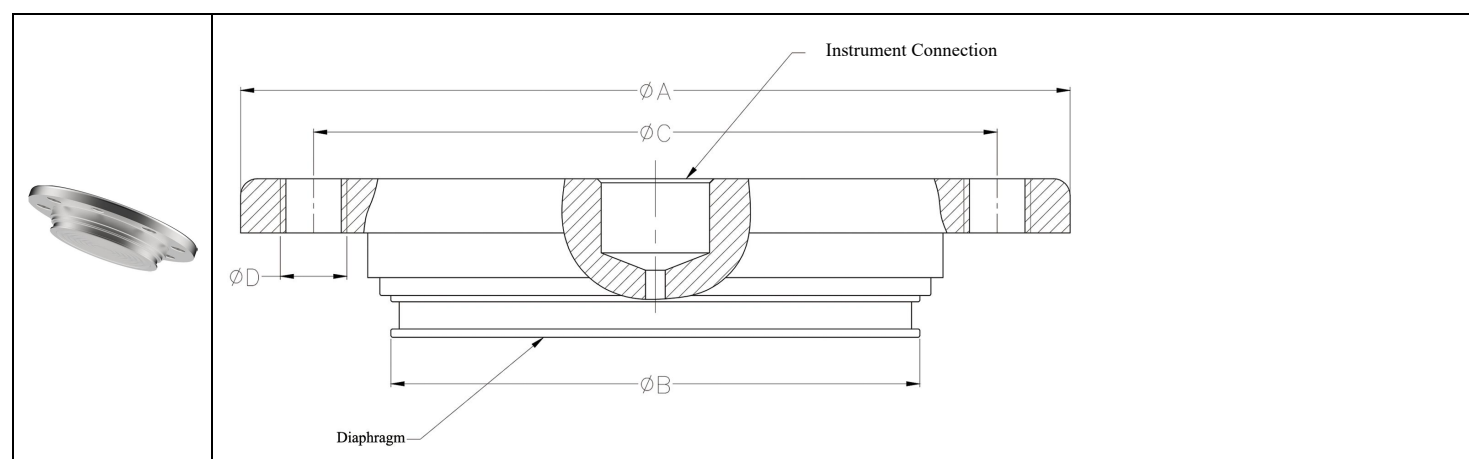
Connection	Class	Outside Diameter "A" mm(in.)	Diameter "B" mm(in.)	Bolt Circle "C" mm (in.)	Bolt Hole Diameter "D" mm (in.)	Weight kg (lb)
Neumo D25 Connection , 3A	PN 16	64 (2.52)	30.4 (1.20)	50 (1.97)	4XR3.5 (0.14)	0.8 (1.76)
Neumo D50 Connection , 3A	PN 16	89.5 (3.52)	49.9 (1.96)	70 (2.76)	4XØ9 (0.35)	1.2 (2.65)

⑪ Hygienic Seal Assembly, DRD Compatible Connection Seal Drawing



Connection	Class	Outside Diameter "A" mm(in.)	Diameter "B" mm(in.)	Bolt Circle "C" mm (in.)	Bolt Hole Diameter "D" mm (in.)	Diameter "E" mm(in.)	Weight kg (lb)
DRD Connection	PN 25	105 (4.13)	64.5 (2.54)	84 (3.31)	4XØ11.5 (0.45)	52.5 (2.07)	1.0 (2.21)

⑫ Hygienic Seal Assembly, APV Inline Compatible Connection Seal Drawing



Connection	Class	Outside Diameter "A" mm(in.)	Diameter "B" mm(in.)	Bolt Circle "C" mm (in.)	Bolt Hole Diameter "D" mm (in.)	Weight kg (lb)
APV Inline Connection	PN 25	99.5 (3.92)	64 (2.52)	82 (3.23)	6XØ8.6 (0.34)+2XM8	1.2 (2.65)

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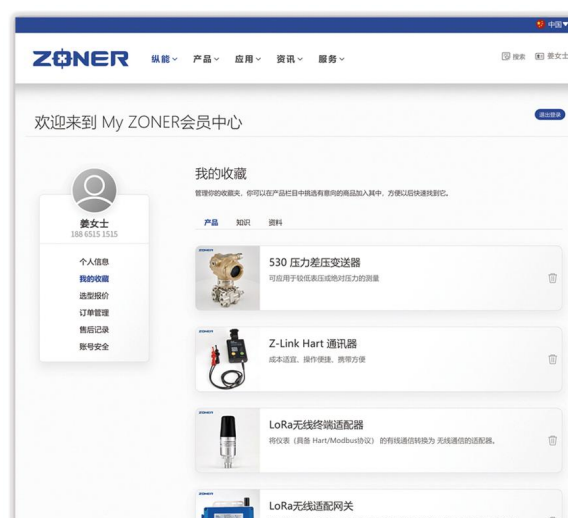
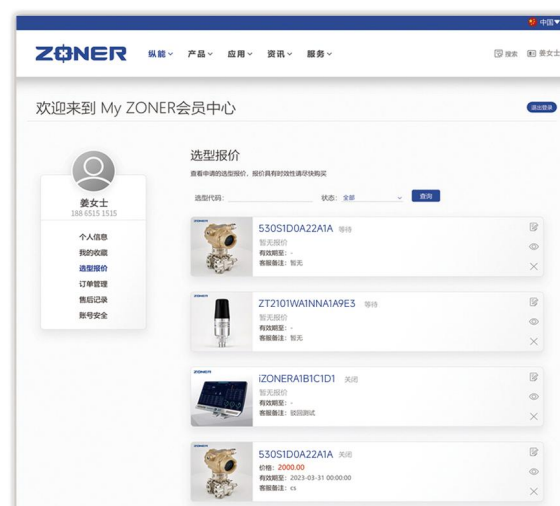
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