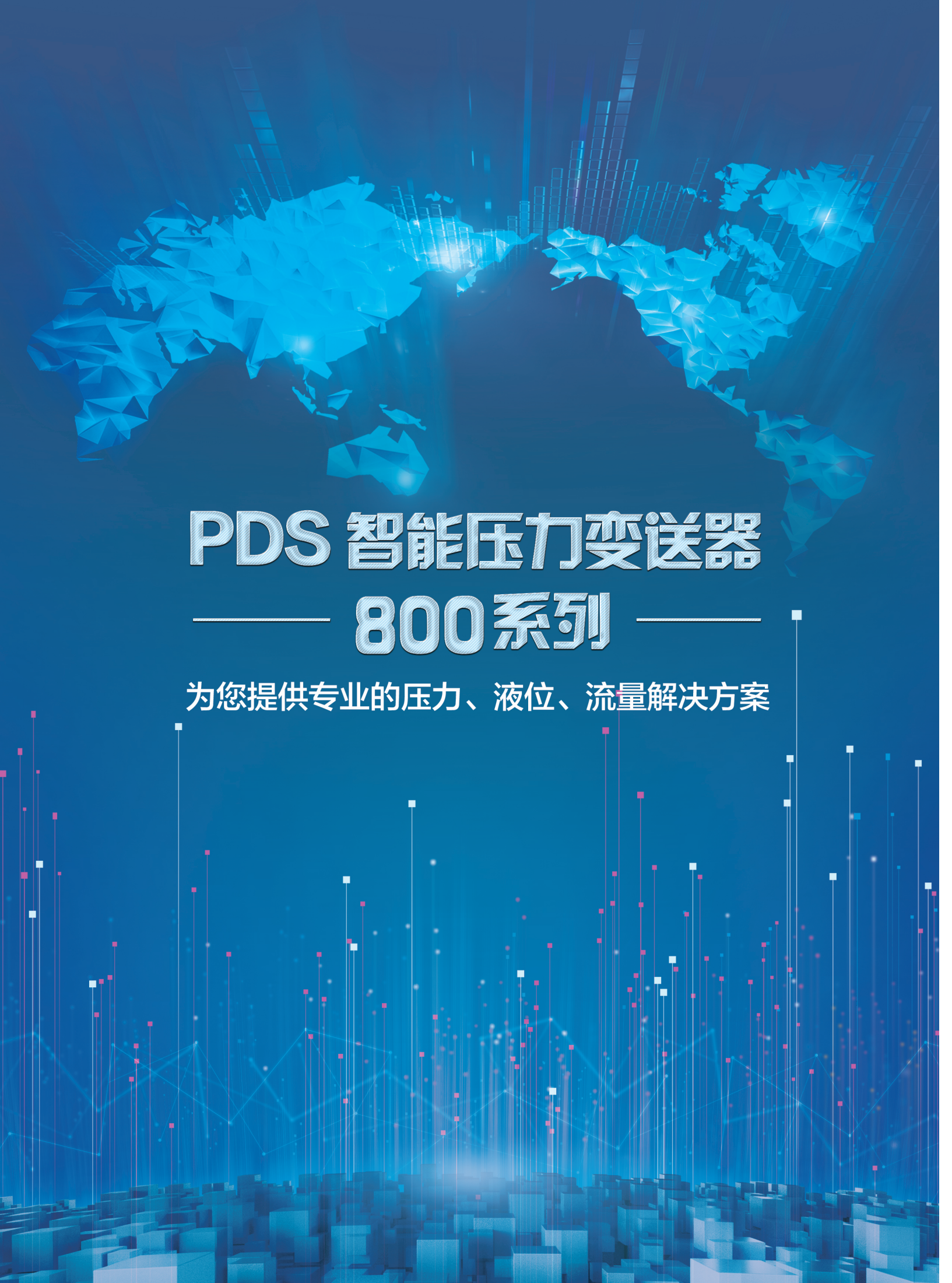
CHONGQING CHUANYI AUTOMATION CO., LTD.



PDS800 SMART TRANSMITTER


PDS 智能压力变送器
800系列
为您提供专业的压力、液位、流量解决方案

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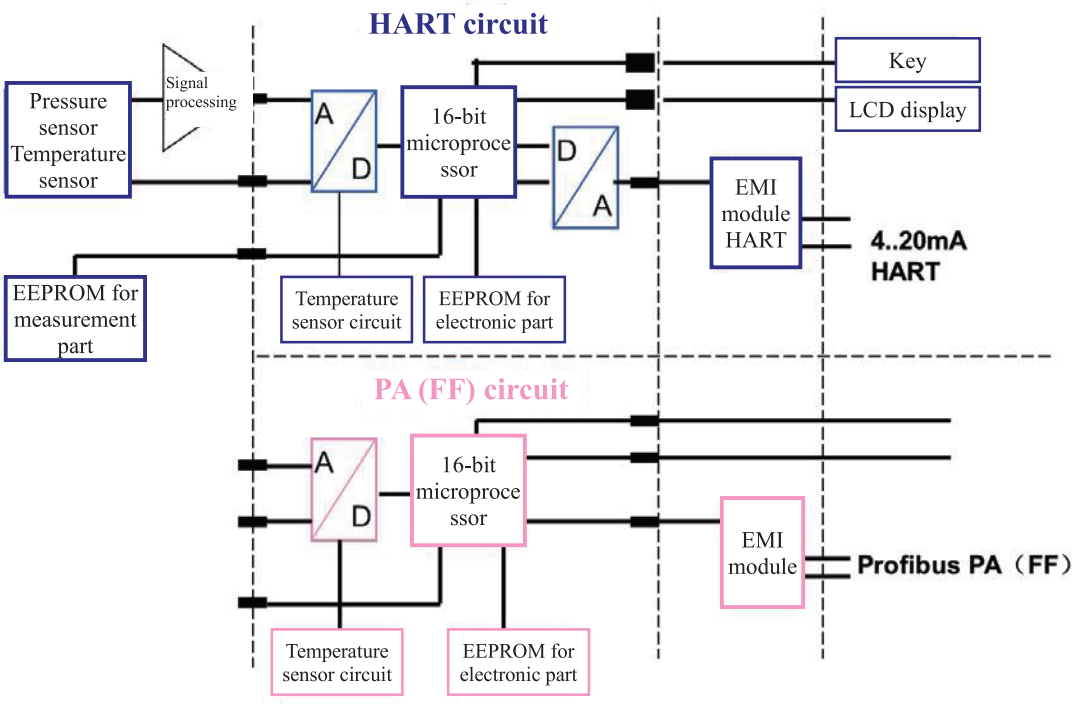
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Product background

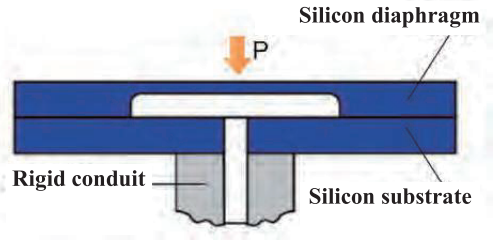
PDS smart transmitter is a high-precision smart pressure/differential pressure transmitter developed by Chongqing Chuanyi Automation Co., Ltd. through integrating the global advanced design concepts and technology. This product is characterized by the world-advanced single crystal silicon composite sensor, high-reliability electronic modular design, precise temperature and linearity correction system and smart manufacturing technology, ensuring high precision, super stability and consistency.

It has complete smart diagnosis, simulation, monitoring, local configuration and various communication functions, liquid contact materials of various specifications, high-index electromagnetic compatibility and lightning protection characteristics, etc., and has been widely used in electric power, metallurgy, chemical engineering, coal chemical engineering, petroleum, petrochemical engineering, environmental protection, food processing, medicine, building materials, light industry, nuclear industry, new energy and other industries.

Working principle



The PDS smart transmitter adopts advanced single crystal silicon composite sensor and modular design. The signal generated by the sensor can be amplified and converted into digital signal by high-speed dual A/D converter for linearity and temperature correction in the microprocessor. For HART transmitter, the signal will be further converted into 4mA~20mA DC superimposed HART signal by D/A converter; For PROFIBUS-PA, FF, APL and AutBus transmitters, the full-digital PROFIBUS-PA, FF, Ethernet-APL and AutBus signals will be output directly.



The data of measuring unit and the function parameters of transmitter are respectively stored in two EEPROMs. You can directly adjust the parameters at the measurement site through the three adjustment keys, and read the measurement results, fault information and working mode in the LCD. You can also set the parameters through HART, PROFIBUS-PA, FF, Ethernet-APL or AutBus protocols.

Excellent quality

- Basic accuracy: ±0.04%FS (maximum ±0.025%FS)
- Span ratio: 100:1
- Response time: ≤90ms (data refresh time: 50ms)
- Span: Differential pressure: 0~50Pa-14MPa
  Pressure: 0~0.5kPa-70MPa
- Output signal: 4mA~20mA DC superimposed HART protocol communication (Ver. HART6 / HART7)
  PROFIBUS-PA field bus communication (Ver. 3.02)
  FF field bus communication (Ver. 6.1.1)
  Ethernet-APL communication
  AutBus communication
- Overload limit: Differential pressure: 42MPa
  Pressure: 105MPa
- Impact of static pressure: ≤0.03%FS/16MPa
- Temperature range: Ambient temperature: -40°C~ 85°C, low-temperature working conditions: -60°C~+85°C (for temperature range for explosion-proof type, refer to explosion-proof level)
  Process temperature: -90°C~700°C
  LCD temperature: -35°C~80°C
- Long-term drift: ≤±0.1%FS/10 years
- Impact of temperature: ≤ (0.06*r+0.01) %/28°C (-60°C~+80°C)
- Explosion-proof level:

  NEPSI: Intrinsic safety type Ex ia IIC T4 Ga (Note 1)(applicable ambient temperature: -40°C~60°C)
  NEPSI: Intrinsic safety type Ex ia IIC T6 Ga (Note 1)(applicable ambient temperature: -40°C~40°C)
  NEPSI: Flameproof type Ex db IIC T6 Gb (applicable ambient temperature: -40°C~60°C)
  NEPSI: Dust explosion proof type Ex tb IIIC T85°C Db(applicable ambient temperature: -40°C~+60°C)
  NEPSI: “n” explosion-proof type Ex ec IIC T6 Gc (applicable ambient temperature: -40°C~+60°C)
  ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga,
  ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb
  IECEx: Intrinsic safety type Ex ia IIC T4 Ga
  IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb
  EAC: Intrinsic safety type 0 Ex ia IIC T4 Ga X(applicable ambient

temperature: -60°C~+60°C)
EAC: Intrinsic safety type 0 Ex ia IIC T6 Ga X(applicable ambient temperature: -60°C~+40°C)
EAC: Flameproof type 0/1 Ex d IIC T6 Ga /Gb X(applicable ambient temperature: -60°C~+60°C)
EAC: Dust explosion proof type Ex tb IIIC T80°C Db X(applicable ambient temperature:-60°C~+80°C)

Comparison of ambient temperature and temperature rating for ATEX IECEx

Range of ambient temperature	Temperature rating	Remarks
-60°C ~+70°C	T6	Only applicable to "db" type
-60°C ~+80°C	T5	
-60°C ~+80°C	T4	Applicable to "db" and "ia" type

- Protection level: IP66/IP67
- Lightning protection function

DC breakdown voltage: ±20 % @ 100 V/s: 600V
Pulse discharge current: 20000A, 8/20μs .....1 (number of impacts)
10000A, 8/20μs .....>10 (number of impacts)
200A, 10/1000μs .....>300 (number of impacts)
200A, 10/700μs .....>500 (number of impacts)

Note 1: According to GB 3836 standards related to explosive environment, when the transmitter is set up with lightning protection function, the EPL of intrinsically safe and explosion-proof equipment is Gb.

Product features

- **High stability**

The basic accuracy of PDS smart transmitter is 0.04%FS (the highest is 0.025%FS). After 10 years of continuous use, it can still maintain 99.9% accuracy, saving considerable maintenance costs. PDS smart transmitter adopts solid metal housing and fully sealed measuring parts, which can cope with extreme chemical and mechanical loads calmly. In addition, it also has strong anti-electromagnetic interference ability and lightning protection function, ensuring high stability and reliability.

- **Smart function**

★ **Smart diagnosis**

PDS smart transmitter has integrated diagnosis function, which can monitor its running process and state in real time. After finding events more than the defined number, the transmitter enters the fault alarm state and outputs alarm current (3.6mA or 22.8mA) to provide control signals for system interlocking or SIS safety system. In case of a fault, the LCD will automatically show "Err" and automatically analyze and display the faulty parts, which makes the transmitter maintenance, repair and replacement easier and more convenient.

The diagnosis function can be enabled through the communication of HART, FF, PA, Ethernet-APL, AutBus and other protocols, and the alarm can be expressed in the form of warning or fault protection current. The transmitter can also automatically diagnose the running status of SENSOR, ROM, RAM, EEPROM and

software. When the electronic unit or measuring element is damaged, the faulty component can be replaced directly on site without readjustment.

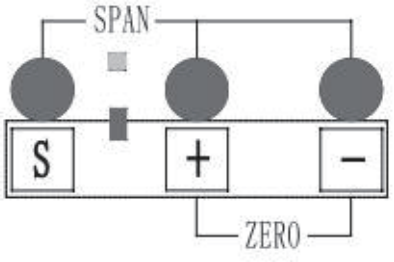
High-end smart diagnosis includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, suppressing the fluctuation of transient micro-pressure, recording events with time cut, capturing and recording process variable anomalies, forecasting and enabling health management, etc. The multi-functional display content is more abundant, and the measured parameters (pressure, differential pressure, absolute pressure, flow and temperature are optional) and measured values (graphics and numbers are optional) can be displayed on the same screen, and the local parameters (battery power, wireless signal strength, communication status, etc.) can be displayed in graphics.

★ **Simulation**

The transmitter can simulate the process state through simulation function to obtain measurement data, and can also be used to check the connection and output state of the transmitter loop. The simulation output parameters include: pressure, sensor temperature and electronic part temperature. The simulation output method includes: fixed-value simulation or linear function simulation. During the simulation, the transmitter output will not change with the varying site pressure and will return to the normal measurement state after operation by keys or power-off and restart of the transmitter.

- **Diversified configuration modes**

★ **Strong local configuration**



All parameters can be input rapidly and easily on site through 3 buttons and a high-contrast LCD. You can set the output signals of the minimum value, maximum value, damping and error event on site without opening the transmitter cover. It means that the moisture will not enter the transmitter, ensuring the Exd flameproof protection. By clicking keys, you can adjust the span, characteristic curves and electrical damping (maximum value100s) within a span ratio of 100:1. Meanwhile, you can also choose various display units on site. For example, mmH2O, inH2O, mmHg, etc. used in level measurement. The powerful simulation function and online diagnosis function of PDS can provide you with great help during system commissioning or loop detection.

★ **HART or bus communication configuration**

With the help of HART, PA and FF bus communication protocols, you can adjust all parameters by PC or notebook computer, handheld communicator or any compatible process control system software. This means that the measured values and transmitter parameters are transparent at any point in the signal circuit. The adoption of process equipment management software (PDM) based on the well-known Windows operating system can help users save a lot of time regardless of the experience.







- **Multiple anti-corrosive materials**

Even when measuring extremely corrosive substances, you can find out a suitable solution by PDS smart

transmitter. Many materials can be selected to produce the isolation diaphragm, such as stainless steel, Hastelloy, tantalum, Monel, nickel or 316L gold-plated stainless steel, etc. Parts such as the chamber where the transmitter contacts the measuring medium, the drainage and exhaust plug, and the insertion cylinder assembly can also be provided with corresponding anti-corrosive materials according to the measuring medium, which can ensure the reliable operation of PDS even in strongly corrosive environments such as chlor-alkali plant, salt-making site and seawater.



Stainless steel **Hastelloy** **Monel** **Tantalum** **Gold** **Titanium** **Teflon**

- **Authorized certification**

The PDS smart transmitter can deal with all kinds of extreme pressure, temperature, explosion and corrosive substances. PDS transmitter has passed many international certifications of National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI), ATmosphèresEXplosibles (ATEX) and IEC Scheme for Certification to Standards for Electrical Equipment for Explosive Atmospheres (IECEx), EAC, China Classification Society (CCS), CENELEC, SIL, PROFIBUS-PA, Fieldbus Foundation, HART, etc.

Function safety certification
TUV-SIL2/3

International explosion-proof certification
IEC Ex

EU explosion-proof certification
ATEX

EU safety certification
CE

USA heath certification
3A

Commonwealth of Independent States certification
CU-TR

China Classification Society
CCS

Chinese explosion-proof certification
NEPSI

Function specification

- **Power supply and load**

Range of DC supply voltage U (unit: V) for transmitter: 10.5≤U≤45

Range of DC supply voltage U (unit: V) of PA and FF buses: 9≤U≤32

As for intrinsically safe transmitter, its power supply should be led out from the safe barrier, which should have passed explosion-proof certification.

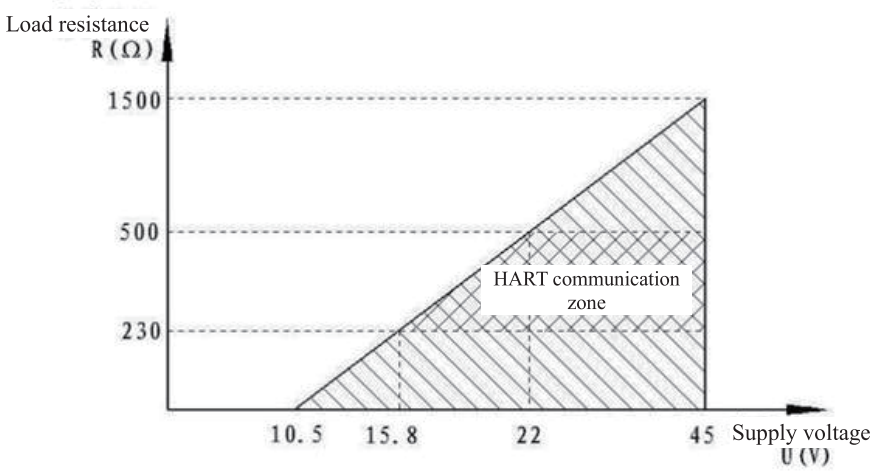
Load resistance of transmitter loop

$$R \leq \frac{U-10.5}{0.023}(\Omega)$$

(In the intrinsically safe loop, R should contain safe barrier resistance)

In the loop requiring HART communication:

230Ω≤RΩ≤500, 15.8V≤U≤45V



Power supply load diagram

- **Impact of power supply load**

In the range of 10.5V≤U≤45V and 230Ω ≤ R ≤ 500Ω, the impact of power supply change shall not exceed 0.005%/V of the calibration range.

- **EMC**

EMC shall meet the requirements of GB/T 18268 and GB/T 17626 (IEC 61326).

- **Applicable humidity**

The long-term relative humidity shall be ≤95%

- **Display**

The LCD includes five main variables, five units and other logo segment codes

- **Configuration**

The configuration can be realized through local keys or communication

- **Damping setup**

0s~100s (set through communication or local keys)

- **Handheld terminal**

The handheld communicator conforming to HART, PA and FF protocols can be selected, and the communicator must contain program data packets for pressure transmitters.

- **Adjustment of lower and upper limits**

The upper computer, handheld terminal or local keys can be used for setting. Under the condition that the set span is not less than the minimum span, it can be set arbitrarily between the lower limit and the upper limit.

- **Fault alarm**

When the transmitter fails, the self-diagnosis program automatically outputs warning information or alarm current set by the user. The handheld terminal can be used to check the fault information.

- **Communication distance**

The multi-core twisted pair is used for HART protocol, with the maximum communication distance up to 1.5km. The specific communication distance varies depending on the cable model. The shielded twisted pair is used for PA and FF protocols, with cable resistance ≤ 44Ω/km, cable cross-sectional area of 0.32 mm^2, and maximum communication distance up to 1.9 km (the longest distance for EEX is 1.0km).

Physical specification

- **Electrical connection**

M20×1.5 female thread; 1/2NPT female thread

- **Process connection**

1/4 NPT female thread, 1/2 NPT female thread, 1/2 NPT male thread, G1/2 male thread, M20×1.5 male thread, flange connection, hygienic connection, etc.

Note: See the choices in the corresponding model table of detailed configuration

- **Fluid contact components**

Isolation diaphragm: 316L, HC-276， tantalum, Monel, 316L gold plated, PTFE, PFA, EN1.4466
Liquid contact components: 316, HC-276, Monel
Seal ring: Polytetrafluoroethylene, nitrile rubber, fluororubber, metal seal ring
Mounting flange: S25C, 304, 316, 316L

Note: See the choices in the corresponding model table of detailed configuration

- **Weight**

Series	Product name	Aluminum housing (kg)	Stainless steel housing (kg)
PDS803\815G\815A	Direct-coupled pressure transmitter	1.6	4.0
PDS805	Pressure transmitter	3.6	6.0
PDS843L, M	Differential pressure transmitter	3.6	6.0
PDS843H	Differential pressure transmitter (high static pressure)	4.0	6.4
PDS863\883\815W\815S	Flange transmitter (differential pressure)	Standard weight of differential pressure transmitter+flange	
PDS873\879\815B\815C	Flange transmitter (pressure)	Standard weight of pressure transmitter+flange	

- **Installation**

Installation by bracket, direct installation and installation by flange

Supporting peripherals

SIC-H375 HART handheld communicator, Bluetooth modem+explosion-proof cell-phone handheld communicator, HART 7.0 DTM, which are safe, reliable and convenient to communicate with the transmitter, realizing the configuration, management and maintenance of the transmitter conforming to the protocol.

Transmitter valve manifold

The transmitter valve manifold is used to open, close and balance the input pressure signals of pressure transmitter, differential pressure transmitter, flow transmitter and level transmitter, mainly including stop valve, two-valve manifold, three-valve manifold and five-valve manifold.

PDS transmitter is equipped with G8 series conventional valve manifold and SICV series high-end valve manifold (see the model of valve manifold for specific options), and the valve manifolds made of 304, 316, 316L, HC-276 or Monel can also be selected according to the corrosiveness of the medium. The maximum pressure resistance of the valve manifold is 42MPa, and the applicable temperature range is-40 ~ 150°C. Please consult us for other temperature.

The PDS transmitter can be assembled with the valve manifold in the factory, and checked for leakage and verified, which can save installation cost for the site or project and improve the installation efficiency.

Series	Type	Applicable target
G8	Two-valve manifold and stop valve	PDS803/805/863 series
	Three-valve manifold	PDS843 series
SICV	Two-valve manifold	PDS803\805\843 series
	Three-valve manifold and five-valve manifold	PDS843 series

PDS803 direct-coupled pressure transmitter

PDS803 pressure transmitter is mainly used to measure liquid, gas or steam pressure, and convert the measured value into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remote setting, monitoring and other functions through communication devices.



◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual span)=100:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	PDS803G gauge pressure type				PDS803A absolute pressure type			
	Minimum span	Maximum span	Measuring range	Overload limit	Minimum span	Maximum span	Measuring range	Overload limit
B	1.0 kPa	100 kPa	-100~100 kPa	600 kPa	0.5 kPa	25 kPa	0~25 kPa(A)	300 kPa(A)
C	4.0 kPa	400 kPa	-100~400 kPa	1.5 MPa	2.6 kPa	130 kPa	0~130 kPa(A)	500 kPa(A)
D	30 kPa	3000 kPa	-100~3000 kPa	4.5 MPa	5.0 kPa	500 kPa	0~500 kPa(A)	1.0 MPa(A)
E	0.2 MPa	20 MPa	-0.1~20 MPa	30 MPa	0.03 MPa	3 MPa	0~3 MPa(A)	6.0 MPa(A)
F	0.4 MPa	40 MPa	-0.1~40 MPa	60 MPa	0.2 MPa	20 MPa	0~20 MPa(A)	30 MPa(A)
G	0.7 MPa	70 MPa	-0.1~70 MPa	105 MPa	——			

Note: The long-term working pressure of PDS803G gauge pressure type is recommended to be higher than 50kPa (ABS).
According to the span code B of PD803G gauge pressure type, the recommended span is ≥10kPa.

Reference accuracy δ

PDS803G gauge pressure span code	PDS803A absolute pressure span code	Accuracy δ
B	B and C	δ≤±0.04% $\delta \leq \pm (0.004+0.0036 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
C, F and G	D	δ≤±0.04% $\delta \leq \pm (0.015+0.0025 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
D and E	E	δ≤±0.025% $\delta \leq \pm (0.01+0.0015 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
--	F	δ≤±0.05% $\delta \leq \pm (0.015+0.0035 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1

Impact of temperature

δ≤(0.06*r+0.01)%/28°C, -40°C~+80°C

Process temperature range

-40°C~+120°C（Fluorine oil： -52°~+120°）

◆Model

Model No.	code	Remarks				
PDS803	—	Pressure transmitter				
Type	G	Gauge pressure type				
	A	Absolute pressure type				
Communication protocol	H	HART (7) communication (Note 1)				
	P	PROFIBUS-PA (3.02) field bus communication				
	F	FF (6.1.1) field bus communication				
	A	Ethernet-APL communication(Note 2)				
	B	AutBus communication				
Liquid sealed in diaphragm capsule		Sealed liquid		Cleaning of measuring part		
	-1	Silicone oil		Conventional		
	-2	Silicone oil		Degreasing treatment		
	-3	Fluorine oil-52°~+120°		Degreasing treatment		
Measuring range		G gauge pressure type		A absolute pressure type		
		Span	Measuring range	Span	Measuring range	
	B	1~100kPa	-100~100kPa	0.5~25kPa(A)	0~25kPa(A)	
	C	4~400kPa	-100~400kPa	2.6~130kPa(A)	0~130kPa(A)	
	D	0.03~3MPa	-0.1~3MPa	5.0~500kPa(A)	0~500kPa(A)	
	E	0.2~20MPa	-0.1~20MPa	0.03~3.0MPa(A)	0~3.0MPa(A)	
	F	0.4~40MPa	-0.1~40MPa	0.2~20MPa(A)	0~20MPa(A)	
	G	0.7~70MPa	-0.1~70MPa			
Material of liquid contact part		Isolation diaphragm		Relevant liquid contact parts		
	S	316L		316		
	H	HC-276		316		
	C	HC-276		HC-276		
	G	316L gold plated		316		
Process connection	0	G1/2 male thread				
	1	1/2NPT female thread				
	3	M20×1.5 male thread				
	4	1/2NPT male thread				
Explosion-proof			HART	PA and FF	APL	Autbus
	-A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	-B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	-C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	-D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	-G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-
Housing (Note 3)		Material		Electrical interface		
	1	Aluminium		1/2 NPT female thread, two electrical interfaces		
	2	Aluminium		M20×1.5 female thread, two electrical interfaces		
	3	Stainless steel		1/2 NPT female thread, two electrical interfaces		
	4	Stainless steel		M20×1.5 female thread, two electrical interfaces		
Display head (Note 4)	N	Without display				
	D	LCD display				
	E	Multi-functional LCD head (only applicable to HART7)				
Installation bracket		Type				Material
	A	Horizontal (I type) mounting bracket				Q235
	B	Horizontal (I type) mounting bracket				304
	E	Horizontal (I type) mounting bracket				316
	C	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)				Q235
	D	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)				304
	F	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)				316
	N	Without installation bracket				
Additional options	/××	Refer to the additional options table				

◆Additional options

Item	Remarks		Code (Note 5)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management		A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output		A11
Additional certification	EU SIL		C01
	CE		C02
	V&V		C03
	Russian SIL		C04
	Commonwealth of Independent States EAC020		C05
APL communication method	HART-IP		AH
	PROFINET		AP
Protection treatment (Note 6)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone)		P10
	Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea)		P11
	Corrosion grade C5-I: High humidity and severe corrosion area		P12
Electrical connector	Specification and dimension	Material	
	M20×1.5 electrical connector + 1 sealing plug	Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug	Plastic	G61
	M20×1.5 one sealing plug	304	G62
	M20×1.5 sealing plug（EAC）	316L	G63
	1/2 NPT sealing plug（EAC）	316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug	316	G70
	1/2NPT flameproof electrical connector + 1 sealing plug	316	G71
	1/2 NPT one sealing plug	304	G72
	1/2 NPT one sealing plug	316	G73
	M20×1.5 one sealing plug	316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX\IECEx)	316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)	316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)	316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)	316L	G78
Process joint	Connection type	Material	
	1/2NPT male thread-welded pipe joint	304	G81
	1/2NPT male thread-welded pipe joint	316	H81
	1/2NPT male thread-welded pipe joint	316L	K81
	1/2NPT male thread-welded pipe joint	Q235	G91
	G1/2 female thread-welded pipe joint	304	G83
	G1/2 female thread-welded pipe joint	316	H83
	G1/2 female thread-welded pipe joint	316L	K83
	G1/2 female thread-welded pipe joint	Q235	G93
	M20×1.5 female thread-welded pipe joint	304	G80
	M20×1.5 female thread-welded pipe joint	316	H80
	M20×1.5 female thread-welded pipe joint	316L	K80
Valve manifold integration	The valve manifold and the transmitter are assembled and tested integrally before delivered from the factory.		S
Lightning prevention	Lightning prevention terminal board		F20
Lithium battery	The content of copper and zinc on the surface of medium contact parts is ≤0.5%, and the content of copper and zinc on the surface of other exposed parts is ≤1%.		LD

Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).			NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).			A1
Document	Delivery of acceptance documents (Note 7)			D1
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)			L01 L02 L03
Display unit	PV Unit % mA Pa kPa MPa gf/cm^2 kgf/cm^2 mmH_2O mH_2O inH_2O	Code U01 U20 U21 U22 U23 U24 U25 U26 U27 U28	PV Unit ftH_2O mbar bar psi mmHg inHg Torr Atm $i4H_2O$ (inches of water 4°C) $m4H_2O$ (millimeters of water 4°C)	Code U29 U30 U31 U32 U33 U34 U35 U36 U37 U38
Valve manifold	G8 valve manifold SICV valve manifold			See options of valve manifold

Special reminder

※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.

Note 4: The default display is pressure value, and the other display modes are described in "Additional Options".

Note 5: The options shall be separated with a “/”, for example “/P10/G61/K81”.

Note 6: If the housings in P11 and P12 are selected, please choose 1 or 2.

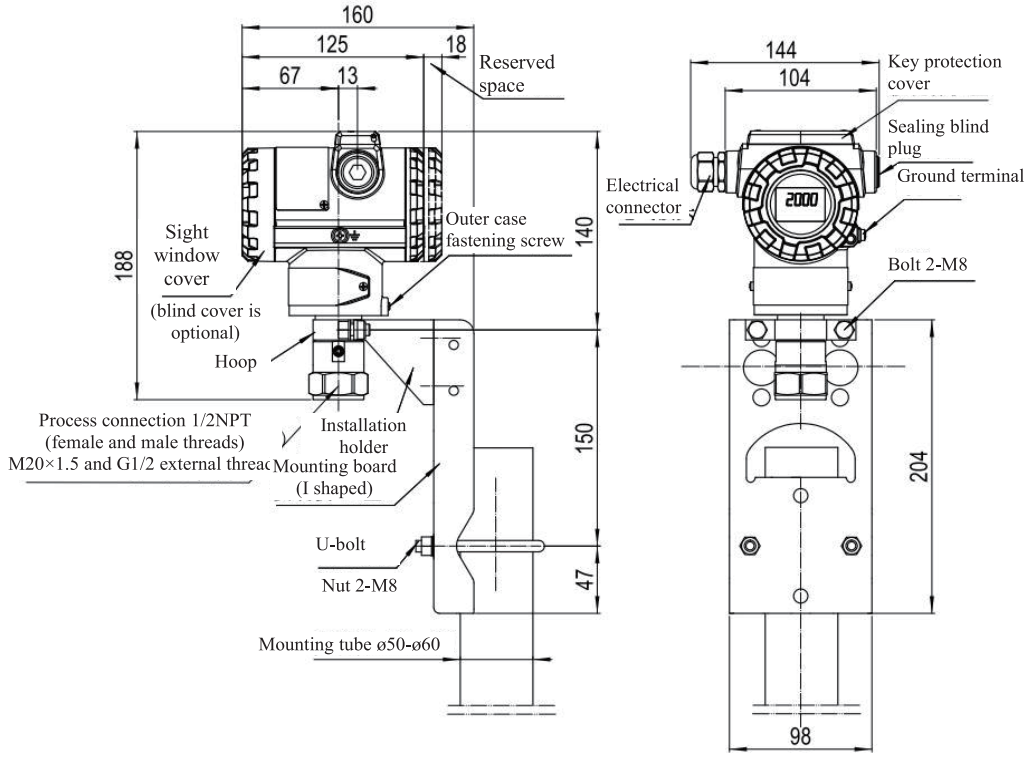
Note 7: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

Example of model

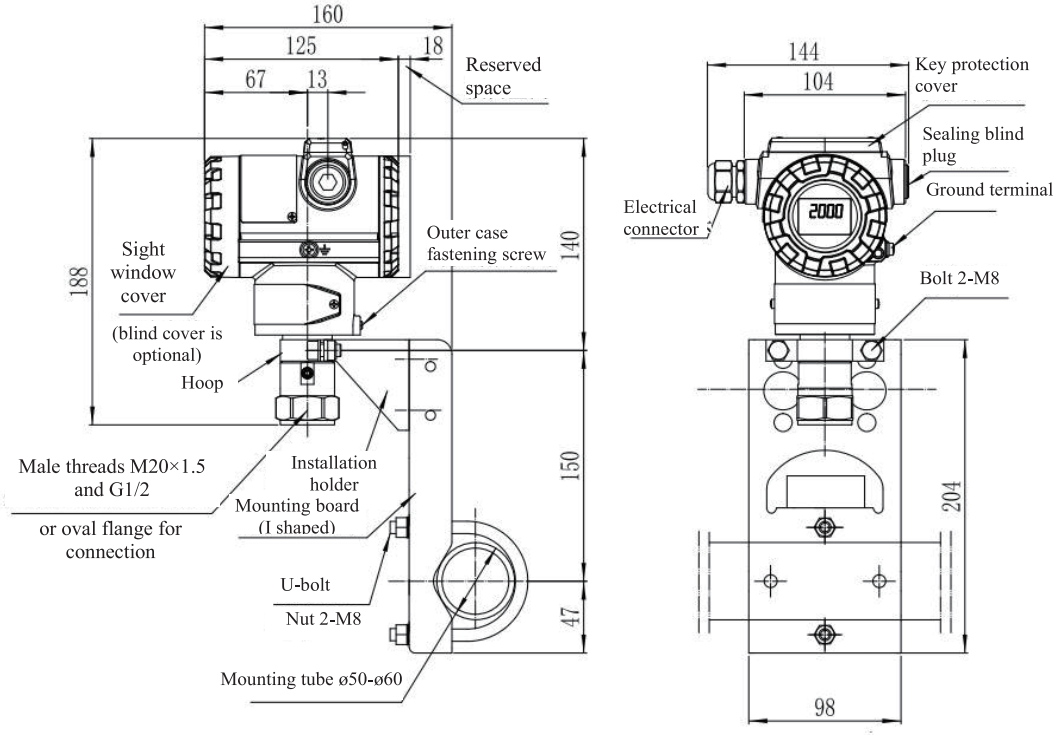
Just as PDS803GH-1DS1-A1DE/G61/S G87-MB1NL/D2/T, the models of transmitter and valve manifold shall be separated by space.

◆Overall and installation size of PDS803

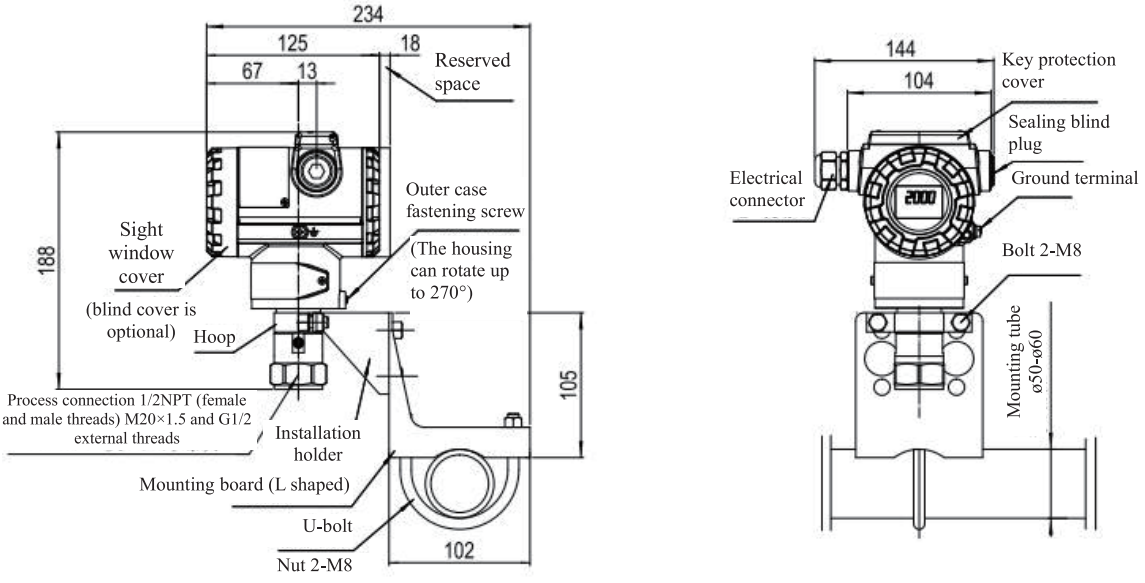
Unit: mm



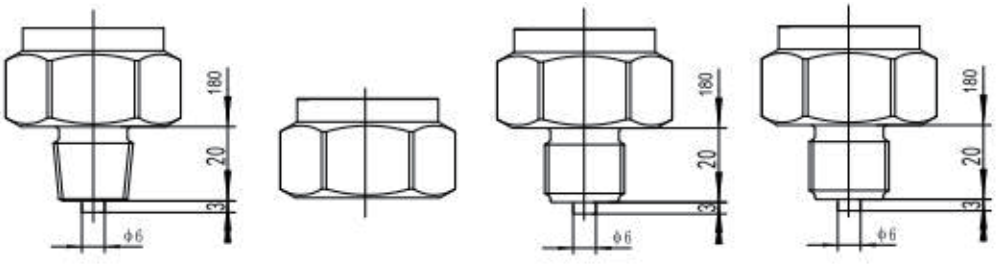
Horizontal piping mounting type (vertical mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



Process connection: 1/2NPT male thread

Process connection: 1/2NPT female thread

Process connection: M20×1.5 male thread

Process connection: G1/2A male thread

PDS805 pressure transmitter



PDS805 pressure transmitter is mainly used to measure liquid, gas or steam pressure, and convert the measured value into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio (r=max. span/actual span)=100:1

Long-term stability

δ≤0.1%FS/10 years

Span of transmitter

Span code	PDS805G gauge pressure type				PDS805A absolute pressure type			
	Minimum span	Maximum span	Measuring range	Overload limit	Minimum span	Maximum span	Measuring range	Overload limit
A	0.5 kPa	10 kPa	-10~10 kPa	600kPa	——			
B	1.0 kPa	100 kPa	-100~100 kPa	600kPa	0.5 kPa	25 kPa	0~25 kPa(A)	300 kPa(A)
C	4.0 kPa	400 kPa	-100~400 kPa	1.5MPa	2.6 kPa	130 kPa	0~130 kPa(A)	500 kPa(A)
D	30 kPa	3000 kPa	-100~3000 kPa	4.5MPa	5.0 kPa	500 kPa	0~500 kPa(A)	1.0 MPa(A)
E	0.2 MPa	16 MPa	-0.1~16 MPa	24MPa	0.03 MPa	3MPa	0~3 MPa(A)	6.0 MPa(A)
F	0.4 MPa	40 MPa	-0.1~40 MPa	60MPa	0.2 MPa	16 MPa	0~16 MPa(A)	24 MPa(A)

Note: The long-term working pressure of PDS805G gauge pressure type is recommended to be higher than 50kPa (ABS).
According to the span code B of PDS805G gauge pressure type, the recommended span is ≥10kPa.

Reference accuracy δ

PDS805G gauge pressure span code	PDS805A absolute pressure span code	Accuracy δ
A	—	$\delta \leq \pm (0.013+0.027 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio ≤20:1
B	B and C	δ≤±0.04% $\delta \leq \pm (0.004+0.0036 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
C and F	D	δ≤±0.04% $\delta \leq \pm (0.015+0.0025 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
D and E	E	δ≤±0.025% $\delta \leq \pm (0.01+0.0015 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
	F	δ≤±0.05% $\delta \leq \pm (0.015+0.0035 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1

Impact of temperature

δ≤(0.06*r+0.01)%/28°C, -40°C~+80°C

Process temperature range

-40°C~+120°C（Fluorine oil： -52°~+120°）

◆Model

Model No.	code	Remarks
PDS805		Pressure transmitter
Type	G	Gauge pressure type
	A	Absolute pressure type
Communication protocol	H	HART (7) communication (Note 1)
	P	PROFIBUS-PA (3.02) field bus communication
	F	FF (6.1.1) field bus communication
	A	Ethernet-APL communication(Note 2)
	B	AutBus communication
Liquid sealed in diaphragm capsule		Sealed liquid / Cleaning of measuring part
	-1	Silicone oil / Conventional
	-2	Silicone oil / Degreasing treatment
	-3	Fluorine oil-52°~+120° / Degreasing treatment

Measuring range

code	G gauge pressure type		A absolute pressure type	
	Span	Measuring range	Span	Measuring range
A	0.5~10kPa	-10~10kPa	——	——
B	1~100kPa	-100~100kPa	0.5~25kPa(A)	0~25kPa(A)
C	4~400kPa	-100~400kPa	2.6~130kPa(A)	0~130kPa(A)
D	0.03~3MPa	-0.1~3MPa	5.0~500kPa(A)	0~500kPa(A)
E	0.2~16MPa	-0.1~16MPa	0.03~3MPa(A)	0~3MPa(A)
F	0.4~40MPa	-0.1~40MPa	0.2~16MPa(A)	0~16MPa(A)

Material of liquid contact part

code	Isolation diaphragm	Relevant liquid contact parts
S	316L	316
H	HC-276	316
C	HC-276	HC-276 (Note3)
T	Tantalum	316
M	Monel	316
G	316L gold plated	316
R	Tantalum	HC-276 (Note 3)
L	316L gold plated	HC-276 (Note 3)
K	Monel	Monel (Note 3)

Process connection (Note 4)	
	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the back
0	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the side
1	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the back
2	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the side
3	Impulse port is downward and chamber flange is equipped with 1/4NPT female thread (not applicable to F diaphragm capsule of 805G)
4	
5	Impulse port is downward and process joint is provided with 1/2NPT female thread (not applicable to F diaphragm capsule of 805G)

Chamber bolt	
1	SCM435 (35CrMo)
2	304
3	316

Explosion-proof

		HART	PA and FF	APL	Autbus
-A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
-B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
-C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
-D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
-G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
-J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
-P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-

Housing (Note 5)

	Material	Electrical interface
1	Aluminium	1/2 NPT female thread, two electrical interfaces
2	Aluminium	M20×1.5 female thread, two electrical interfaces
3	Stainless steel	1/2 NPT female thread, two electrical interfaces
4	Stainless steel	M20×1.5 female thread, two electrical interfaces

Display head (Note 6)	
N	Without display
D	LCD display
E	Multi-functional LCD head (only applicable to HART7)

Installation bracket		Type	Material
	A	Horizontal (I type) mounting bracket	Q235
	B	Horizontal (I type) mounting bracket	304
	E	Horizontal (I type) mounting bracket	316
	C	Vertical (L type) mounting bracket	Q235
	D	Vertical (L type) mounting bracket	304
	F	Vertical (L type) mounting bracket	316
	N	Without installation bracket	
Additional options	/××	Refer to the additional options table	

◆Additional options

Item	Remarks		Code (Note 7)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management		A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output		A11
Additional certification	EU SIL		C01
	CE		C02
	V&V		C03
	Russian SIL		C04
	Commonwealth of Independent States EAC020		C05
APL communication method	HART-IP		AH
	PROFINET		AP
Protection treatment (Note 8)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone)		P10
	Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea)		P11
	Corrosion grade C5-I: High humidity and severe corrosion area		P12
Electrical connector	Specification and dimension	Material	
	M20×1.5 electrical connector + 1 sealing plug	Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug	Plastic	G61
	M20×1.5 one sealing plug	304	G62
	M20×1.5 sealing plug（EAC）	316L	G63
	1/2 NPT sealing plug（EAC）	316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug	316	G70
	1/2NPT flameproof electrical connector + 1 sealing plug	316	G71
	1/2 NPT one sealing plug	304	G72
	1/2 NPT one sealing plug	316	G73
	M20×1.5 one sealing plug	316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX\IECEx)	316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)	316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)	316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)	316L	G78
Process joint	Connection type	Material	
	1/2NPT male thread-welded pipe joint	304	G81
	1/2NPT male thread-welded pipe joint	316	H81
	1/2NPT male thread-welded pipe joint	316L	K81
	1/2NPT male thread-welded pipe joint	Q235	G91
	1/4NPT male thread-welded pipe joint	304	G82
	1/4NPT male thread-welded pipe joint	316	H82
	1/4NPT male thread-welded pipe joint	316L	K82
	1/4NPT male thread-welded pipe joint	Q235	G92
	1/2NPT male thread-M20×1.5 male thread	304	G84
	1/2NPT male thread-M20×1.5 male thread	316	H84
	1/2NPT male thread-M20×1.5 male thread	316L	K84

Liquid contact seals	Chamber flange seal ring Chamber flange seal ring +joint flange gasket		Material: Polytetrafluoroethylene Material: Polytetrafluoroethylene	M01 M02
Valve manifold integration	The valve manifold and the transmitter are assembled and tested integrally before delivered from the factory.			S
Lightning prevention	Lightning prevention terminal board			F20
Lithium battery	The content of copper and zinc on the surface of medium contact parts is ≤0.5%, and the content of copper and zinc on the surface of other exposed parts is ≤1%.			LD
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).			NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).			A1
Document	Delivery and acceptance document (Note 9)			D1
Mounting thread for process connection	M10 (If this option is not selected, 7/16-20UNF inch thread is determined by default)			E2
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)			L01 L02 L03
Display unit	PV Unit % mA Pa kPa MPa gf/cm^2 kgf/cm^2 mmH_2O mH_2O inH_2O	Code U01 U20 U21 U22 U23 U24 U25 U26 U27 U28	PV Unit ftH_2O mbar bar psi mmHg inHg Torr Atm $i4H_2O$ (inches of water 4°C) $m4H_2O$ (millimeters of water 4°C)	Code U29 U30 U31 U32 U33 U34 U35 U36 U37 U38
Valve manifold	G8 valve manifold SICV valve manifold			See options of valve manifold

Special reminder

※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3: The mounting thread can only be 7/16-20UNF, with the maximum measuring pressure of 32MPa.

Note 4: The high-pressure side (H) is on the right by default, the mounting thread for process connection is 7/16-20UNF, and the mounting bolt is made of the same material as the chamber bolt. If M10 mounting thread is required, please select the additional option E2.

Note 5: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.

Note 6: The default display is pressure value, and the other display modes are described in "Additional Options".

Note 7: The options shall be separated with a “/”, for example “/P10/G61/K81”.

Note 8: If the housings in P11 and P12 are selected, please choose 1 or 2.

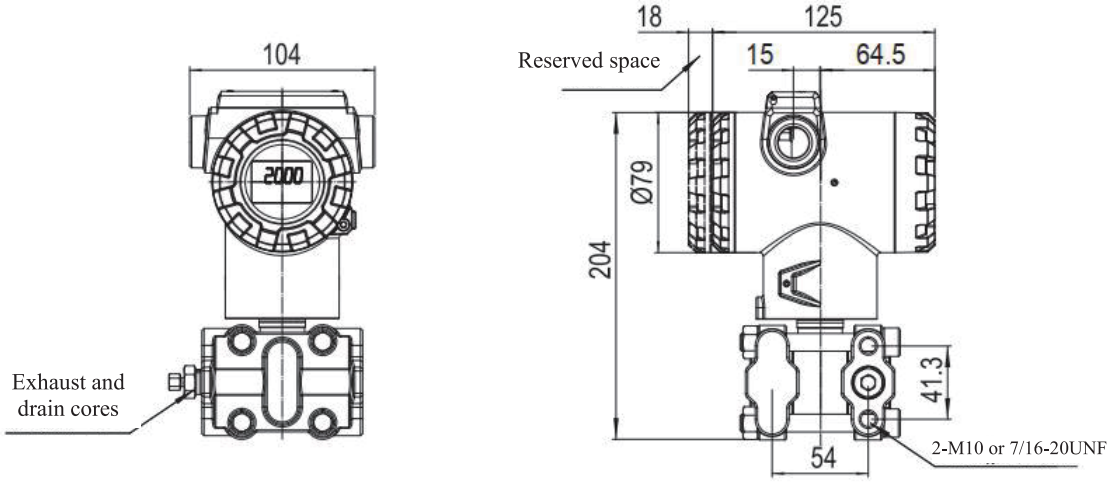
Note 9: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

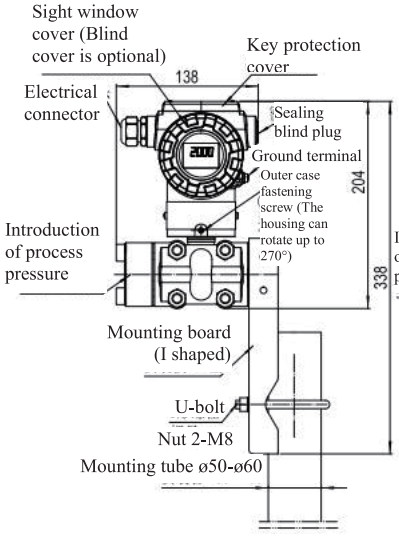
Example of model

Just as PDS805GH-1DS23-A1DE/G61/S SICV2-NC5ML/D2/T, the models of transmitter and valve manifold shall be separated by space.

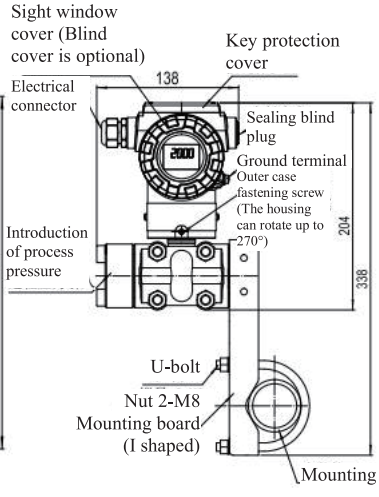
◆Overall and installation size of PDS805

Unit: mm

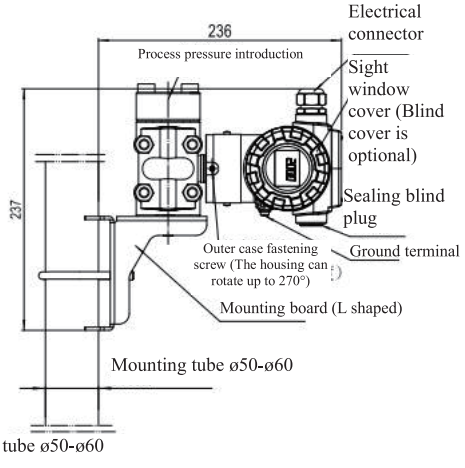




Horizontal piping mounting type (vertical mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



Vertical piping mounting type (vertical mounting pipe)

PDS843 differential pressure transmitter



PDS843 differential pressure transmitter is mainly used to measure the differential pressure and flow of liquid, gas and steam and convert the measured value into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio (r=max. span/actual span)=100:1

Long-term stability

δ≤±0.1%FS/10 years

δ≤±0.2FS%/10 years, applicable to spans C and D of PDS843L microdifferential pressure type

Span of transmitter

Span code	PDS843M differential pressure type and 843H high static pressure type					PDS843L microdifferential pressure type			
	Minimum span	Maximum span	Measuring range	M differential pressure overload limit	H high static pressure overload limit	Minimum span	Maximum span	Measuring range	Overload limit
C	0.5 kPa	10 kPa	-10~10 kPa	16 MPa	——	0.1 kPa	2.0 kPa	-2~2 kPa	200 kPa
D	1.0 kPa	100 kPa	-100~100 kPa	16 MPa	42 MPa	0.1 kPa	2.0 kPa	-2~2 kPa	3.2 MPa
E	5.0 kPa	500 kPa	-500~500 kPa	16 MPa	42 MPa	50 Pa	100 Pa	-100~100 Pa	200 kPa
F	0.03 MPa	3 MPa	-0.5~3 MPa	16 MPa	42 MPa	——	——	——	——
G	0.14 MPa	14 MPa	-0.5~14 MPa	16 MPa	——	——	——	——	——

Note: The negative value in the table means the maximum negative migration of the corresponding span.

The upper limit of the best working pressure within the span C of PDS843M is ≤3.2MPa, and the maximum working pressure is 16MPa.

Reference accuracy δ

843M differential pressure span code	843H high static pressure span code	843L microdifferential pressure span code	Accuracy δ
E, F and G	E and F	——	δ≤±0.025% δ≤± (0.01+0.0015 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1
C	——	——	δ≤± (0.013+0.027 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio ≤20:1
D	D	——	δ≤±0.04% δ≤± (0.004+0.0036 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1
——	——	C and D	δ≤± (0.05+0.025 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio ≤20:1
——	——	E	δ≤±0.1%

Note: When the ultra-microdifferential pressure span code E of PDS843L is selected, the factory span and specific performance indexes shall be determined according to the actual working conditions.

Impact of temperature δ≤(0.06*r+0.01)%/28°C, -40°C~+80°C (The spans C and D of PDS843L are multiplied by 2 based on this index)

Process temperature range: -40°C~+120°C（Fluorine oil： -52°~+120°）

Impact of static pressure δ≤±0.03r%/16MPa

δ≤±0.1r%/3.2MPa, applicable to span C of PDS843M (10kPa)

δ≤±0.2r%/3.2MPa, applicable to span D of PDS843L microdifferential pressure type (2kPa)

δ≤±0.03r%/200kPa, applicable to span C of PDS843L microdifferential pressure type (2kPa)

◆Model

Model No.	code	Remarks				
PDS843	-	Differential pressure transmitter				
Type	L M H	Microdifferential pressure Differential pressure High static pressure				
Communication protocol	H P F A B	HART (7) communication (Note 1) PROFIBUS-PA (3.02) field bus communication FF (6.1.1) field bus communication Ethernet-APL communication(Note 2) AutBus communication				
Liquid sealed in diaphragm capsule	-1 -2 -3	Sealed liquid Silicone oil Silicone oil Fluorine oil-52°~+120°	Cleaning of measuring part Conventional Degreasing treatment Degreasing treatment			
Measuring range		M differential pressure	H high static pressure	L micropressure		
		Span	Span	Span	Measuring range	Overload
	C	0.5~10kPa	——	0.1~2kPa	-2~2kPa	200kPa
	D	1~100kPa	1~100kPa	0.1~2kPa	-2~2kPa	3.2MPa
	E	5~500kPa	5~500kPa	50~100Pa	-100~100Pa	200kPa
	F	0.03~3MPa	0.03~3MPa	——		
	G	0.14~14MPa	——	——		
Material of liquid contact part		Isolation diaphragm	Relevant liquid contact parts	M differential pressure	H high static pressure	L micropressure
	S	316L	316	Applicable	Applicable	Applicable
	H	HC-276	316	Applicable	Applicable	Applicable
	C	HC-276	HC-276 (Note 3)	Applicable	Applicable	——
	T	Tantalum	316	Applicable	Applicable	——
	M	Monel	316	Applicable	Applicable	——
	G	316L gold plated	316	Applicable	Applicable	——
	R	Tantalum	HC-27 (Note 3)	Applicable	Applicable	——
	L	316L gold plated	HC-27 (Note 3)	Applicable	Applicable	——
	K	Monel	Monel (Note 3)	Applicable	Applicable	
Process connection (Note 4)	0	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the back				
	1	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the side				
	2	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the back				
	3	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the side				
	4	Impulse port is downward and chamber flange is equipped with 1/4NPT female thread (not applicable to high static pressure of 843H)				
	5	Impulse port is downward and process joint is provided with 1/2NPT female thread (not applicable to high static pressure of 843H)				
Chamber bolt	1 2 3	SCM435 (35CrMo) 304 316				

			HART	PA and FF	APL	Autbus
Explosion-proof	-A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	-B	NEPSI: Intrinsic safety type Ex ia ⅡC T4 Ga	Applicable	Applicable	-	-
	-C	NEPSI: Intrinsic safety type Ex ia ⅡC T6 Ga	Applicable	-	-	-
	-D	NEPSI: Flameproof type Ex db ⅡC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec ⅡC T6 Gc	Applicable	Applicable	Applicable	-
	-G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga, ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-

Housing (Note 5)		Material	Electrical interface
	1	Aluminium	1/2 NPT female thread, two electrical interfaces
	2	Aluminium	M20×1.5 female thread, two electrical interfaces
	3	Stainless steel	1/2 NPT female thread, two electrical interfaces
	4	Stainless steel	M20×1.5 female thread, two electrical interfaces
Display head (Note 6)	N	Without display	
	D	LCD display	
	E	Multi-functional LCD head (only applicable to HART7)	
Installation bracket		Type	Material
	A	Horizontal (I type) mounting bracket	Q235
	B	Horizontal (I type) mounting bracket	304
	E	Horizontal (I type) mounting bracket	316
	C	Vertical (L type) mounting bracket	Q235
	D	Vertical (L type) mounting bracket	304
	F	Vertical (L type) mounting bracket	316
	N	Without installation bracket	
Additional options	/××	Refer to the additional options table	

◆Additional options

Item	Remarks	Code (Note 7)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management	A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output	A11
Additional certification	EU SIL	C01
	CE	C02
	V&V	C03
	Russian SIL	C04
	Commonwealth of Independent States EAC020	C05
APL communication method	HART-IP	AH
	PROFINET	AP
Protection treatment (Note 8)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone)	P10
	Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea)	P11
	Corrosion grade C5-I: High humidity and severe corrosion area	P12
Electrical connector	Specification and dimension — Material	
	M20×1.5 electrical connector + 1 sealing plug — Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug — Plastic	G61
	M20×1.5 one sealing plug — 304	G62
	M20×1.5 sealing plug（EAC） — 316L	G63
	1/2 NPT sealing plug（EAC） — 316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug — 316	G70
	1/2NPT flameproof electrical connector + 1 sealing plug — 316	G71

	1/2 NPT one sealing plug	304	G72
	1/2 NPT one sealing plug	316	G73
	M20×1.5 one sealing plug	316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX\IECEx)	316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)	316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)	316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)	316L	G78
Process joint	Connection type	Material	
	1/2NPT male thread-welded pipe joint	304	G81
	1/2NPT male thread-welded pipe joint	316	H81
	1/2NPT male thread-welded pipe joint	316L	K81
	1/2NPT male thread-welded pipe joint	Q235	G91
	1/4NPT male thread-welded pipe joint	304	G82
	1/4NPT male thread-welded pipe joint	316	H82
	1/4NPT male thread-welded pipe joint	316L	K82
	1/4NPT male thread-welded pipe joint	Q235	G92
	1/2NPT male thread-M20×1.5 male thread	304	G84
	1/2NPT male thread-M20×1.5 male thread	316	H84
	1/2NPT male thread-M20×1.5 male thread	316L	K84
Liquid contact seals	Chamber flange seal ring	Material: Polytetrafluoroethylene	M01
	Chamber flange seal ring +joint flange gasket	Material: Polytetrafluoroethylene	M02
Valve manifold integration	The valve manifold and the transmitter are assembled and tested integrally before delivered from the factory.		S
radiation-resistance	Accumulated radiation tolerance dose 1000Gy		C06
Lightning prevention	Lightning prevention terminal board		F20
Lithium battery	The content of copper and zinc on the surface of medium contact parts is ≤0.5%, and the content of copper and zinc on the surface of other exposed parts is ≤1%.		LD
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).		NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).		A1
Document	Delivery and acceptance document (Note 9)		D1
Mounting thread for process connection	M10 (If this option is not selected, 7/16-20UNF inch thread is determined by default)		E2
Language	English (product manual, packing list, product note and main nameplate are all in English)		L01
	Russian (product manual, packing list, product note and main nameplate are all in Russian)		L02
	French (product manual, packing list, product note and main nameplate are all in French)		L03
Display unit	PV Unit / Code / PV Unit / Code		
	% / U01 / ftH_2O / U29		
	mA / U20 / mbar / U30		
	Pa / U21 / bar / U31		
	kPa / U22 / psi / U32		
	MPa / U23 / mmHg / U33		
	gf/cm^2 / U24 / inHg / U34		
	kgf/cm^2 / U25 / Torr / U35		
	mmH2O / U26 / atm / U36		
	mH_2O / U27 / $i4H_2O$ (inches of water 4°C) / U37		
	inH_2O / U28 / $m4H_2O$ (millimeters of water 4°C) / U38		
Valve manifold	G8 valve manifold SICV valve manifold		See options of valve manifold

Special reminder

※: In case of any special ordering requirements, please mark "Z" after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3: The mounting thread can only be 7/16-20UNF, with the maximum overload pressure 32MPa.

Note 4: The high-pressure side (H) is on the right by default, the mounting thread for process connection is 7/16-20UNF, and the mounting bolt is made of the same material as the chamber bolt. If M10 mounting thread is required, please select the additional option E2.

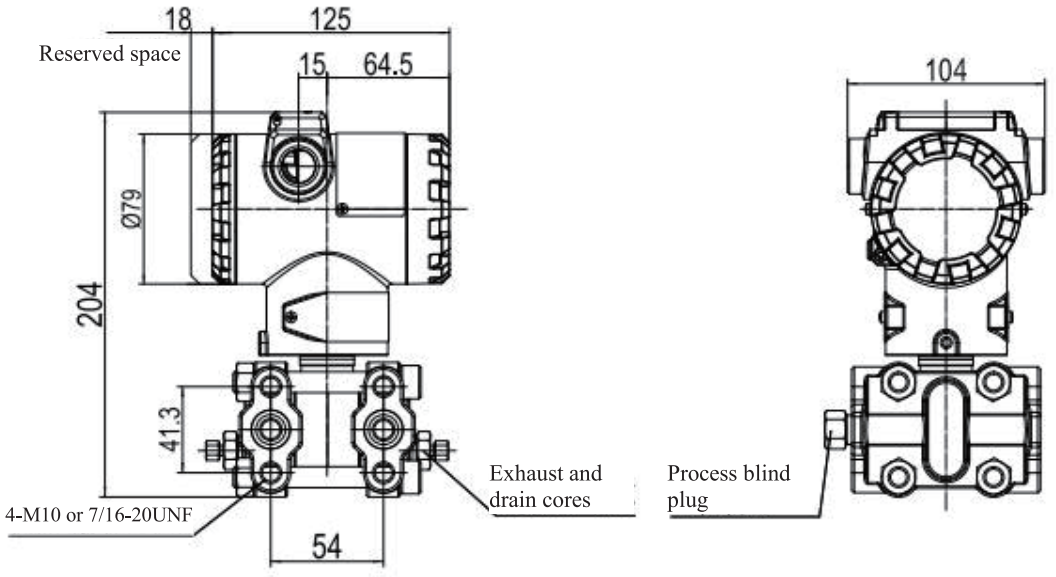
Note 5: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.
Note 6: The default display is pressure value, and the other display modes are described in "Additional Options".
Note 7: The options shall be separated with a “/”, for example “/P10/G61/K81”.
Note 8: If the housings in P11 and P12 are selected, please choose 1 or 2.
Note 9: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

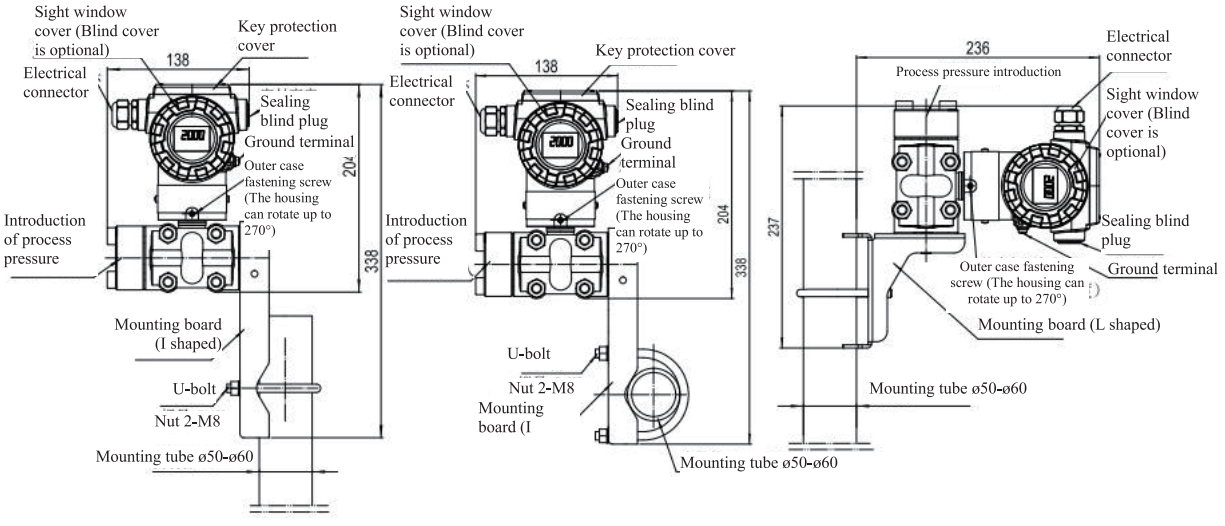
Example of model

Just as PDS843MH-1DS23-A1DE/G61/S G85-NB5MLD2/T, the models of transmitter and valve manifold shall be separated by space.
Or just as PDS843MH-1DS23-A1DE/G61/S SICV5-NCMLD2/N, the models of transmitter and valve manifold shall be separated by space.

◆Overall and installation size of PDS843

Unit: mm





Horizontal piping mounting type (vertical mounting pipe)

Horizontal piping mounting type (horizontal mounting pipe)

Vertical piping mounting type (vertical mounting pipe)

PDS863 level transmitter



PDS863 level transmitter is mainly used to measure the liquid level and convert the measured value into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual range)=30:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	Minimum span	Maximum span	Measuring range
C	2.0 kPa	10 kPa	-10~10 kPa
D	5.0 kPa	100 kPa	-100~100 kPa
E	16 kPa	500 kPa	-500~500 kPa
F	0.1 MPa	3 MPa	-0.5~3 MPa
G	0.4 MPa	10 MPa	-0.5~10 MPa

Note: HC-276 diaphragm is not recommended when the span is less than 10kPa and the flange size is less than or equal to DN50.

The negative value in the table means the maximum negative migration of the corresponding span.

The upper limit of the best working pressure within the span C is ≤3.2MPa, and the maximum working pressure is 16MPa.

Reference accuracy δ

PDS863 span code	Accuracy δ
C	$\delta \leq \pm (0.04+0.035 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio≤5:1
D, E, F and G	δ≤±0.04% $\delta \leq \pm (0.02+0.002 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1

Impact of temperature

δ≤± (0.06r+0.2) %/28°C, -52°C~+120°C (body). Refer to the selected sealed liquid of diaphragm capsule for the minimum temperature

Limit of over pressure and static pressure

Nominal pressure of flange

◆Model

Model No.	code	Remarks
PDS863	-	Level transmitter
Type	W	Single flange level
Communication protocol	H	HART (7) communication (Note 1)
	P	PROFIBUS-PA (3.02) field bus communication
	F	FF (6.1.1) field bus communication
	A	Ethernet-APL communication(Note 2)
	B	AutBus communication
Liquid sealed in diaphragm capsule		Sealed liquid / Cleaning of measuring part / Temperature range (Note 3)
	-1	Silicone oil / Conventional / -40°C~205°C
	-2	Silicone oil / Degreasing treatment / -40°C~205°C
	-3	Fluorine oil / Degreasing treatment / -52°C~150°C
Measuring range		Span / Measuring range
	C	2~10kPa / -10~10kPa
	D	5~100kPa / -100~100kPa
	E	16~500kPa / -500~500kPa
	F	0.1~3MPa / -0.5~3MPa
	G	0.4~10MPa / -0.5~10MPa
Liquid contact material on L side		Isolation diaphragm / Liquid receiving material
	S	316L / 316
	H	HC-276 / 316
	T	Tantalum / 316
	M	Monel / 316
	C	HC-276 / HC-276
	K	Monel / Monel
Process connection on L side	1	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the side
	3	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the side
Chamber bolt	1	SCM435 (35CrMo)
	2	304
	3	316

Explosion-proof			HART	PA and FF	APL	Autbus
	-A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	-B	NEPSI: Intrinsic safety type Ex ia ⅡC T4 Ga	Applicable	Applicable	-	-
	-C	NEPSI: Intrinsic safety type Ex ia ⅡC T6 Ga	Applicable	-	-	-
	-D	NEPSI: Flameproof type Ex db ⅡC T4/T6 Gb	Applicable	Applicable	Applicable	-
		NEPSI: Dust explosion proof Ex tb IIIC T85°C Db				
		NEPSI:"n" explosion-proof type Ex ec ⅡC T6 Gc				
	-G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga	Applicable	-	-	-
		ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb				
	-J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	-	-	-
		IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb				
	-P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X	Applicable	-	-	-
		EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X				
		EAC: Dust explosion proof Ex tb IIIC T80° C Db X				

Housing (Note 4)		Material / Electrical interface
	1	Aluminium / 1/2 NPT female thread, two electrical interfaces
	2	Aluminium / M20×1.5 female thread, two electrical interfaces
	3	Stainless steel / 1/2 NPT female thread, two electrical interfaces
	4	Stainless steel / M20×1.5 female thread, two electrical interfaces
Display head (Note 5)	N	Without display
	D	LCD display
	E	Multi-functional LCD head (only applicable to HART7)
Installation bracket	N	Without installation bracket
Flange type	-P	Plane face flange
	-T	Boss flange

Flange size		P plane face flange	T boss flange	Insertion diameter
	-1	DN 25 (1 inch) embedded)	——	——
	-2	DN 50 (2 inch)	DN50 (2 inch)	48mm
	-3	DN 80 (3 inch)	DN80 (3 inch)	71mm
	-4	DN 100 (4 inch)	DN100 (4 inch)	96mm
Protrusion length of diaphragm on H side	0	X_2=0mm (select this option for P plane face flange)		
	2	X_2=50mm		
	4	X_2=100mm		
	6	X_2=150mm		
	8	X_2=200mm		
	9	X_2=250mm		
Diaphragm material on H side	S	316L		
	H	HC-276		
	T	Tantalum (Note 6)		
	M	Monel		
	G	316L gold plated		
	N	Nickel		
	K	Urea class EN 1.4466		
	R	Titanium		
Material of inserted cylinder	F	No inserted cylinder (select this option for P plane face flange)		
	S	316L		
	H	HC-276		
	M	Monel		
	K	Urea class 316L		
	D	2205 dual-phase steel		
Flange sealing type	1	RF face		
	2	RJ ring joint face		
	3	M		
	4	FM		
Flange standard (Note 7)		Standard	Pressure	
	A	ANSI 150	2.0MPa	
	B	ANSI 300	5.0MPa	
	C	ANSI 600	11MPa	
	D	DIN PN 10/16	1.6MPa	
	E	DIN PN 25/40	4.0MPa	
	F	DIN PN 64	6.4MPa	
	K	DIN PN 100	10MPa	
Material of flange	A	S25C		
	B	304		
	C	316		
	D	316L		
Additional options	/××	Refer to the additional options table		

◆Additional options

Item	Remarks	**Code** (Note 8)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management	A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output	A11
Additional certification	EU SIL	C01
	CE	C02
	V&V	C03
	Russian SIL	C04
	Commonwealth of Independent States EAC020	C05
APL communication method	HART-IP	AH
	PROFINET	AP
Structural form	High temperature direct-coupled type (applicable to temperature range of high temperature process: 205°C~250°C)	G01

Protection treatment (Note 9)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone)			P10
	Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea)			P11
	Corrosion grade C5-I: High humidity and severe corrosion area			P12
Flush ring	Material	Thread for flush hole	X: If X is 1, it means 1 flush hole If X is 2, it means 2 flush holes	
	304	1/4 NPT+plug		G30X
	316L	1/4 NPT+plug		G31X
	304	1/2 NPT+plug		G32X
	316L	1/2NPT+plug		G33X
Anti-corrosive coating of diaphragm	Teflon diaphragm (only applicable to DN50 and DN80 plane face flange and working pressure ≥0kPa)			G40
	PTFE coating (only applicable to 316L and HC-276, and only for weakly corrosive media under negative pressure)			G41
	PFA coating (only applicable to 316L and HC-276, and working pressure ≥0kPa)			G42
Diaphragm processing	Gold plating inside the flange diaphragm			J01
Companion flange	Type	Material		
	WN hubbed butt welding	S25C		F50
		304		G50
		316		H50
		316L		K50
	PL plate-type flat welding	S25C		F52
		304		G52
		316		H52
		316L		K52
	SO hubbed flat welding	S25C		F53
		304		G53
		316		H53
		316L		K53
	TH thread flange	S25C		F54
		304		G54
		316		H54
		316L		K54
Mounting accessories of flange	Carbon steel bolt+spiral wound gasket			G56
	Carbon steel bolt + tetrafluoroethylene			G57
	Carbon steel bolt+octagonal gasket			H56
	Stainless steel bolt+spiral wound gasket			G58
	Stainless steel bolt+polytetrafluoroethylene			G59
	Stainless steel bolt+octagonal gasket (Note: the material of stainless steel is 304 by default)			H58
Electrical connector	Specification and dimension		Material	
	M20×1.5 electrical connector + 1 sealing plug		Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug		Plastic	G61
	M20×1.5 one sealing plug		304	G62
	M20×1.5 sealing plug（EAC）		316L	G63
	1/2 NPT sealing plug（EAC）		316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug		316	G70
	1/2NPT flameproof electrical connector + 1 sealing plug		316	G71
	1/2 NPT one sealing plug		304	G72
	1/2 NPT one sealing plug		316	G73
	M20×1.5 one sealing plug		316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX\IECEx)		316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)		316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)		316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)		316L	G78
Process joint on L side	Connection type		Material	
	1/2 NPT male thread-welded pipe joint		304	G81
	1/2 NPT male thread-welded pipe joint		316	H81
	1/2 NPT male thread-welded pipe joint		316L	K81
	1/2 NPT male thread-welded pipe joint		Q235	G91
	1/4 NPT male thread-welded pipe joint		304	G82
	1/4 NPT male thread-welded pipe joint		316	H82
	1/4 NPT male thread-welded pipe joint		316L	K82
	1/4 NPT male thread-welded pipe joint		Q235	G92

	1/2 NPT male thread-M20×1.5 male thread 1/2 NPT male thread-M20×1.5 male thread 1/2 NPT male thread-M20×1.5 male thread	304 316 316L	G84 H84 K84
Weather prevention	Weather prevention pipe	316	FY
Lightning prevention	Lightning prevention terminal board		F20
Lithium battery	The content of copper and zinc on the surface of medium contact parts is ≤0.5%, and the content of copper and zinc on the surface of other exposed parts is ≤1%.		LD
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).		NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).		A1
Document	Delivery and acceptance document (Note 10)		D1
Mounting thread for process connection	M10 (If this option is not selected, 7/16-20UNF inch thread is determined by default)		E2
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)		L01 L02 L03
Display unit	PV Unit % mA Pa kPa MPa gf/cm^2 kgf/cm^2 mmH_2O mH_2O inH_2O ftH_2O mbar bar psi mmHg inHg Torr Atm $i4H_2O$ (inches of water 4°C) $m4H_2O$ (millimeters of water 4°C)		Code U01 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32 U33 U34 U35 U36 U37 U38
Valve manifold			Two-valve manifold

Special reminder

※: In case of any special ordering requirements, please mark "Z" after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3: If the temperature is higher than 205°C, high temperature structure should be selected. Refer to additional options.

Note 4: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.

Note 5: The default display is pressure value, and the other display modes are described in "Additional Options".

Note 6: When the measuring span C is adopted, the flange type is P (plane face flange), the flange size is 1 inch (DN25) and the H side diaphragm is made of T (tantalum), the minimum span should be ≥5kPa.

Note 7: Serial numbers A, B and C are adapted to American system in HG20615-2009~HG20635-2009 and GB/T9112-2000~GB/T9131-2000. Serial numbers D, E, F and K are adapted to European system in HG20592-2009~HG20614-2009 and GB/T9112-2000~GB/T9131-2000.

Note 8: The options shall be separated with a "/", for example "/P10/G61/K81".

Note 9: If the housings in P11 and P12 are selected, please choose 1 or 2.

Note 10: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

Size specification of plane face flange DN25 (embedded)

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	110	79.4	66	34	12.7	4	16
ANSI 300	125	88.9	66	34	15.9	4	18
ANSI 600	125	88.9	66	34	17.5	4	18
DINPN10/16	115	85	66	34	18	4	14
DIN PN25/40	115	85	66	34	18	4	14
DIN PN64/100	140	100	66	34	24	4	18

Size specification of plane face flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	61	19.5	4	18
ANSI 300	165	127	100	61	22.7	8	18
ANSI 600	165	127	100	61	32.4	8	18
DINPN10/16	165	125	100	61	18	4	18
DIN PN25/40	165	125	100	61	20	4	18
DIN PN64	180	135	100	61	26	4	22
DIN PN100	195	145	100	61	28	4	26

Size specification of plane face flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	89	24.3	4	18
ANSI 300	210	168.3	130	89	29	8	22
ANSI 600	210	168.3	130	89	38.8	8	22
DIN PN10/16	200	160	130	89	20	8	18
DIN PN25/40	200	160	130	89	24	8	18
DIN PN64	215	170	130	89	28	8	22
DIN PN100	230	180	130	89	32	8	26

Size specification of plane face flange DN100

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	230	190.5	155	115	24.3	8	18
ANSI 300	255	200	155	115	32.2	8	22
ANSI 600	275	215.9	155	115	45.1	8	26
DINPN10/16	220	180	155	115	20	8	18
DIN PN25/40	235	190	155	115	24	8	22
DIN PN64	250	200	155	115	30	8	26
DIN PN100	265	210	155	115	36	8	30

Size specification of boss flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	48	19.5	4	18
ANSI 300	165	127	100	48	22.7	8	18
ANSI 600	165	127	100	48	32.4	8	18
DIN PN10/16	165	125	100	48	18	4	18
DIN PN25/40	165	125	100	48	20	4	18
DIN PN64	180	135	100	48	26	4	22
DIN PN100	195	145	100	48	28	4	26

Size specification of boss flange DN80

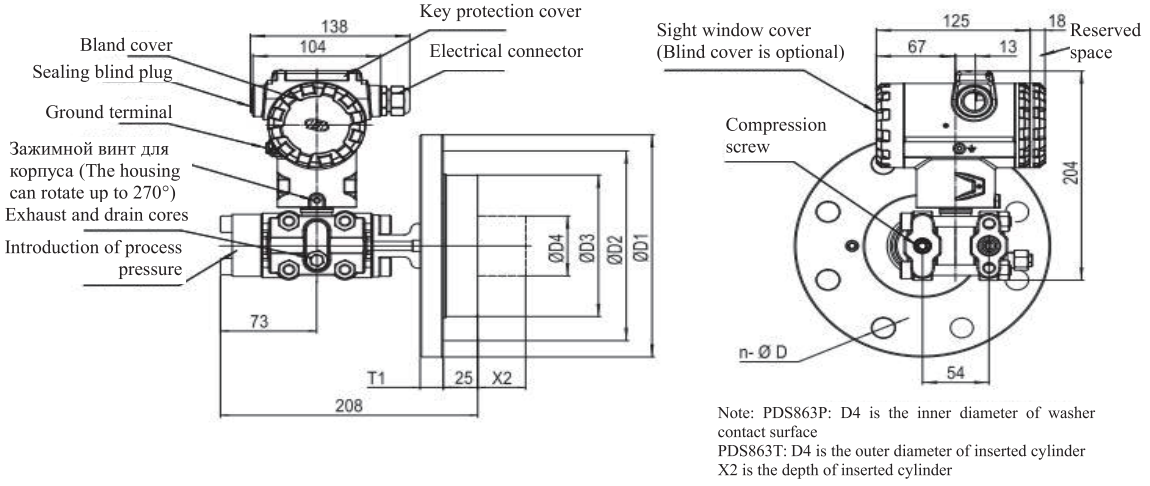
Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	71	24.3	4	18
ANSI 300	210	168.3	130	71	29	8	22
ANSI 600	210	168.3	130	71	38.8	8	22
DIN PN10/16	200	160	130	71	20	8	18
DIN PN25/40	200	160	130	71	24	8	18
DIN PN64	215	170	130	71	28	8	22
DIN PN100	230	180	130	71	32	8	26

Size specification of boss flange DN100

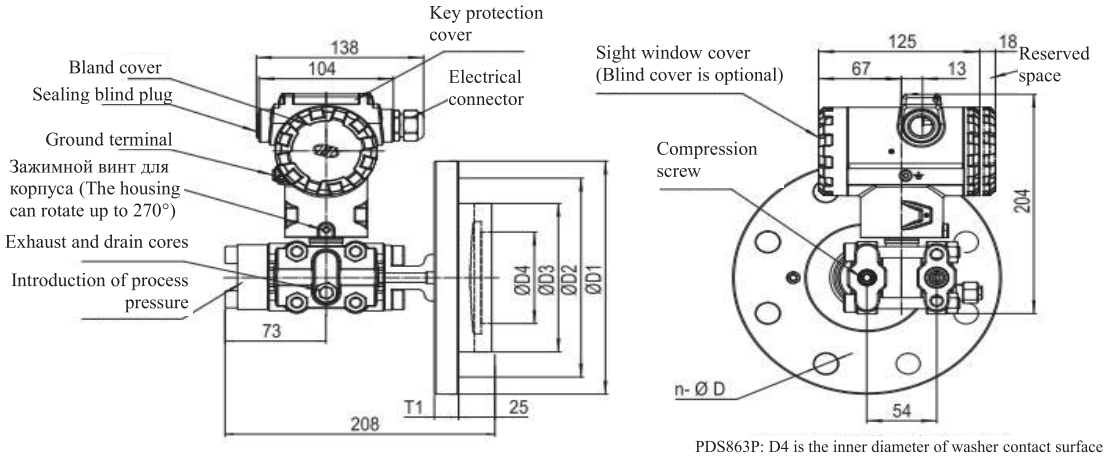
Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	230	190.5	155	96	24.3	8	18
ANSI 300	255	200	155	96	32.2	8	22
ANSI 600	275	215.9	155	96	45.1	8	26
DIN PN10/16	220	180	155	96	20	8	18
DIN PN25/40	235	190	155	96	24	8	22
DIN PN64	250	200	155	96	30	8	26
DIN PN100	265	210	155	96	36	8	30

◆Overall and installation size of DS863

Unit: mm

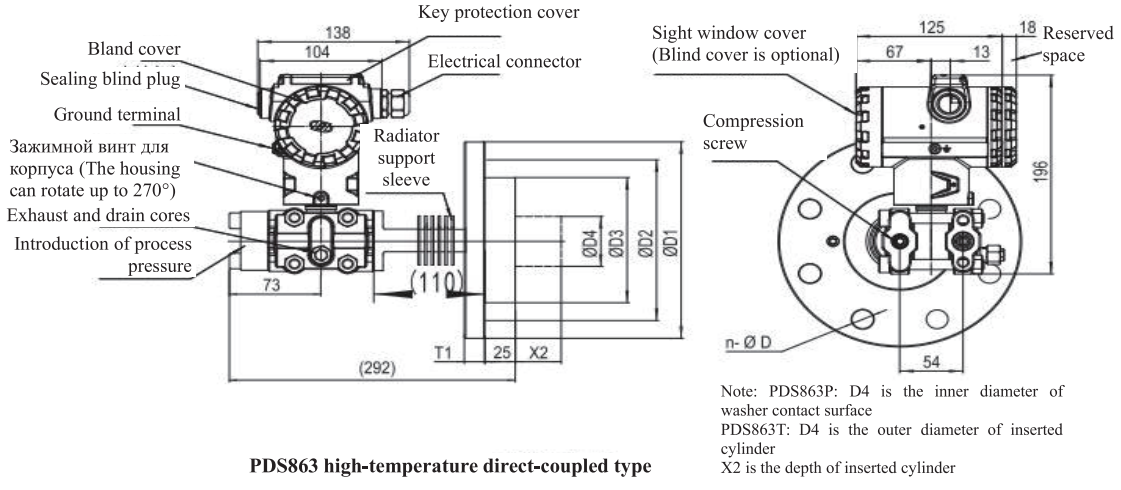


Note: PDS863P: D4 is the inner diameter of washer contact surface
PDS863T: D4 is the outer diameter of inserted cylinder
X2 is the depth of inserted cylinder



PDS863P: D4 is the inner diameter of washer contact surface

PDS863P DN25 embedded diaphragm



Note: PDS863P: D4 is the inner diameter of washer contact surface
PDS863T: D4 is the outer diameter of inserted cylinder
X2 is the depth of inserted cylinder

PDS863 high-temperature direct-coupled type

Note: D4 is the inner diameter of washer contact surface or the outer diameter of inserted cylinder.
The insertion depth of X2 can be selected from 50mm, 100mm, 150mm, 200mm and 250mm, or be customized according to the working conditions at site.

PDS873 remote pressure transmitter



PDS873 remote pressure transmitter is mainly used to measure the pressure, and convert the measured value into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual range)=30:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	PDS873G gauge pressure type			PDS873A absolute pressure type		
	Minimum span	Maximum span	Measuring range	Minimum span	Maximum span	Measuring range
B	5.0 kPa	100 kPa	-100~100 kPa	5.0 kPa	25 kPa	0~25 kPa(A)
C	20 kPa	400 kPa	-100~400 kPa	10 kPa	130 kPa	0~130 kPa(A)
D	150 kPa	3 MPa	-0.1~3 MPa	25 kPa	500 kPa	0~500 kPa(A)
E	0.6 MPa	20 MPa	-0.1~20 MPa	0.15 MPa	3 MPa	0~3 MPa(A)
F	2.0 MPa	40 MPa	-0.1~40 MPa	1.0 MPa	20 MPa	0~20 MPa(A)

Note: HC-276 diaphragm is not recommended when the span is less than 10kPa and the flange size is less than or equal to DN50.

The long term working pressure of PDS873G gauge pressure type (except PDS873A absolute pressure type) shall not be lower than 50kPa (ABS).

Reference accuracy δ

PDS873G gauge pressure span code	PDS873A absolute pressure span code	Accuracy δ
B, C, D, E and F	B, C, D, E and F	δ≤±0.1% δ≤± (0.04+0.012 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio>5:1

Impact of temperature

δ≤± (0.06r+0.35) %/28°C, -52°C~+120°C (body). Refer to the selected sealed liquid of remote pressure transmitter for the minimum temperature

Limit of over pressure

Not higher than the nominal flange pressure and not higher than 1.5 times the maximum span of the transmitter.

◆Model

Model No.	Scode	Remarks
PDS873	-	Single flange pressure transmitter
Type	G A	Gauge pressure type Absolute pressure type
Communication protocol	H P F A B	HART (7) communication (Note 1) PROFIBUS-PA (3.02) field bus communication FF (6.1.1) field bus communication Ethernet-APL communication(Note 2) AutBus communication
Liquid sealed in diaphragm capsule	-1 -3	Silicone oil Fluorine oil： -52°~+150°

Measuring range		G gauge pressure type		A absolute pressure type	
		Span	Measuring range	Span	Measuring range
	B	5.0~100kPa	-100~100kPa	5.0~25kPa(A)	0~25kPa(A)
	C	20~400kPa	-100~400kPa	10~130kPa(A)	0~130kPa(A)
	D	0.15~3MPa	-0.1~3MPa	25~500kPa(A)	0~500kPa(A)
	E	0.6~20MPa	-0.1~20MPa	0.15~3.0MPa(A)	0~3.0MPa(A)
	F	2.0~40MPa	-0.1~40MPa	1.0~20MPa(A)	0~20MPa(A)

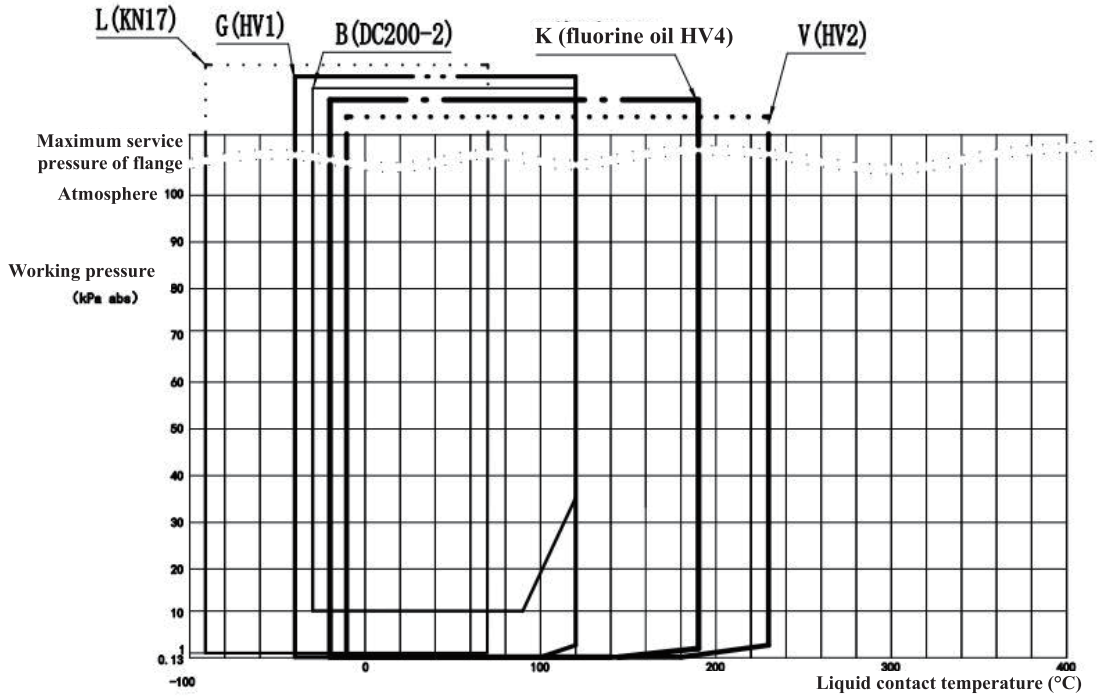
Explosion-proof			HART	PA and FF	APL	Autbus
	A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:“n” explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-

Housing (Note 3)		Material	Electrical interface
	1	Aluminium	1/2 NPT female thread, two electrical interfaces
	2	Aluminium	M20×1.5 female thread, two electrical interfaces
	3	Stainless steel	1/2 NPT female thread, two electrical interfaces
	4	Stainless steel	M20×1.5 female thread, two electrical interfaces
Display head (Note 4)	N	Without display	
	D	LCD display	
	E	Multi-functional LCD head (only applicable to HART7)	

Installation bracket		Type	Material
	A	Horizontal (I type) mounting bracket	Q235
	B	Horizontal (I type) mounting bracket	304
	E	Horizontal (I type) mounting bracket	316
	C	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	Q235
	D	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	304
	F	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	316
	N	Without installation bracket	
Flange type	-P	Plane face flange	
	-T	Boss flange	
Capillary length	-□□ (00m~15m)	When the length is 0m, the pressure must be less than 10MPa and the medium temperature must be less than 205°C (Note 5)	

Liquid sealed remote pressure transmitter	G gauge pressure type	A B C F L H M N S(Note 6)	Sealed liquid DC200-1 silicone oil DC200-2 silicone oil DC704 high temperature silicone oil Fluorine oil KN17 low temperature oil KN3.2 ultra-high temperature oil Ultra-high temperature II silicone oil Ultra-high temperature III silicone oil Syltherm 800 silicone oil	Liquid contact temperature -10°C~250°C -40°C~205°C -10°C~315°C -52°C~150°C -90°C~120°C -20°C~400°C 0°C~380°C -10°C~360°C -40°C~316°C	Density 0.96g/cm^3 0.94g/cm^3 0.94g/cm^3 1.87g/cm^3 0.914g/cm^3 1.07g/cm^3 1.1g/cm^3 1.1g/cm^3 0.93g/cm^3
Liquid sealed remote pressure transmitter	A absolute pressure type	B L G W K	Sealed liquid DC200-2 silicone oil KN17 low temperature oil HV1 HV2 Fluorine oil HV4	Liquid contact temperature -30°C~120°C (Note 7) -90°C~70°C -40°C~120°C -10°C~230°C -20°C~190°C	Density 0.94g/cm^3 0.914g/cm^3 0.96g/cm^3 1.09g/cm^3 1.83g/cm^3
Flange size (Note 8)		-1 -2 -3 -4	P plane face flange DN 25 (1 inch embedded) DN 50 (2 inch) DN 80 (3 inch) DN 100 (4 inch)	T boss flange —— DN50 (2 inch) DN80 (3 inch) DN100 (4 inch)	Insertion diameter —— 48mm 71mm 96mm
Protrusion length of diaphragm		0 2 4 6 8 9	X_2=0mm (select this option for P plane face flange) X_2=50mm X_2=100mm X_2=150mm X_2=200mm X_2=250mm		
Material of flange diaphragm		S H T M G N K R	316L HC-276 Tantalum Monel 316L gold plated Nickel Urea class EN 1.4466 Titanium		
Material of inserted cylinder		F S H M K D	No inserted cylinder (select this option for P plane face flange) 316L HC-276 Monel Urea class 316L 2205 dual-phase steel		
Flange sealing type		1 2 3 4	RF face RJ ring joint face M FM		
Flange standard (Note 9)		-A -B -C -L -P -R -D -E -F -K -M	Standard ANSI 150 ANSI 300 ANSI 600 ANSI 900 ANSI1500 (indicate the inserting diameter when ordering) ANSI2500 (indicate the inserting diameter when ordering) DIN PN 10/16 DIN PN 25/40 DIN PN 64 DIN PN 100 DIN PN 160		Pressure 2.0MPa 5.0MPa 11MPa 15MPa 26MPa 40MPa 1.6MPa 4.0MPa 6.4MPa 10MPa 16MPa
Material of flange		A B C D	S25C 304 316 316L		
Cleaning of measuring part		A B	Conventional Degreasing treatment		
Additional options		/××	Refer to the additional options table		

◆ **PDS873A Temperature and pressure curve of absolute pressure type filling liquid**



Vacuum and temperature curves of filling liquid

◆Additional options

Item	Remarks	Code (note 10)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management	A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output	A11
Additional certification	EU SIL CE V&V Russian SIL Commonwealth of Independent States EAC020	C01 C02 C03 C04 C05
APL communication method	HART-IP PROFINET	AH AP
Structural form	High temperature direct-coupled type (applicable to capillary 0m at the H side with range of medium temperature 205°C~250°C)	G01
Protection treatment (Note 11)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone) Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea) Corrosion grade C5-I: High humidity and severe corrosion area	P10 P11 P12
Flush ring	Material / Thread / X: If X is 1, it means 1 flush hole; If X is 2, it means 2 flush holes 304 / 1/4 NPT+plug 316L / 1/4 NPT+plug 304 / 1/2 NPT+plug 316L / 1/2 NPT+plug	 G30X G31X G32X G33X

Anti-corrosion coating	Teflon diaphragm (only applicable to DN50 and DN80 plane face flange and working pressure ≥0kPa) PTFE coating (only applicable to 316L and HC-276, and only for weakly corrosive media under negative pressure) PFA coating (only applicable to 316L and HC-276, and working pressure ≥0kPa)		G40 G41 G42
Diaphragm processing	Gold plating inside the flange diaphragm		J01
Companion flange	Type	Material	
	WN hubbed butt welding	S25C 304 316 316L	F50 G50 H50 K50
	PL plate-type flat welding	S25C 304 316 316L	F52 G52 H52 K52
	SO hubbed flat welding	S25C 304 316 316L	F53 G53 H53 K53
	TH thread flange	S25C 304 316 316L	F54 G54 H54 K54
Mounting accessories of flange	Carbon steel bolt+spiral wound gasket Carbon steel bolt + tetrafluoroethylene Carbon steel bolt+octagonal gasket Stainless steel bolt+spiral wound gasket Stainless steel bolt+polytetrafluoroethylene Stainless steel bolt+octagonal gasket (Note: the material of stainless steel is 304 by default)		G56 G57 H56 G58 G59 H58
Electrical connector	Specification and dimension	Material	
	M20×1.5 electrical connector + 1 sealing plug	Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug	Plastic	G61
	M20×1.5 one sealing plug	304	G62
	M20×1.5 sealing plug（EAC）	316L	G63
	1/2 NPT sealing plug（EAC）	316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug	316	G70
	1/2NPT flameproof electrical connector + 1 sealing plug	316	G71
	1/2 NPT one sealing plug	304	G72
	1/2 NPT one sealing plug	316	G73
	M20×1.5 one sealing plug	316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX\IECEx)	316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)	316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)	316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)	316L	G78
Lightning prevention	Lightning prevention terminal board		F20
Lithium battery	The content of copper and zinc on the surface of medium contact parts is ≤0.5%, and the content of copper and zinc on the surface of other exposed parts is ≤1%.		LD
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).		NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).		A1
Document	Delivery and acceptance document (Note 12)		D1
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)		L01 L02 L03

	PV Unit	Code	PV Unit	Code
Display unit	%	U01	ftH_2O	U29
	mA	U20	mbar	U30
	Pa	U21	bar	U31
	kPa	U22	psi	U32
	MPa	U23	mmHg	U33
	gf/cm^2	U24	inHg	U34
	kgf/cm^2	U25	Torr	U35
	mmH_2O	U26	Atm	U36
	mH_2O	U27	$i4H_2O$ (inches of water 4°C)	U37
	inH_2O	U28	$m4H_2O$ (millimeter of water 4°C)	U38

Special reminder

※: In case of any special ordering requirements, please mark "Z" after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.

Note 4: The default display is pressure value, and the other display modes are described in "Additional Options".

Note 5: When the length is 0 m, the pressure must be less than 10 MPa, the flange standard shall not be L, P, R, M, and the process temperature shall be less than 205°C. At 205°C~250°C, G01 nearby might be selected (filling oil A).

Note 6: It shall not be used in the vacuum state. There is a limit to the minimum static pressure limit, please consult us for details.

Note 7: When the operating temperature is ≤90°C, the minimum operating pressure shall be 10kPa(abs); When 80°C< operating temperature ≤120°C, the operating pressure shall not be less than 50 kPa (abs).

Note 8: When filling oil B is used for PDS873P built in and DN50 plane face flange, PDS873T DN80 boss flange, the capillary shall be ≤10 m; if other oil is used as the filling liquid, the capillary shall be≤8 m.
The capillary of PDS873T DN50 boss flange shall be ≤3m. Please consult for special length.

Note 9: Serial numbers A, B, C, L, P, and R are adapted to American systems in HG20615-2009~HG20635-2009 and GB/T9112-2000~GB/T9131-2000. Serial numbers D, E, F, K and M are adapted to European system in HG20592-2009~HG20614-2009 and GB/T9112-2000~GB/T9131-2000.

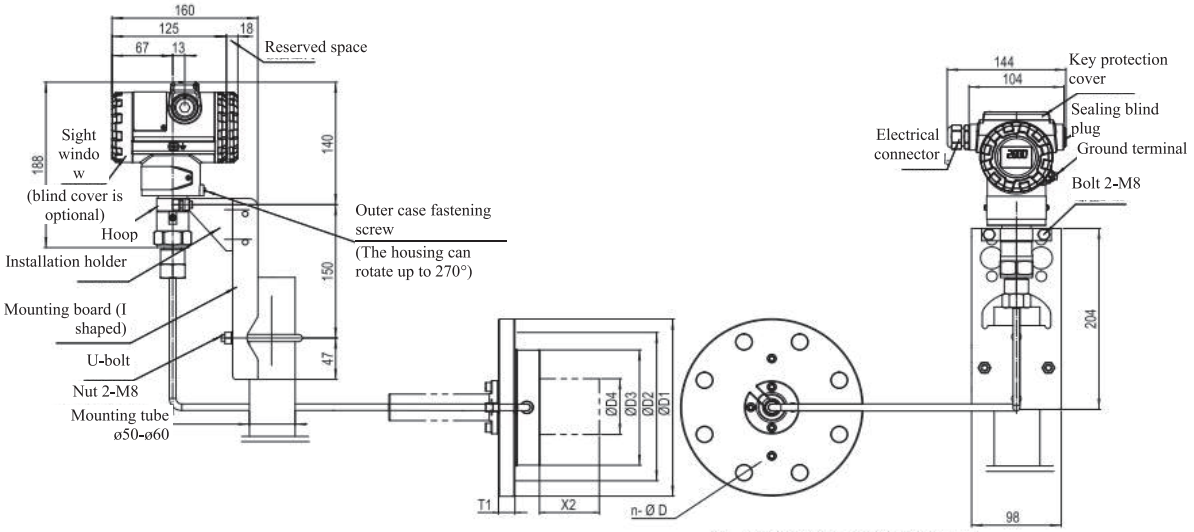
Note 10: The options shall be separated with a "/", for example "/P10/G61/F20".

Note 11: If the housings in P11 and P12 are selected, please choose 1 or 2.

Note 12: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

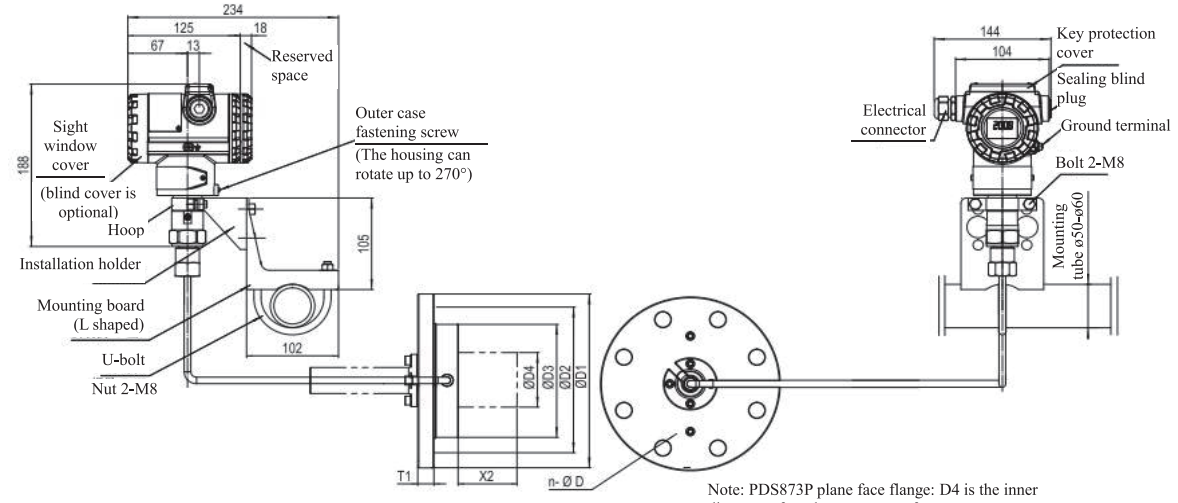
◆Overall and installation size of PDS873

Unit: mm



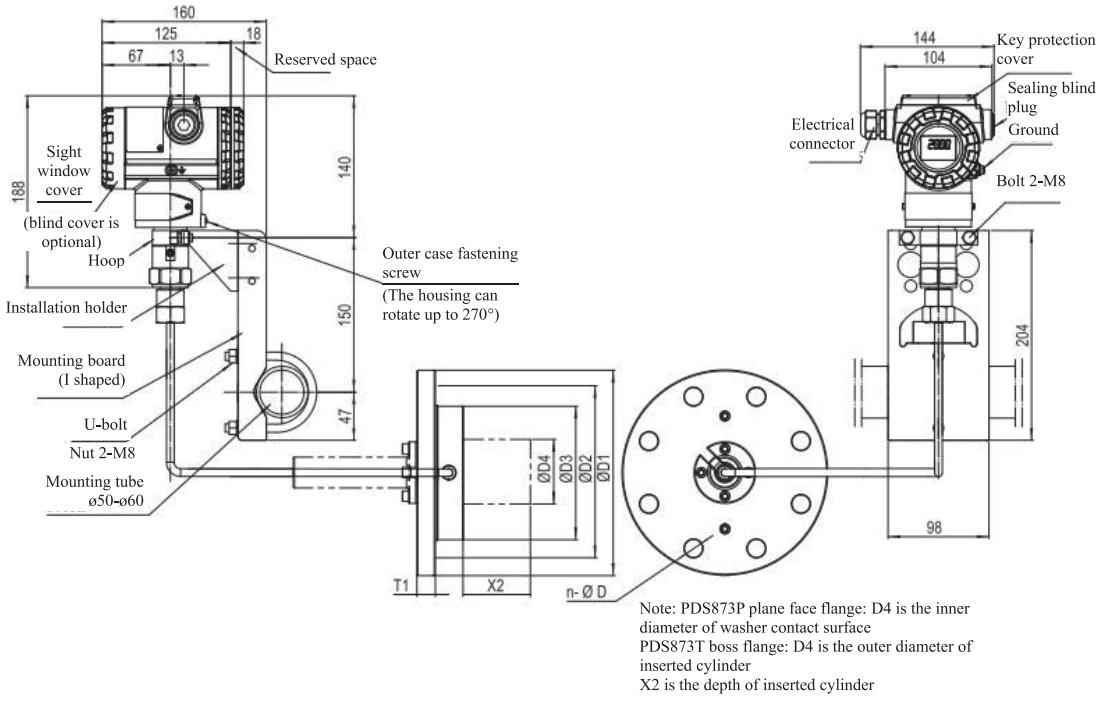
Note: PDS873P plane face flange: D4 is the inner diameter of washer contact surface
PDS873T boss flange: D4 is the outer diameter of inserted cylinder
X2 is the depth of inserted cylinder

Horizontal piping mounting type (vertical mounting pipe)

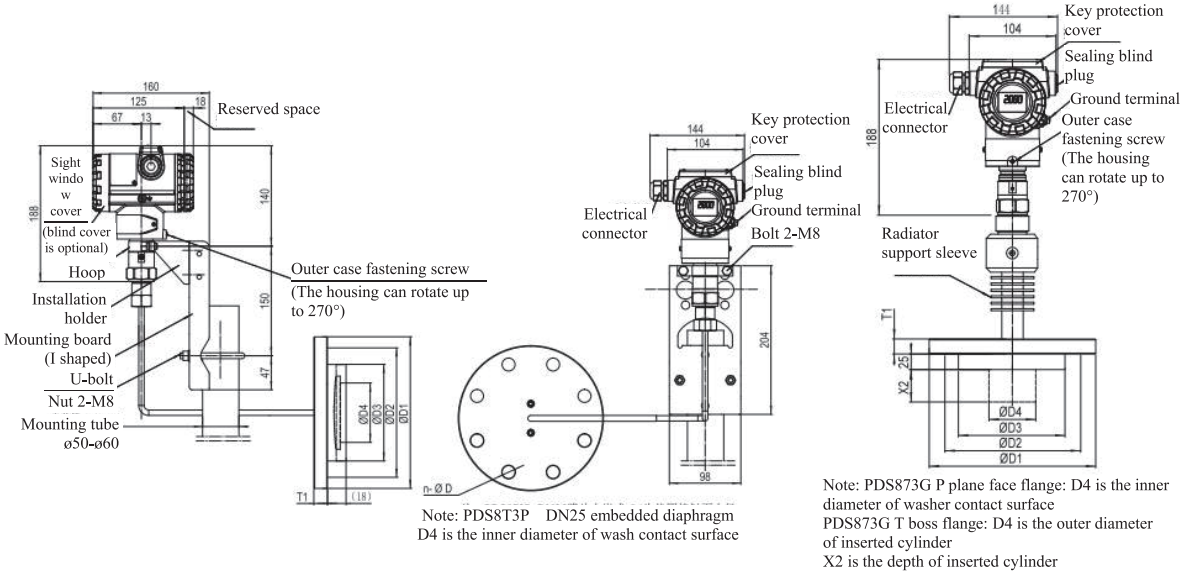


Note: PDS873P plane face flange: D4 is the inner diameter of washer contact surface
PDS873T boss flange: D4 is the outer diameter of inserted cylinder
X2 is the depth of inserted cylinder

Horizontal piping mounting type (horizontal mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



Horizontal piping mounting type (vertical mounting pipe)

PDS873G High temperature direct-coupled

Note: D4 is the inner diameter of washer contact surface or the outer diameter of inserted cylinder.

The insertion depth of X2 can be selected from 50mm, 100mm, 150mm, 200mm and 250mm, or be customized according to the working conditions at site.

Unit: mm

Size of plane face flange DN25 (embedded)

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	110	79.4	66	34	12.7	4	16
ANSI 300	125	88.9	66	34	15.9	4	18
ANSI 600	125	88.9	66	34	17.5	4	18
ANSI 900	150	101.6	66	34	28.6	4	26
DIN PN10/16	115	85	66	34	18	4	14
DIN PN25/40	115	85	66	34	18	4	14
DIN PN64/100	140	100	66	34	24	4	18

Size specification of plane face flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	61	19.5	4	18
ANSI 300	165	127	100	61	22.7	8	18
ANSI 600	165	127	100	61	32.4	8	18
ANSI 900	215	165.1	100	61	45.1	8	26
ANSI 1500	215	165.1	100	61	45.1	8	26
ANSI 2500	235	171.4	100	61	57.9	8	30
DIN PN10/16	165	125	100	61	18	4	18
DIN PN25/40	165	125	100	61	20	4	18
DIN PN64	180	135	100	61	26	4	22
DIN PN100	195	145	100	61	28	4	26
DIN PN160	195	145	100	61	30	4	26

Size specification of plane face flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	89	24.3	4	18
ANSI 300	210	168.3	130	89	29	8	22
ANSI 600	210	168.3	130	89	38.8	8	22
ANSI 900	240	190.5	130	89	45.1	8	26
ANSI 1500	265	203.2	130	89	54.7	8	33
ANSI 2500	305	228.6	130	89	73.7	8	36
DIN PN10/16	200	160	130	89	20	8	18
DIN PN25/40	200	160	130	89	24	8	18
DIN PN64	215	170	130	89	28	8	22
DIN PN100	230	180	130	89	32	8	26
DIN PN160	230	180	130	89	36	8	26

Size specification of plane face flange DN100

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	230	190.5	155	115	24.3	8	18
ANSI 300	255	200	155	115	32.2	8	22
ANSI 600	275	215.9	155	115	45.1	8	26
ANSI 900	290	235	155	115	51.5	8	33
ANSI 1500	310	241.3	155	115	61.0	8	36
ANSI 2500	355	273	155	115	83.2	8	42
DIN PN10/16	220	180	155	115	20	8	18
DIN PN25/40	235	190	155	115	24	8	22
DIN PN64	250	200	155	115	30	8	26
DIN PN100	265	210	155	115	36	8	30
DIN PN160	265	210	155	115	40	8	30

Unit: mm

Size specification of boss flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	48	19.5	4	18
ANSI 300	165	127	100	48	22.7	8	18
ANSI 600	165	127	100	48	32.4	8	18
ANSI 900	215	165.1	100	48	45.1	8	26
ANSI 1500	215	165.1	100	48	45.1	8	26
ANSI 2500	235	171.4	100	48	57.9	8	30
DIN PN10/16	165	125	100	48	18	4	18
DIN PN25/40	165	125	100	48	20	4	18
DIN PN64	180	135	100	48	26	4	22
DIN PN100	195	145	100	48	28	4	26
DIN PN160	195	145	100	48	30	4	26

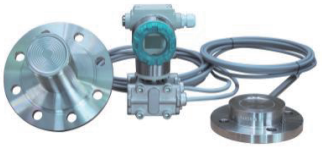
Size specification of boss flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	71	24.3	4	18
ANSI 300	210	168.3	130	71	29	8	22
ANSI 600	210	168.3	130	71	38.8	8	22
ANSI 900	240	190.5	130	71	45.1	8	26
ANSI 1500	265	203.2	130	71	54.7	8	33
ANSI 2500	305	228.6	130	71	73.7	8	36
DIN PN10/16	200	160	130	71	20	8	18
DIN PN25/40	200	160	130	71	24	8	18
DIN PN64	215	170	130	71	28	8	22
DIN PN100	230	180	130	71	32	8	26
DIN PN160	230	180	130	71	36	8	26

Size specification of boss flange DN100

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	230	190.5	155	96	24.3	8	18
ANSI 300	255	200	155	96	32.2	8	22
ANSI 600	275	215.9	155	96	45.1	8	26
ANSI 900	290	235	155	96	51.5	8	33
ANSI 1500	310	241.3	155	96	61.0	8	36
ANSI 2500	355	273	155	96	83.2	8	42
DIN PN10/16	220	180	155	96	20	8	18
DIN PN25/40	235	190	155	96	24	8	22
DIN PN64	250	200	155	96	30	8	26
DIN PN100	265	210	155	96	36	8	30
DIN PN160	265	210	155	96	40	8	30

PDS883 remote differential pressure transmitter



PDS883 remote differential pressure transmitter is mainly used to measure differential pressure, liquid level or flow and convert them into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal , FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual span)=20:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	Minimum span	Maximum span	Measuring range
C	2.5 kPa	10 kPa	-10~10 kPa
D	5 kPa	100 kPa	-100~100 kPa
E	25 kPa	500 kPa	-500~500 kPa
F	0.15 MPa	3 MPa	-0.5~3 MPa
G	0.7 MPa	14 MPa	-0.5~14 MPa

Note: HC-276 diaphragm is not recommended when the span is less than 10kPa and the flange size is less than or equal to DN50.

The negative measuring span in the table means the maximum negative migration of the corresponding span.

The upper limit of the best working pressure within the span C is ≤3.2MPa, and the maximum working pressure is 16MPa.

Reference accuracy δ

PDS883 span code	Accuracy δ
C	$\delta \leq \pm (0.04+0.06 \frac{\text{Maximum span}}{\text{Selected span}})$%, span ratio<5:1
D	δ≤±0.1% $\delta \leq \pm (0.04+0.012 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio>5:1
E, F and G	δ≤±0.1% $\delta \leq \pm (0.05+0.01 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio>5:1

Impact of temperature

δ≤± (0.06r+0.35) %/28°C, -52°C~+120°C (body). Refer to the selected sealed liquid of remote pressure transmitter for the minimum temperature

Limit of over pressure and static pressure

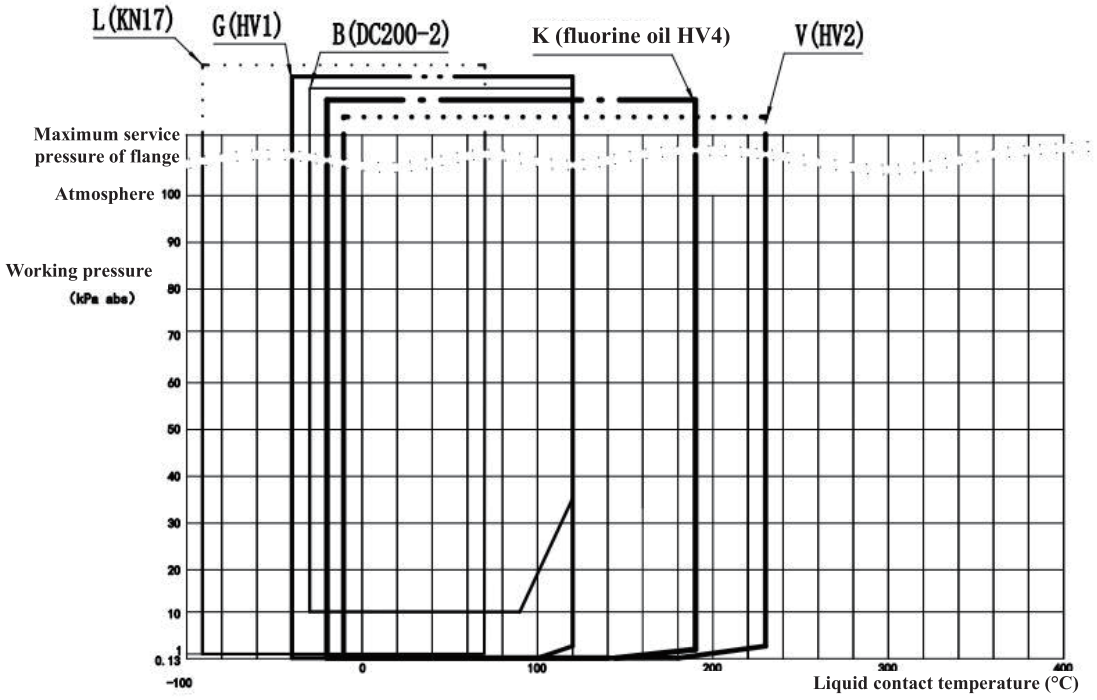
Nominal pressure of flange

◆Model

Model No.	code	Remarks				
PDS883	-	Double flange differential pressure transmitter				
Type	G A	Standard Vacuum type				
Communication protocol	H P F A B	HART (7) communication (Note 1) PROFIBUS-PA (3.02) field bus communication FF (6.1.1) field bus communication Ethernet-APL communication(Note 2) AutBus communication				
Liquid sealed in diaphragm capsule	-1 -3	Silicone oil Fluorine oil： -52°~+150°				
Measuring range	C D E F G	Span 2.5~10kPa 5~100kPa 25~500kPa 0.15~3MPa 0.7~14MPa (note 3)	Measuring range -10~10kPa -100~100kPa -500~500kPa -0.5~3MPa -0.5~14MPa			
Transmitter diaphragm	S H T M	Isolation diaphragm 316L HC - 276 Tantalum Monel				
Connection type	1 2 3	1 flange assembly on the H (high pressure) side, and 1/2NPT female thread connection on the L (low pressure) side With 2 flange assemblies of the same form With 2 flange assemblies of different forms				
Chamber bolt	1 2 3	SCM435 (35CrMo) 304 316				
Explosion-proof			HART	PA and FF	APL	Autbus
	-A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	-B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	-C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	-D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	-G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-
Housing (Note 4)	1 2 3 4	Material Aluminium Aluminium Stainless steel Stainless steel	Electrical interface 1/2 NPT female thread, two electrical interfaces M20×1.5 female thread, two electrical interfaces 1/2 NPT female thread, two electrical interfaces M20×1.5 female thread, two electrical interfaces			
Display head (Note 5)	N D E	Without display LCD display Multi-functional LCD head (only applicable to HART7)				
Installation bracket	A B E C D F N	Type Horizontal (I type) mounting bracket Horizontal (I type) mounting bracket Horizontal (I type) mounting bracket Vertical (L type) mounting bracket Vertical (L type) mounting bracket Vertical (L type) mounting bracket Without installation bracket	Material Q235 304 316 Q235 304 316			
Flange type	-P	Plane face flange				

	-T -Y		Boss flange One plane face flange and one boss flange		
Capillary length	-□□□□		The first and second digits are the length on the H side: 00m~15m (0m for direct installation, temperature ≤205°C) (Note 6) The third and fourth digits are the length on the L side: 00m~15m (0m for connection type 1, no flange on the L side)		
Liquid sealed remote pressure transmitter	G standard type	A B C F L H M N S(Note 7)	Sealed liquid DC200-1 silicone oil DC200-2 silicone oil DC704 high temperature silicone oil Fluorine oil KN17 low temperature oil KN3.2 ultra-high temperature oil Ultra-high temperature II silicone oil Ultra-high temperature III silicone oil Syltherm 800 silicone oil	Liquid contact temperature -10°C~250°C -40°C~205°C -10°C~315°C -52°C~150°C -90°C~120°C -20°C~400°C 0°C~380°C -10°C~360°C -40°C~316°C	Density 0.96g/cm^3 0.94g/cm^3 0.94g/cm^3 1.87g/cm^3 0.914g/cm^3 1.07g/cm^3 1.1g/cm^3 1.1g/cm^3 0.93g/cm^3
	A vacuum type	B L G W K	Sealed liquid DC200-2 silicone oil KN17 low temperature oil HV1 HV2 Fluorine oil HV4	Liquid contact temperature -30°C~120°C (Note 8) -90°C~70°C -40°C~120°C -10°C~230°C -20°C~190°C	Density 0.94g/cm^3 0.914g/cm^3 0.96g/cm^3 1.09g/cm^3 1.83g/cm^3
Flange size	P plane face flange	-1 -2 -3 -4	Flange size DN 25 (1 inch built-in) (Note 9) DN 50 (2 inch) DN 80 (3 inch) DN 100 (4 inch)		
	T boss flange	-2 -3 -4	Flange size DN50 (2 inch) DN80 (3 inch) DN100 (4 inch)		Insertion diameter 48mm (Note 10) 71mm (Note 11) 96mm
	Y One plane face flange and one boss flange	-1 -2 -3 -4	L side plane face flange DN50 DN80 DN80 DN100	H side boss flange DN80 (3 inch) DN100 (4 inch) DN80 (3 inch) DN100 (4 inch)	Insertion diameter 71mm (Note 11) 96mm 71mm 96mm
H side diaphragm protruding length	0 2 4 6 8 9		X_2=0mm (select this option for P plane face flange X_2=50mm X_2=100mm X_2=150mm X_2=200mm X_2=250mm		
L side diaphragm Protrusion length	0 2 4 6 8 9		X_2=0mm (select this option for P plane face flange and Y one plane face flange and one boss flange) X_2=50mm X_2=100mm X_2=150mm X_2=200mm X_2=250mm		
Material of flange diaphragm	S H T M G N K R		316L HC-276 Tantalum Monel 316L gold plated Nickel Urea class EN 1.4466 Titanium		
Material of inserted cylinder	F S H M K D		No inserted cylinder (select this option for P plane face flange) 316L HC-276 Monel Urea class 316L 2205 dual-phase steel		

Flange sealing type	1 2 3 4	RF face RJ ring joint face M FM	
Flange standard (Note 12)	-A -B -C -L -P -R -D -E -F -K -M	Standard ANSI 150 ANSI 300 ANSI 600 ANSI 900 ANSI1500 (indicate the inserting diameter when ordering) ANSI2500 (indicate the inserting diameter when ordering) DIN PN 10/16 DIN PN 25/40 DIN PN 64 DIN PN 100 DIN PN 160	Pressure 2.0MPa 5.0MPa 11MPa 15MPa 26MPa 40MPa 1.6MPa 4.0MPa 6.4MPa 10MPa 16MPa
Material of flange	A B C D	S25C 304 316 316L	
Cleaning of measuring part	A B	Conventional Degreasing treatment	
Additional options	/××	Refer to the additional options table	



Vacuum and temperature curves of filling liquid

◆Additional options

Item	Remarks		Code (Note 13)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management		A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output		A11
Additional certification	EU SIL CE V&V Russian SIL Commonwealth of Independent States EAC020		C01 C02 C03 C04 C05
APL communication method	HART-IP PROFINET		AH AP
Structural form	High temperature direct-coupled type (applicable to capillary 0m at the H side with range of medium temperature 205°C~250°C)		G01
Protection treatment (Note 14)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone) Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea) Corrosion grade C5-I: High humidity and severe corrosion area		P10 P11 P12
Flush ring	Material / Thread 304 / 1/4 NPT+plug 316L / 1/4 NPT+plug 304 / 1/2 NPT+plug 316L / 1/2 NPT+plug	X: If X is 1, it means 1 flush hole If X is 2, it means 2 flush holes	G30X G31X G32X G33X
Anti-corrosion coating	Teflon diaphragm (only applicable to DN50 and DN80 plane face flange and working pressure ≥0kPa) PTFE coating (only applicable to 316L and HC-276, and only for weakly corrosive media under negative pressure) PFA coating (only applicable to 316L and HC-276, and working pressure ≥0kPa)		G40 G41 G42
Diaphragm processing	Gold plating inside the flange diaphragm		J01
Companion flange	Type	Material	
	WN hubbed butt welding	S25C 304 316 316L	F50 G50 H50 K50
	PL plate-type flat welding	S25C 304 316 316L	F52 G52 H52 K52
	SO hubbed flat welding	S25C 304 316 316L	F53 G53 H53 K53
	TH thread flange	S25C 304 316 316L	F54 G54 H54 K54
Mounting accessories of flange	Carbon steel bolt+spiral wound gasket Carbon steel bolt + tetrafluoroethylene Carbon steel bolt+octagonal gasket Stainless steel bolt+spiral wound gasket Stainless steel bolt+polytetrafluoroethylene Stainless steel bolt+octagonal gasket (Note: the material of stainless steel bolt is 304 by default)		G56 G57 H56 G58 G59 H58

Electrical connector	Specification and dimension	Material	
	M20×1.5 electrical connector + 1 sealing plug	Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug	Plastic	G61
	M20×1.5 one sealing plug	304	G62
	M20×1.5 sealing plug（EAC）	316L	G63
	1/2 NPT sealing plug（EAC）	316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug	316	G70
	1/2NPT flameproof electrical connector + 1 sealing plug	316	G71
	1/2 NPT one sealing plug	304	G72
	1/2 NPT one sealing plug	316	G73
	M20×1.5 one sealing plug	316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX\IECEx)	316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)	316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)	316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)	316L	G78
Lightning prevention	Lightning prevention terminal board		F20
Lithium battery	The content of copper and zinc on the surface of medium contact parts is ≤0.5%, and the content of copper and zinc on the surface of other exposed parts is ≤1%.		LD
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).		NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).		A1
Document	Delivery and acceptance document (Note 15)		D1
Mounting thread of body	M10 (If this option is not selected, 7/16-20UNF inch thread is determined by default)		E2
Language	English (product manual, packing list, product note and main nameplate are all in English)		L01
	Russian (product manual, packing list, product note and main nameplate are all in Russian)		L02
	French (product manual, packing list, product note and main nameplate are all in French)		L03
Display unit	PV Unit		Code
	%		U01
	mA		U20
	Pa		U21
	kPa		U22
	MPa		U23
	gf/cm^2		U24
	kgf/cm^2		U25
	mmH_2O		U26
	mH_2O		U27
	inH_2O		U28
	ftH_2O		U29
	mbar		U30
	bar		U31
	psi		U32
	mmHg		U33
	inHg		U34
	Torr		U35
	Atm		U36
	$i4H_2O$ (inches of water 4°C)		U37
	$m4H_2O$ (millimeter of water 4°C)		U38

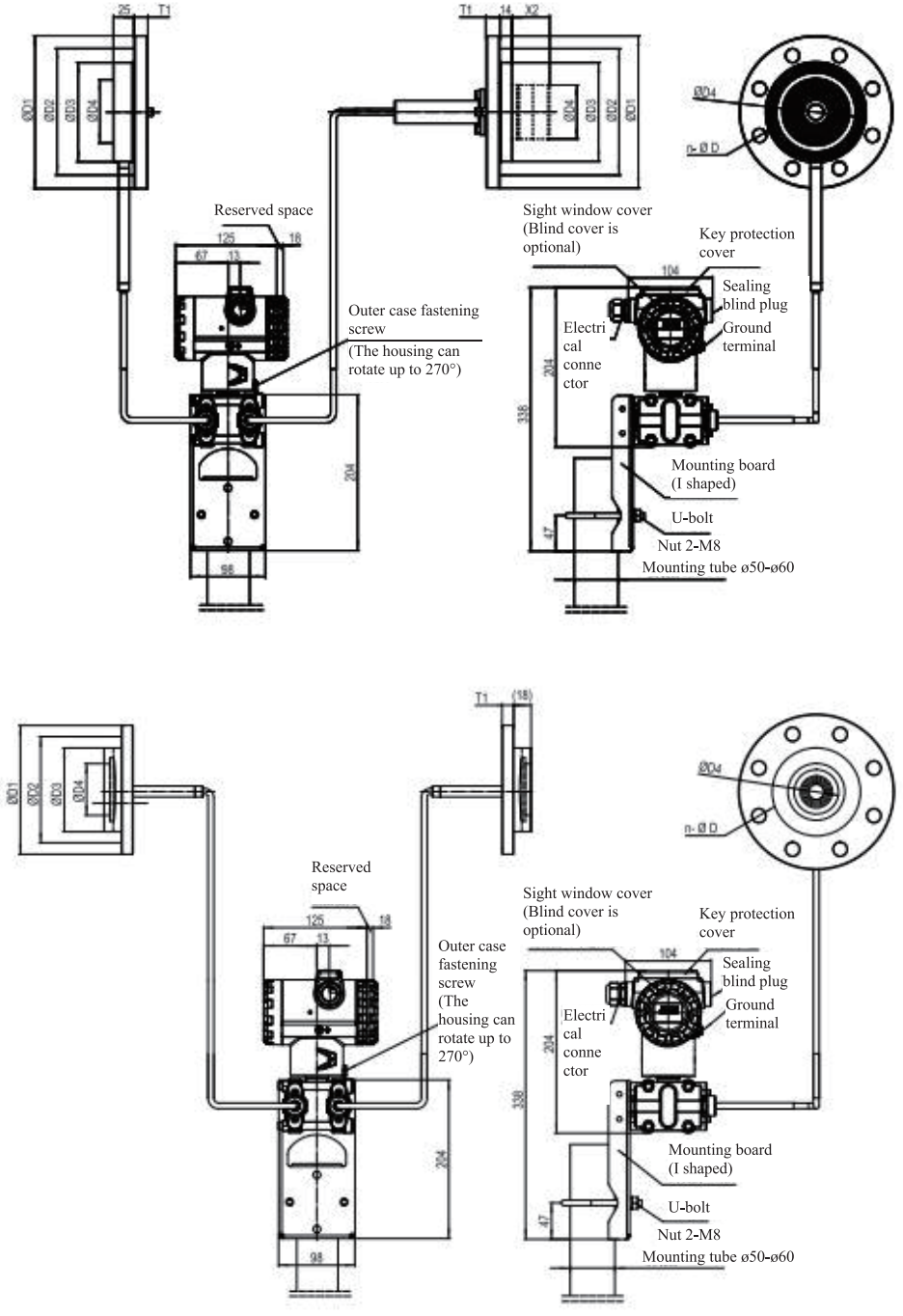
Special reminder

※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.
Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.
Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.
Note 3: P, R can not be selected for flange standard.
Note 4: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.
Note 5: The default display is pressure value, and the other display modes are described in "Additional Options".

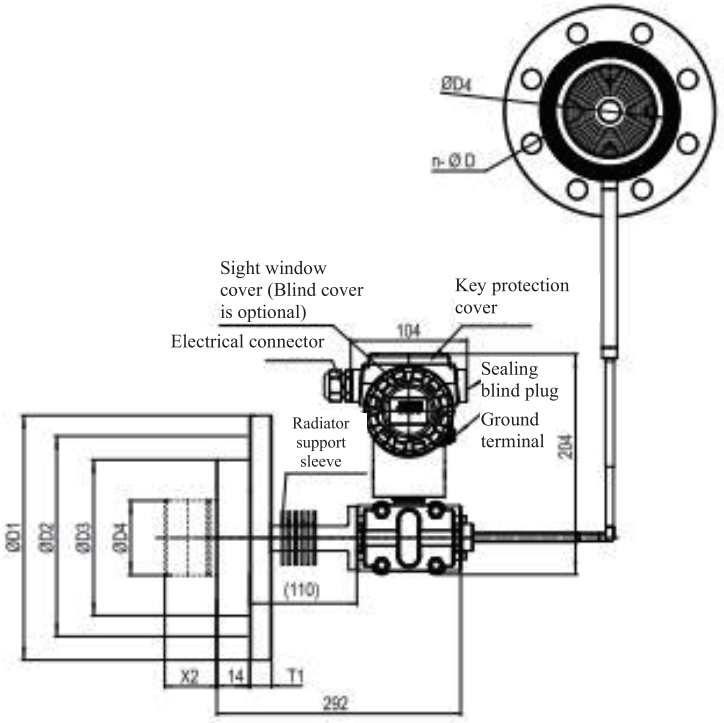
Note 6: When the length on H side is 0 m, the pressure must be less than 10 MPa, the flange standard shall not be L, P, R, M, and the process temperature shall be less than 205°C. At 205°C~250°C, G01 nearby might be selected (filling oil A).
Note 7: It shall not be used in the vacuum state. There is a limit to the minimum static pressure limit, please consult us for details.
Note 8: When the operating temperature is less than 90°C, the minimum operating pressure shall be 10kPa(abs); When 80°C< operating temperature ≤120°C, the operating pressure shall not be less than 50 kPa (abs).
Note 9: When filling oil B is used for built in and DN50 plane face flange, the capillary shall be ≤10 m; if other oil is used as the filling liquid, the capillary shall be≤8 m.
Note 10: The capillary shall be ≤3m. Please consult for special length.
Note 11: When filling oil B is used, the capillary shall be ≤10 m; if other oil is used as the filling liquid, the capillary shall be≤8 m.
Note 12: Serial numbers A, B, C, L, P, and R are adapted to American systems in HG20615-2009~HG20635-2009 and GB/T9112-2000~GB/T9131-2000.
Serial numbers D, E, F, K and M are adapted to European system in HG20592-2009~HG20614-2009 and GB/T9112-2000~GB/T9131-2000.
Note 13: The options shall be separated with a "/", for example "/P10/G61/F20".
Note 14: If the housings in P11 and P12 are selected, please choose 1 or 2.
Note 15: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

◆Overall and installation size of PDS883

Unit: mm



PDS883P: DN25 built in plane face flange



H side (front) high temperature direct-coupled

Note: D4 is the inner diameter of washer contact surface or the outer diameter of inserted cylinder.

The insertion depth of X2 can be selected from 50mm, 100mm, 150mm, 200mm and 250mm, or be customized according to the working conditions at site.

Size specification of plane face flange DN25 (embedded)

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	110	79.4	66	34	12.7	4	16
ANSI 300	125	88.9	66	34	15.9	4	18
ANSI 600	125	88.9	66	34	17.5	4	18
ANSI 900	150	101.6	66	34	28.6	4	26
DIN PN10/16	115	85	66	34	18	4	14
DIN PN25/40	115	85	66	34	18	4	14
DIN PN64/100	140	100	66	34	24	4	18

Size specification of plane face flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	61	19.5	4	18
ANSI 300	165	127	100	61	22.7	8	18
ANSI 600	165	127	100	61	32.4	8	18
ANSI 900	215	165.1	100	61	45.1	8	26
ANSI 1500	215	165.1	100	61	45.1	8	26
ANSI 2500	235	171.4	100	61	57.9	8	30
DIN PN10/16	165	125	100	61	18	4	18
DIN PN25/40	165	125	100	61	20	4	18
DIN PN64	180	135	100	61	26	4	22
DIN PN100	195	145	100	61	28	4	26
DIN PN160	195	145	100	61	30	4	26

Size specification of plane face flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	89	24.3	4	18
ANSI 300	210	168.3	130	89	29	8	22
ANSI 600	210	168.3	130	89	38.8	8	22
ANSI 900	240	190.5	130	89	45.1	8	26
ANSI 1500	265	203.2	130	89	54.7	8	33
ANSI 2500	305	228.6	130	89	73.7	8	36
DIN PN10/16	200	160	130	89	20	8	18
DIN PN25/40	200	160	130	89	24	8	18
DIN PN64	215	170	130	89	28	8	22
DIN PN100	230	180	130	89	32	8	26
DIN PN160	230	180	130	89	36	8	26

Size specification of plane face flange DN100

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	230	190.5	155	115	24.3	8	18
ANSI 300	255	200	155	115	32.2	8	22
ANSI 600	275	215.9	155	115	45.1	8	26
ANSI 900	290	235	155	115	51.5	8	33
ANSI 1500	310	241.3	155	115	61.0	8	36
ANSI 2500	355	273	155	115	83.2	8	42
DIN PN10/16	220	180	155	115	20	8	18
DIN PN25/40	235	190	155	115	24	8	22
DIN PN64	250	200	155	115	30	8	26
DIN PN100	265	210	155	115	36	8	30
DIN PN160	265	210	155	115	40	8	30

Size specification of boss flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	48	19.5	4	18
ANSI 300	165	127	100	48	22.7	8	18
ANSI 600	165	127	100	48	32.4	8	18
ANSI 900	215	165.1	100	48	45.1	8	26
ANSI 1500	215	165.1	100	48	45.1	8	26
ANSI 2500	235	171.4	100	48	57.9	8	30
DIN PN10/16	165	125	100	48	18	4	18
DIN PN25/40	165	125	100	48	20	4	18
DIN PN64	180	135	100	48	26	4	22
DIN PN100	195	145	100	48	28	4	26
DIN PN160	195	145	100	48	30	4	26

Size specification of boss flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	71	24.3	4	18
ANSI 300	210	168.3	130	71	29	8	22
ANSI 600	210	168.3	130	71	38.8	8	22
ANSI 900	240	190.5	130	71	45.1	8	26
ANSI 1500	265	203.2	130	71	54.7	8	33
ANSI 2500	305	228.6	130	71	73.7	8	36
DIN PN10/16	200	160	130	71	20	8	18
DIN PN25/40	200	160	130	71	24	8	18
DIN PN64	215	170	130	71	28	8	22
DIN PN100	230	180	130	71	32	8	26
DIN PN160	230	180	130	71	36	8	26

Size specification of boss flange DN100

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	230	190.5	155	96	24.3	8	18
ANSI 300	255	200	155	96	32.2	8	22
ANSI 600	275	215.9	155	96	45.1	8	26
ANSI 900	290	235	155	96	51.5	8	33
ANSI 1500	310	241.3	155	96	61.0	8	36
ANSI 2500	355	273	155	96	83.2	8	42
DIN PN10/16	220	180	155	96	20	8	18
DIN PN25/40	235	190	155	96	24	8	22
DIN PN64	250	200	155	96	30	8	26
DIN PN100	265	210	155	96	36	8	30
DIN PN160	265	210	155	96	40	8	30

PDS800 smart pressure transmitter

Special solution

PDS813 paper-making type pressure transmitter
PDS815 hygienic type transmitter
PDS879 ultra-high temperature pressure transmitter
SIC-H375 handheld Bluetooth communicator
Modem+explosion-proof cell-phone handheld communicator
G8 valve manifold
SICV valve manifold



It can provide complete solutions for paper making, food, pharmacy, photo-thermal power generation, petrochemical industry and other working conditions.

PDS813 paper-making type pressure transmitter



PDS813 is a high-precision paper-making type pressure transmitter, with special process connection, front pressure sensing unit, and diaphragm flush with the inner wall of pipe, which solves the blockage risk of high-viscosity medium. It can be used in paper-making and other working conditions of high blockage risks. Its function is to convert the detected pressure signal into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual range)=30:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	Minimum span	Maximum span	Measuring range	Overload limit
B	10.0 kPa	100 kPa	-100~100 kPa	600 kPa
C	15 kPa	400 kPa	-100~400 kPa	1.5 MPa
D	0.1 MPa	3.0 MPa	-0.1~3.0 MPa	5.0 MPa
E	0.2 MPa	6.3 MPa	-0.1~6.3 MPa	10 MPa

Note: The long-term working pressure of PDS813 is recommended to be higher than 50kPa (ABS).

Reference accuracy δ

PDS813 span code	Accuracy δ
B	δ≤±0.04% δ≤± (0.004+0.0036 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1
C	δ≤±0.04% δ≤± (0.015+0.0025 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1
D and E	δ≤±0.025% δ≤± (0.01+0.0015 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1

Impact of temperature

δ≤±(0.06r+0.01)%/28°C, -60°C~+80°C

Process temperature range

-40°C~+120°C

◆Model

Model No.	code	Remarks				
PDS813	-	Paper-making type pressure transmitter				
Type	G	Gauge pressure type				
Communication protocol	H	HART (7) communication (Note 1)				
	P	PROFIBUS-PA (3.02) field bus communication				
	F	FF (6.1.1) field bus communication				
	A	Ethernet-APL communication(Note 2)				
	B	AutBus communication				
Liquid sealed in diaphragm capsule		Sealed liquid	Cleaning of measuring part			
	-1	Silicone oil	Conventional			
	-2	Silicone oil	Degreasing treatment			
Measuring range		Span	Measuring range	Overload limit		
	B	10~100kPa	-100~100kPa	600kPa		
	C	15~400kPa	-100~400kPa	1.5MPa		
	D	0.1~3.0MPa	-0.1~3.0MPa	4.5MPa		
	E	0.2~6.3MPa	-0.1~6.3MPa	10MPa		
Material of liquid contact part		Isolation diaphragm	Relevant liquid contact parts			
	S	316L	316			
	H	HC-276	316			
Process connection	0	1" standpipe joint, without welded short jacket (for span C only)				
	1	1" standpipe joint, with welded short jacket (for span C only)				
	2	1-1/2" (M44×1.25) thread joint, without screw-welded short jacket				
	3	1-1/2" (M44×1.25) thread joint, with screw-welded short jacket				
Explosion-proof			HART	PA and FF	APL	Autbus
	-A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	-B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	-C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	-D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	-G	ATEX: Intrinsic safety type II 1 G Ex ia IIC T4 Ga ATEX: Explosion-proof type II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	-P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-
Housing (Note 3)		Material	Electrical interface			
	1	Aluminium	1/2 NPT female thread, two electrical interfaces			
	2	Aluminium	M20×1.5 female thread, two electrical interfaces			
	3	Stainless steel	1/2 NPT female thread, two electrical interfaces			
	4	Stainless steel	M20×1.5 female thread, two electrical interfaces			
Display head (Note 4)	N	Without display				
	D	LCD display				
	E	Multi-functional LCD head (only applicable to HART7)				
Installation bracket	N	Without installation bracket				
Additional options	/××	Refer to the additional options table				

◆Additional options

Item	Remarks			Code (Note 5)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management			A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output			A11
Additional certification	EU SIL CE V&V Russian SIL Commonwealth of Independent States EAC020			C01 C02 C03 C04 C05
APL communication method	HART-IP PROFINET			AH AP
Protection treatment (Note 6)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone) Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea) Corrosion grade C5-I: High humidity and severe corrosion area			P10 P11 P12
Electrical connector	Specification and dimension		Material	
	M20×1.5 electrical connector + 1 sealing plug		Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug		Plastic	G61
	M20×1.5 one sealing plug		304	G62
	M20×1.5 sealing plug（EAC）		316L	G63
	1/2 NPT sealing plug（EAC）		316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug (NEPSI)		316	G70
	1/2NPT flameproof electrical plug + one sealing plug (NEPSI)		316	G71
	1/2 NPT one sealing plug		304	G72
	1/2 NPT one sealing plug		316	G73
	M20×1.5 one sealing plug		316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX/IECEx)		316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)		316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)		316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)		316L	G78
Lightning prevention	Lightning prevention terminal board			F20
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).			NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).			A1
Document	Delivery of acceptance documents (Note 7)			D1
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)			L01 L02 L03
Display unit	PV Unit	Code	PV Unit	Code
	%	U01	ftH_2O	U29
	mA	U20	mbar	U30
	Pa	U21	bar	U31
	kPa	U22	psi	U32
	MPa	U23	mmHg	U33
	gf/cm^2	U24	inHg	U34
	kgf/cm^2	U25	Torr	U35
	mmH_2O	U26	Atm	U36
	mH_2O	U27	$i4H_2O$ (inches of water 4°C)	U37
	inH_2O	U28	$m4H_2O$ (millimeter of water 4°C)	U38

Special reminder

※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.

Note 4: The default display is pressure value, and the other display modes are described in "Additional Options".

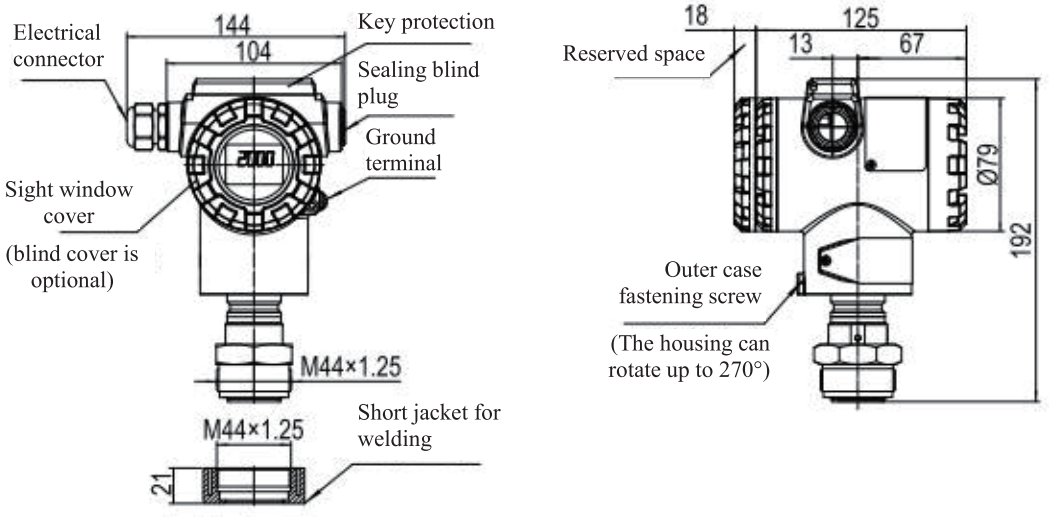
Note 5: The options shall be separated with a “/”, for example “/P10/G61/A1”.

Note 6: If the housings in P11 and P12 are selected, please choose 1 or 2.

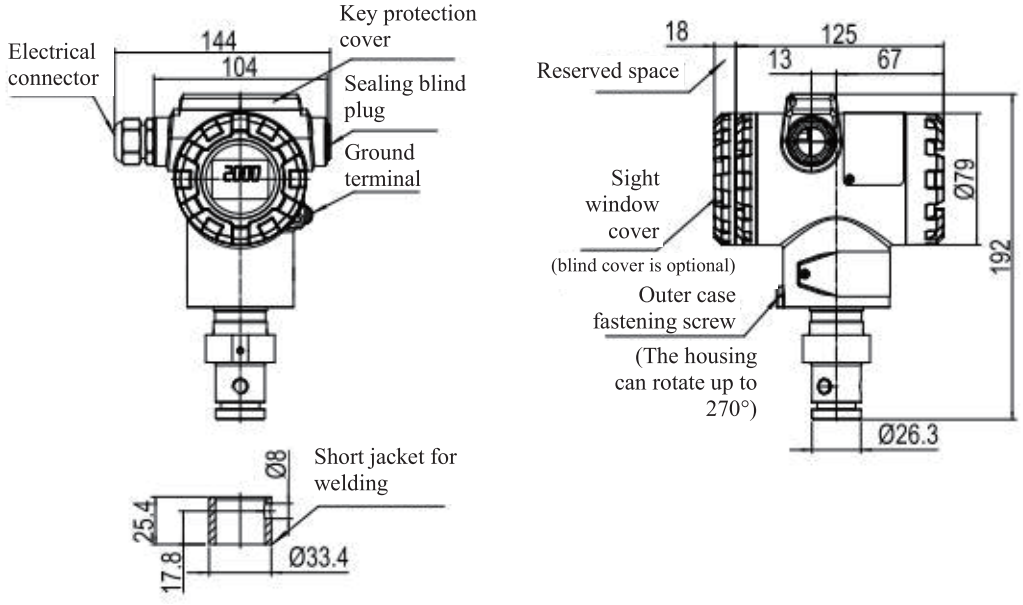
Note 7: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

◆Overall and installation size of PDS813

Unit: mm



PDS813. M44×1.25 flush mounting



PDS813. 1" flush mounting

PDS815 hygienic type pressure transmitter



PDS815 hygienic type pressure transmitter is suitable for measuring the pressure and differential pressure of liquid and gas, liquid level or flow in food processing, chemical and pharmaceutical industries, and converting them into 4mA~20mA DC current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.

◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual span)=100:1

Long-term stability

δ≤±0.1FS%/10 years

Finish degree of liquid-contacting component

In line with 3A hygienic standard, finish degree of liquid receiving material surface Ra<0.8μm (31.5μin), or Ra<0.38μm (15 μin.)

Span of transmitter

Span code	PDS815G, PDS815B gauge pressure type				PDS815A, PDS815C absolute pressure type			
	Minimum span	Maximum span	Measuring range	Overload limit	Minimum span	Maximum span	Measuring range	Overload limit
B	10.0 kPa	100 kPa	-100 kPa~100 kPa	600 kPa	0.5 kPa	25 kPa	0 kPa~25 kPa(A)	300 kPa(A)
C	4.0 kPa	400 kPa	-100 kPa~400 kPa	1.5 MPa	2.6 kPa	130 kPa	0 kPa~130 kPa(A)	500 kPa(A)
D	0.03 MPa	3 MPa	-0.1 MPa~3 MPa	4.5 MPa	5.0 kPa	500 kPa	0 kPa~500 kPa(A)	1 MPa(A)
E	0.2 MPa	4 MPa	-0.1 MPa~4 MPa	6 MPa	0.03 MPa	3 MPa	0 MPa~3 MPa(A)	4.5MPa(A)

Note: 1) The long-term working pressure of PDS815 gauge pressure type is recommended to be higher than 50kPa (ABS).

2) If span D and E is selected for clamp type, clamps of high pressure structure are recommended.

Span code	PDS815W, PDS815S differential pressure type		
	Minimum span	Maximum span	Measuring range
C	2 kPa	10 kPa	-10 kPa~10 kPa
D	5 kPa	100 kPa	-100 kPa~100 kPa
E	16 kPa	500 kPa	-500 kPa~500 kPa
F	0.1 MPa	3 MPa	-0.5 MPa~3 MPa
G	0.4 MPa	4 MPa	-0.5 MPa~4 MPa

Note: 1) HC-276 diaphragm is not recommended when the span is less than 10kPa and the flange size is less than or equal to DN50.

2) The negative number in the table means the maximum negative migration of the corresponding span.

3) If span F and G is selected for clamp type, high pressure liquid receiving structure is recommended.

Reference accuracy δ

Span code of PDS815G gauge pressure direct-coupled type	Span code of PDS815A absolute pressure direct-coupled type	Accuracy δ
B	B and C	δ≤±0.04% δ≤±(0.004+0.0036 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1
C, D, E	D and E	δ≤±0.04% δ≤±(0.015+0.0025 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1

Span code of PDS815B gauge pressure remote single flange type	Span code of PDS815C absolute pressure remote single flange type	Accuracy δ
B, C, D, E	B, C, D, E	δ≤±0.1% δ≤±(0.04+0.012 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio>5:1

Span code of PDS815W differential pressure liquid level single flange type	Accuracy δ
C	δ≤±(0.04+0.035 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio≤5:1
D, E, F and G	δ≤±0.04% δ≤±(0.02+0.002 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio >10:1

Span code of PDS815S differential pressure liquid level double flange type	Accuracy δ
C	δ≤±(0.04+0.06 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio≤5:1
D	δ≤±0.1% δ≤±(0.04+0.012 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio>5:1
E, F and G	δ≤±0.1% δ≤±(0.05+0.01 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio>5:1

Impact of temperature

PDS815G, PDS815A direct-coupled: δ≤(0.06*r+0.01)%/28°C -60°C~+80°C

PDS815W differential pressure liquid level single flange type: δ≤±(0.06r+0.2)%/28°C -60°C~+80°C (body). Please refer to the selected sealing liquid for the lowest temperature.

PDS815B, C, S remote flange type: δ≤±(0.06r+0.35)%/28°C -60°C~+80°C (body). Please refer to the selected sealing liquid for the lowest temperature.

Process temperature range

Direct-coupled: -40°C~+120°C

Flange type: See the option of sealing liquid in product models.

Limit of over pressure or static pressure

Direct-coupled: maximum operating pressure 6MPa

Flange type: the nominal pressure of flange and the minimum value in the max. span of transmitter

◆Model

Model No.	code		Remarks				
PDS815	-		Hygienic type pressure transmitter				
Type	G A B C W S		Gauge pressure direct-coupled Absolute pressure direct-coupled Gauge pressure remote single flange type Absolute pressure remote single flange type Differential pressure liquid level single flange type Differential pressure remote double flange type				
Communication protocol	H P F A B		HART (7) communication (Note 1) PROFIBUS-PA (3.02) field bus communication FF (6.1.1) field bus communication Ethernet-APL communication(Note 2) AutBus communication				
Sealing liquid (Note 3)			Sealed liquid	Liquid contact temperature	Density		
	-1		Coconut oil-M20	-15°C~225°C	0.94g/cm^3		
	-2		Propylene glycol	-40°C~150°C	1.02g/cm^3(Not applicable to absolute pressure)		
	-3		Glycerin and water	-10°C~95°C	1.13g/cm^3(Not applicable to absolute pressure)		
	-4		HV3	-15°C~140°C	0.95g/cm^3		
	-5		pmx 200 silicone oil	-15°C~205°C	0.97g/cm^3		
Measuring range	Gauge pressure PDS815G PDS815B		Span		Measuring range		
		B	10kPa—100kPa		-100kPa—100kPa		
		C	4kPa—400kPa		-100kPa—400kPa		
		D	0.03MPa—3MPa		-0.1MPa—3MPa		
		E	0.2MPa—4MPa		-0.1MPa—4MPa		
	Absolute pressure PDS815A PDS815C		Span		Measuring range		
		B	0.5kPa—25kPa(A)		0kPa—25kPa(A)		
		C	2.6kPa—130kPa(A)		0kPa—130kPa(A)		
		D	5kPa—500kPa(A)		0kPa—500kPa(A)		
		E	0.3MPa—3MPa(A)		0MPa—3MPa(A)		
	Differential pressure PDS815W PDS815S		Span		Measuring range		
		C	2kPa—10kPa		-10kPa—10kPa		
		D	5kPa—100kPa		-100kPa—100kPa		
		E	16kPa—500kPa		-500kPa—500kPa		
		F	0.1MPa—3MPa		-0.5MPa—3MPa		
		G	0.4MPa—4MPa		-0.5MPa—4MPa		
Material of liquid contact part	S		Isolation diaphragm		Relevant liquid contact parts		
	H		316L		316		
	C		HC-276		316		
	G		HC-276		HC-276		
			316L gold plated		316		
Process connection	□□□□□□		The first and second digits are the type, standard and nominal size of process connection. See "option of process connection" for codes of options. The third and fourth digits are the length of the H side front remote capillary (00m-10m). "00" for direct-coupled and differential pressure liquid level single flange type and double flange H side front installation, medium temperature ≤ 150 C. The fifth and sixth digits are the length of the H side negative remote capillary (00m-10m), “00” means no flange.				
Explosion-proof				HART	PA and FF	APL	Autbus
	-A		Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	-B		NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	-C		NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	-D		NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:“n” explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	-P		EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-

Housing (Note 4)		Material	Electrical interface
	1	Aluminium	1/2 NPT female thread, two electrical interfaces
	2	Aluminium	M20×1.5 female thread, two electrical interfaces
	3	Stainless steel	1/2 NPT female thread, two electrical interfaces
	4	Stainless steel	M20×1.5 female thread, two electrical
	5	Stainless steel (surface polishing treatment)	1/2 NPT female thread, two electrical interfaces
	6	Stainless steel (surface polishing treatment)	M20×1.5 female thread, two electrical
Display head (Note5)	N	Without display	
	D	LCD display	
	E	Multi-functional LCD head (only applicable to HART7)	
Installation bracket		Type	Material
	A	Horizontal (I type) mounting bracket	Q235
	B	Horizontal (I type) mounting bracket	304
	E	Horizontal (I type) mounting bracket	316
	C	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	Q235
	D	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	304
	F	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	316
	N	Without installation bracket (applicable to direct installation)	
Additional options	/××	Refer to the additional options table	

◆Additional options

Item	Remarks	Code (Note 6)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management	A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output	A11
Additional certification	EU SIL CE V&V Russian SIL Commonwealth of Independent States EAC020	C01 C02 C03 C04 C05
APL communicatio n method	HART-IP PROFINET	AH AP
Structural form	High temperature direct-coupled flange mounted (select when process temperature is 150°C~200°C)	G01
Treatment of liquid contact surface	Finish degree of surface Ra<0.38μm (15 μin.)	EP
Installation accessories	Clamp (304) Clamp (316) Optimum service temperature of seal ring (silicone rubber VMQ): –20°C~+150°C Optimum service temperature of seal ring (fluororubber FKM Viton): –5°C~+150°C Optimum service temperature of seal ring (EPDM): –15°C~+150°C Optimum service temperature of seal ring (HNBR): –20°C~+125°C Optimum service temperature of seal ring (PTFE): –50°C~+220°C Connector of pipe welding (304) Connector of pipe welding (316) Clamp (304), seal ring, (silicone rubber VMQ), connecting standpipe of pipe welding (304) Clamp (316), seal ring, (silicone rubber VMQ), connecting standpipe of pipe welding (316) Slotted nut (hexagonal nut might be selected for IDF-ISO2853) Installation flange	W00 W01 W02 W03 W04 W05 W06 W07 W08 W09 W10 W11 W12
Protection treatment (Note 7)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone) Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea) Corrosion grade C5-I: High humidity and severe corrosion area	P10 P11 P12

Electrical connector	Specification and dimension		Material	
	M20×1.5 electrical connector + 1 sealing plug		Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug		Plastic	G61
	M20×1.5 one sealing plug		304	G62
	M20×1.5 sealing plug（EAC）		316L	G63
	1/2 NPT sealing plug（EAC）		316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug(NEPSI)		316	G70
	1/2NPT flameproof electrical plug + one sealing plug(NEPSI)		316	G71
	1/2 NPT one sealing plug		304	G72
	1/2 NPT one sealing plug		316	G73
	M20×1.5 one sealing plug		316	G74
	M20×1.5 flameproof electrical plug + one sealing plug(EAC)		316L	G77
	1/2NPT flameproof electrical plug + one sealing plug(EAC)		316L	G78
Lightning prevention	Lightning prevention terminal board			F20
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).			A1
Document	Delivery of acceptance documents (Note 8)			D1
Mounting thread of body	M10, applicable to PDS815W liquid level and S remote double flange transmitter (if this option is not selected, 7/16-20UNF inch thread is selected by default).			E2
Language	English (product manual, packing list, product note and main nameplate are all in English)			L01
	Russian (product manual, packing list, product note and main nameplate are all in Russian)			L02
	French (product manual, packing list, product note and main nameplate are all in French)			L03
Display unit	PV Unit	Code	PV Unit	Code
	%	U01	ftH2O	U29
	mA	U20	mbar	U30
	Pa	U21	bar	U31
	kPa	U22	psi	U32
	MPa	U23	mmHg	U33
	gf/cm2	U24	inHg	U34
	kgf/cm2	U25	Torr	U35
	mmH2O	U26	Atm	U36
	mH2O	U27	i4H2O (inches of water 4°C)	U37
	inH2O	U28	m4H2O (millimeter of water 4°C)	U38

Special reminder

※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.

Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.

Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.

Note 3:Propylene glycol cannot be used as the sealing liquid for direct-coupled pressure transmitters, nor can it be used as the liquid sealed in diaphragm capsule for flange type pressure transmitter.

Note 4: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.

Note 5: The default display is pressure value, and the other display modes are described in "Additional Options".

Note 6: The options shall be separated with a “/”, for example “/P10/G61/F20”.

Note 7: If the housings in P11 and P12 are selected, please choose 1 or 2.

Note 8: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

◆ Option of process connection

Select the applicable process connection type, standard and nominal size with reference to the following table according to the design data sheet and on-site technical requirements.

Type	Applicable standard	Specification code	Nominal size	Pressure level	PDS815G\A direct-coupled	PDS815B\C remote single flange	PDS815W liquid level flange	PDS815S remote double flange	Code of applicable installation accessories
Clamp type	ASMEBPE	A1	1"	4.5MPa	Applicable	——	——	——	W00 W01 W02 W03 W04 W05 W06 W07 W08 W09 W10
		A2	1- 1/2"	6MPa	Applicable	——	——	——	
		A3	2"	6MPa	Applicable	Applicable	——	Applicable	
		A4	2 1/2"	4.5MPa	Applicable	Applicable	Applicable	Applicable	
		A5	3"	3MPa	Applicable	Applicable	Applicable	Applicable	
		A6	4"	3MPa	——	Applicable	Applicable	Applicable	
Clamp type	ISO2852	B1	25	4.5MPa	Applicable	——	——	——	
		B2	33.7/38	6MPa	Applicable	——	——	——	
		B3	40/51	6MPa	Applicable	Applicable	——	Applicable	
		B4	63.5	4.5MPa	Applicable	Applicable	Applicable	Applicable	
		B5	70/76.1	3MPa	Applicable	Applicable	Applicable	Applicable	
		B6	101.6	3MPa	——	Applicable	Applicable	Applicable	
Clamp type	DIN32676	C1	DN25	4.5MPa	Applicable	——	——	——	
		C2	DN32	6MPa	Applicable	——	——	——	
		C3	DN40	6MPa	Applicable	——	——	——	
		C4	DN50	4.5MPa	Applicable	Applicable	——	Applicable	
		C5	DN65	3MPa	Applicable	Applicable	Applicable	Applicable	
		C6	DN100	3MPa	——	Applicable	Applicable	Applicable	

Type	Applicable standard	Specification code	Nominal size	Pressure level	PDS815G\A direct-coupled	PDS815B\C remote single flange	PDS815W liquid level flange	PDS815S remote double flange	Code of applicable installation accessories
Slotted nut type	DIN11851	D1	25	PN40	Applicable	——	——	——	W02 W03 W04 W05 W06 W07 W08 W11
		D2	32	PN40	Applicable	——	——	——	
		D3	40	PN40	Applicable	——	——	——	
		D4	50	PN25	Applicable	——	——	——	
		D5	65	PN25	Applicable	Applicable	Applicable	Applicable	
		D6	80	PN25	——	Applicable	Applicable	Applicable	
		D7	100	PN25	——	Applicable	Applicable	Applicable	
		DA	25	PN40	Applicable	——	——	——	
		DB	32	PN40	Applicable	——	——	——	
		DC	40	PN40	Applicable	——	——	——	

		DD	50	PN25	Applicable	——	——	——	
		DE	65	PN25	Applicable	Applicable	Applicable	Applicable	
Slotted nut type	**SMS1145**	E1	DN32	PN25	Applicable	——	——	——	
		E2	DN40	PN25	Applicable	——	——	——	
		E3	DN50	PN25	Applicable	——	——	——	
		E4	DN65	PN25	Applicable	——	——	——	
		E5	DN80	PN16	Applicable	Applicable	Applicable	Applicable	
		E6	DN100	PN16	Applicable	Applicable	Applicable	Applicable	
		EA	DN32	PN25	Applicable	——	——	——	
		EB	DN40	PN25	Applicable	——	——	——	
		EC	DN50	PN25	Applicable	——	——	——	
		ED	DN65	PN25	Applicable	Applicable	Applicable	Applicable	
Slotted nut type	**IDF-ISO2853**	F1	38	PN25	Applicable	Applicable	Applicable	Applicable	
		F2	51	PN25	Applicable	——	——	——	
		F3	63.5	PN25	Applicable	Applicable	Applicable	Applicable	
		F4	76.1	PN16	Applicable	Applicable	Applicable	Applicable	
		F5	101.6	PN16	Applicable	Applicable	Applicable	Applicable	
		FA	38	PN25	Applicable	——	——	——	
		FB	51	PN25	Applicable	——	——	——	
		FC	63.5	PN25	Applicable	Applicable	Applicable	Applicable	

Type	**Applicable standard**	**Specification code**	**Nominal size**	**Pressure level**	**PDS815G\A direct-coupled**	**PDS815B\C remote single flange**	**PDS815W liquid level flange**	**PDS815S remote double flange**	**Code of applicable installation accessories**
Slotted nut type	**RJT-BS4825-5**	G1	38.1	PN25	Applicable	——	——	——	W02 W03 W04 W05 W06 W07 W08
		G2	50.8	PN25	Applicable	——	——	——	
		G3	63.5	PN25	Applicable	Applicable	Applicable	Applicable	
		G4	76.1	PN16	Applicable	Applicable	Applicable	Applicable	
		G5	101.6	PN16	Applicable	Applicable	Applicable	Applicable	
		GA	38.1	PN25	Applicable	——	——	——	
		GB	50.8	PN25	Applicable	——	——	——	
		GC	63.5	PN25	Applicable	Applicable	Applicable	Applicable	
VARIVENT pipe joint type	**VARIVENT**	H1	Type F, applicable to pipe DN25—32	PN40	Applicable	Applicable	——	——	W02 W03 W04 W05
		H2	Type N, applicable to pipe DN40—162	PN40	Applicable	Applicable	Applicable	Applicable	

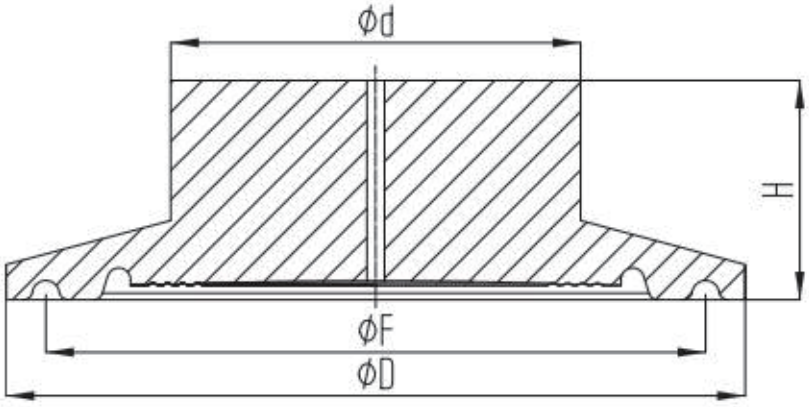
DRD plane face flange type	**DRD**	J1	DN50	PN25	Applicable	Applicable	Applicable	Applicable	W06 W07
Plane face flange type	**European and American systems in HG20592~HG20635-2009 and GB/T9112~GB/T9131-2000**	K1	DN50	DIN PN10~16	Applicable	Applicable	Applicable	Applicable	W06
		K2	DN50	DIN PN25~40	Applicable	Applicable	Applicable	Applicable	
		K3	DN50	DIN PN64	Applicable	Applicable	Applicable	Applicable	
		K4	DN50	DIN N100	Applicable	Applicable	Applicable	Applicable	
		K5	DN50	ANSI 150	Applicable	Applicable	Applicable	Applicable	
		K6	DN50	ANSI 300	Applicable	Applicable	Applicable	Applicable	
		K7	DN50	ANSI 600	Applicable	Applicable	Applicable	Applicable	
		K8	DN50	ANSI 900	Applicable	Applicable	Applicable	Applicable	
Thin-walled plane face flange type	**Customized**	M1	DN25	PN16	Applicable	——	——	——	W02 W03 W04 W05
		M2	DN50	PN16	Applicable	Applicable	Applicable	Applicable	
		M3	DN65	PN16	Applicable	Applicable	Applicable	Applicable	
		M4	DN80	PN16	Applicable	Applicable	Applicable	Applicable	
Clamp boss flange type	**Customized**	N1	DN100 (insertion depth 50)	PN40	Applicable	Applicable	Applicable	Applicable	W00 W01 W06 W07 W08
		N2	DN100 (insertion depth 100)	PN40	Applicable	Applicable	Applicable	Applicable	

◆Type, size and pressure level of process connection

1. Clamp type

Applicable to three standards of ASME BPE, ISO2852 and DIN32676, maximum operating pressure 6MPa. When the span of clamp type is ≥2.5MPa, high pressure liquid receiving structure should adopted to withstand short-term high-temperature cleaning, with the maximum temperature not exceeding 150 °C.

Unit: mm



The type code for ASME BPE standard process connection is A. The size for outer diameter of pipe is Φd, and the standard for pipe joint is ASME BPE 2016.							
Model code of process connection	**Nominal size**	**Maximum operating pressure**	**ΦD**	**ΦF**	**Φd**	**H**	**Material**
A1	1"	4.5MPa	50.4	43.6	25.4	28.58	316
A2	1 1/2"	6MPa	50.4	43.6	38.1	28.58	
A3	2"	6MPa	63.9	56.3	50.8	28.58	
A4	2 1/2"	4.5MPa	77.4	70.6	63.5	28.58	
A5	3"	3MPa	90.9	83.3	76.2	28.58	
A6	4"	3MPa	118.9	110.3	101.6	28.58	
The type code for ISO2852 standard process connection is B. The size for outer diameter of pipe is Φd, and the standard for pipe joint is ISO 2037.							
Model code of process connection	**Nominal size**	**Maximum operating pressure**	**ΦD**	**ΦF**	**Φd**	**H**	**Material**
B1	25	4.5MPa	50.5	43.5	25.6	21.5	316
B2	33.7/38	6MPa	50.5	43.5	38	21.5	
B3	40/51	6MPa	64	56.5	51	21.5	
B4	63.5	4.5MPa	77.5	70.5	63.5	21.5	
B5	70/76.1	3MPa	91	83.5	76.1	21.5	
B6	101.6	3MPa	106	110	101.6	21.5	

The type code for DIN32676 standard process connection is C. The size for outer diameter of pipe is Φd, and the standard for pipe joint is DIN 11850.							
Model code of process connection	**Nominal size**	**Maximum operating pressure**	**ΦD**	**ΦF**	**Φd**	**H**	**Material**
C1	DN25	4.5MPa	50.5	43.5	26	21.5	316
C2	DN32	6MPa	50.5	43.5	32	21.5	
C3	DN40	6MPa	50.5	43.5	38	21.5	
C4	DN50	4.5MPa	64	56.5	50	21.5	
C5	DN65	3MPa	91	83.5	66	28	
C6	DN100	3MPa	119	110	100	28	

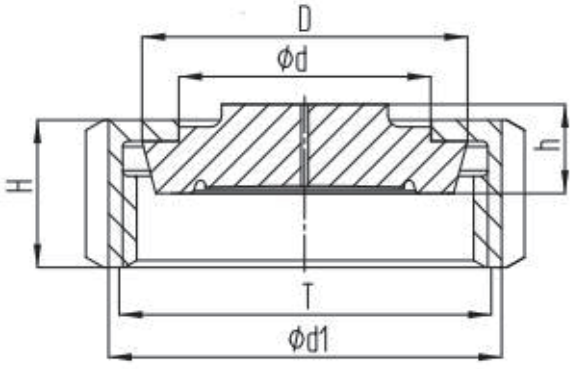
2. Slotted nut type

Applicable to four standards, such as DIN11851, SMS1145, IDF-ISO2853 and APV-RJT-BS4825.

The type code for DIN11851 standard process connection is D. The size for outer diameter of pipe is Φd, and the standard for pipe joint is DIN 11850.

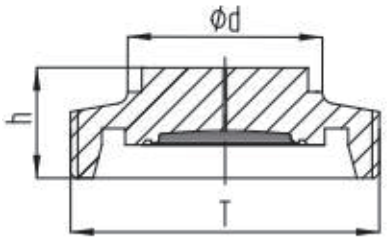
Unit: mm

DIN11851 slotted nut



Model code of process connection	**Nominal size**	**Pressure level**	**T**	**D**	**Φd**	**Φd1**	**H**	**h**	**Material**
D1	DN25	PN40	Rd52×1/6	44	35	56	21	22	316
D2	DN32	PN40	Rd58×1/6	50	41	62	21	25	
D3	DN40	PN40	Rd65×1/6	56	48	70	21	26	
D4	DN50	PN25	Rd78×1/6	68.5	61	84	22	28	
D5	DN65	PN25	Rd95×1/6	86	79	102	25	32	
D6	DN80	PN25	Rd110×1/4	100	93	117	29	37	
D7	DN100	PN25	Rd130×1/4	121	114	138	31	44	

DIN11851 male thread joint

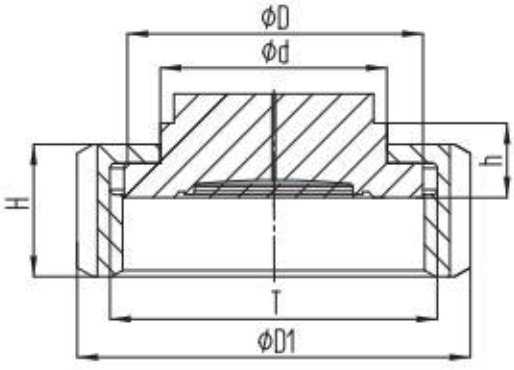


Model code of process connection	Nominal size	Pressure level	T	Φd	h	Material
DA	DN25	PN40	Rd52×1/6	29	29	316
DB	DN32	PN40	Rd58×1/6	35	32	
DC	DN40	PN40	Rd65×1/6	41	38	
DD	DN50	PN25	Rd78×1/6	53	35	
DE	DN65	PN25	Rd95×1/6	70	40	

The type code for SMS standard process connection is E. The size for outer diameter of pipe is Φd, and the standard for pipe joint is SMS 3008(ISO 2037).

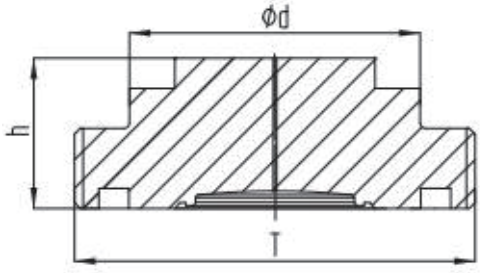
Unit: mm

SMS1145 slotted nut



Model code of process connection	Nominal size	Pressure level	T	ΦD	Φd	ΦD1	H	h	Material
E1	DN32	PN25	Rd48×1/6	44.6	31.8	58	23	11	316
E2	DN40	PN25	Rd60×1/6	56.4	38.1	72	23	11	
E3	DN50	PN25	Rd70×1/6	66.6	50.8	82	23	11	
E4	DN65	PN25	Rd85×1/6	81.6	65.5	98	25	11	
E5	DN80	PN16	Rd98×1/6	94.4	76.2	112	26	12	
E6	DN100	PN16	Rd124×1/6	120.5	101.6	140	28	14	

SMS1145 male thread joint type

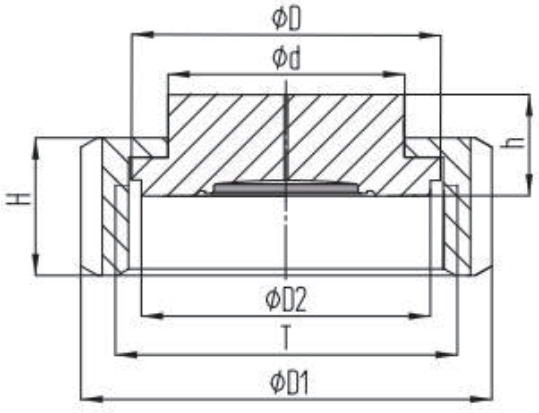


Model code of process connection	Nominal size	Pressure level	T	Φd	h	Material
EA	DN32	PN25	Rd48×1/6	31.8	21	316
EB	DN40	PN25	Rd60×1/6	38.1	21	
EC	DN50	PN25	Rd70×1/6	50.8	21	
ED	DN65	PN25	Rd85×1/6	65.5	23	

The type code for IDF-2853 standard process connection is F. The pipe size is Φd. Lock nuts are divided into slotted nuts and hexagonal nuts). The standard for pipe joint is ISO 2037. Slotted lock nuts are used by default.

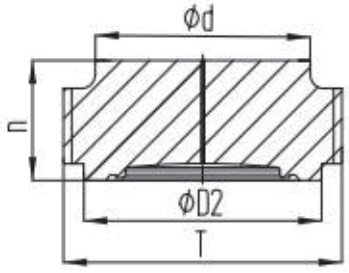
Unit: mm

IDF-IS02853 slotted nut



Model code of process connection	Nominal size	Pressure level	T	ΦD	Φd	ΦD1	ΦD2	H	h	Material
F1	38	PN25	IDF 1.5	47	38.6	64	42.7	30	21.5	316
F2	51	PN25	IDF 2	60.5	51.6	77	56.2	30	21.5	
F3	63.5	PN25	IDF 2.5	74	64.1	91	69.9	30	21.5	
F4	76.1	PN16	IDF 3	87.5	76.7	106	82.6	30	21.5	
F5	101.6	PN16	IDF 4	114.1	102.5	135	108.7	30	21.5	

IDF-IS02853 male thread joint type

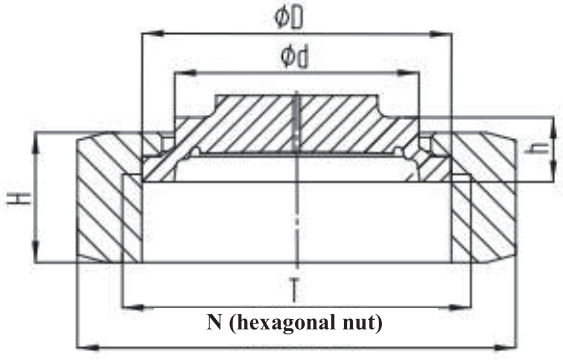


Model code of process connection	Nominal size	Pressure level	T	Φd	ΦD2	h	Material
FA	38	PN25	IDF 1.5	38.6	42.7	21.5	316
FB	51	PN25	IDF 2	51.6	56.2	21.5	
FC	63.5	PN25	IDF 2.5	64.1	69.9	21.5	

The type code for RJT-BS4825-5 standard process connection is G. The pipe size is Φd. Hexagonal nuts are selected as lock nuts. The standard for pipe joint is BS 4825-1.

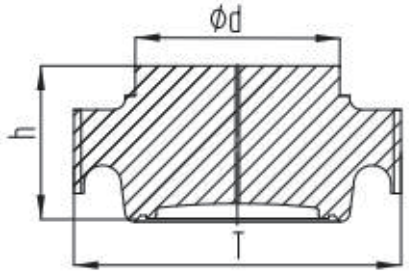
Unit: mm

RJT-BS4825-5 slotted nut



Model code of process connection	Nominal size	Pressure level	T	ΦD	Φd	N	H	h	Material
G1	38.1	PN25	RJT 1.5	54	38.35	65	22.2	12.7	316
G2	50.8	PN25	RJT 2	66.7	51.05	79.4	22.2	12.7	
G3	63.5	PN25	RJT 2.5	79.4	63.75	92.1	22.2	12.7	
G4	76.1	PN16	RJT 3	92.1	76.45	104.8	22.2	12.7	
G5	101.6	PN16	RJT 4	117.5	101.85	130.2	22.2	12.7	

RJT-BS4825-5 male thread joint type

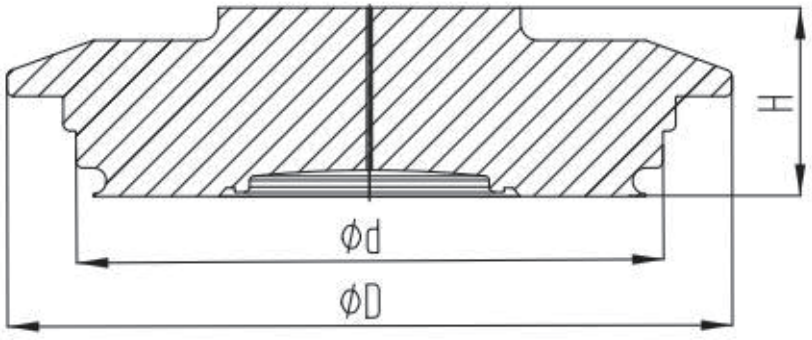


Model code of process connection	Nominal size	Pressure level	T	Φd	h	Material
GA	38.1	PN25	RJT 1.5	38.35	21.5	316
GB	50.8	PN25	RJT 2	51.05	21.5	
GC	63.5	PN25	RJT 2.5	63.75	21.5	

3. Pipe joint

The type code for VARIVENT standard process connection is H. The pipe size is Φd.

Unit: mm



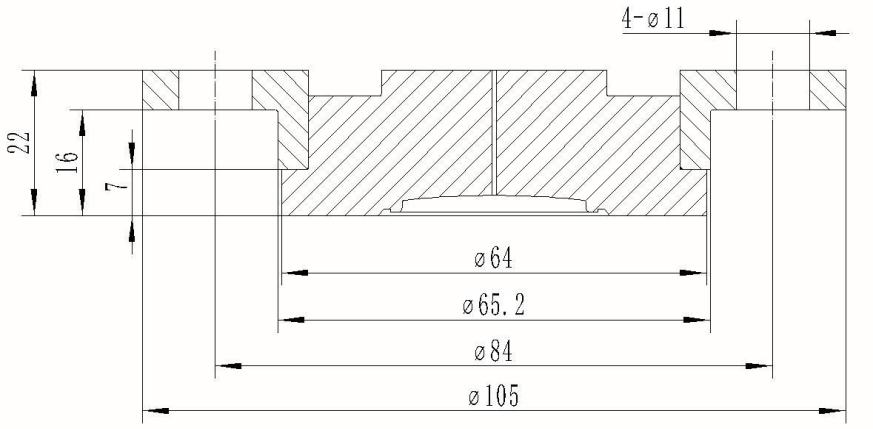
Model code of process connection	Nominal size	Pressure level	D (mm)	H (mm)	Material
H1	Type F, applicable to pipe DN 25..32	PN40	50	25	316
H2	Type N, applicable to pipe DN 40...162	PN40	68	25	

4. Plane face flange type

Applicable to DRD plane face flanges, plane face flanges of European and American standards, and thin-walled plane face flanges.

The type code for process connection of DRD plane face flange is J. The nominal size is DN50.

Unit: mm



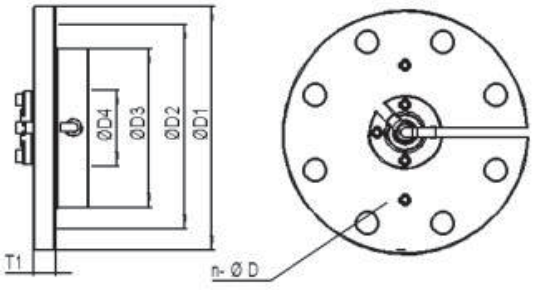
Model code of process connection	Nominal size	Pressure level	Material
J1	DN50	PN25	316

The type code for process connection of plane face flanges of European and American standards is K. The nominal size is DN50.

Type codes 1-4 are applicable to European systems in HG20592-2009 ~ HG20614-2009 and GB/T9112-2000 ~ GB/T9131-2000.

Type codes 5-8 are applicable to American systems in HG20615-2009 ~ HG20635-2009 and GB/T9112-2000 ~ GB/T9131-2000.

Unit: mm

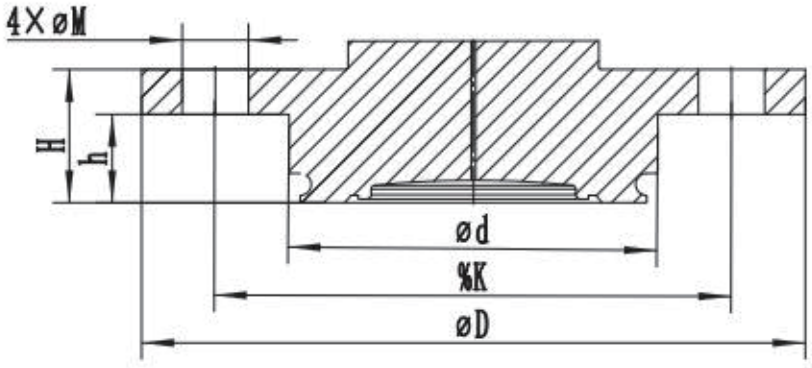


Model code of process connection	Nominal size	Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d	Material
K1	DN50	DIN PN10~16	165	125	100	61	18	4	18	316
K2	DN50	DIN PN25~40	165	125	100	61	20	4	18	
K3	DN50	DIN PN64	180	135	100	61	26	4	22	
K4	DN50	DIN PN100	195	145	100	61	28	4	26	
K5	DN50	ANSI 150	150	120.7	100	61	19.5	4	18	

K6	DN50	ANSI 300	165	127	100	61	22.7	8	18	
K7	DN50	ANSI 600	165	127	100	61	32.4	8	18	
K8	DN50	ANSI 900	215	165.1	100	61	45.1	8	26	

The type code for process connection of thin-walled plane face flange is M. The nominal size is DN25~DN80.

Unit: mm

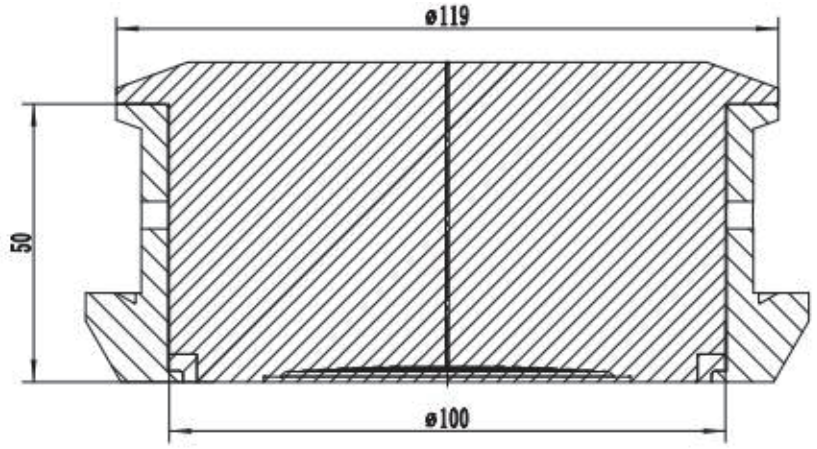


Model code of process connection	Nominal size	Flange standard	ΦD	ΦK	Φd	H	h	ΦM	Bolt number n	Bolt hole diameter d	Material
M1	DN25	PN16	64	50	30.5	20	11	7	4	16	316
M2	DN50	PN16	90	70	50	27	17	9	4	18	
M3	DN65	PN16	120	95	68	27	17	11	4	18	
M4	DN80	PN16	140	115	87.5	37	25	11	4	26	

5. Clamp boss flange connected type

The length of inserted cylinder for clamp boss flange connected type can be customized. The max. length shall not exceed 150mm.

Unit: mm



Model code of process connection	Nominal size	Pressure level	Insertion depth	Material

N1	DN100	PN40	50	316
N2	DN100	PN40	100	

PDS879 ultra-high temperature remote pressure transmitter

PDS879 ultra-high temperature remote pressure transmitter is mainly used to measure pressure, and convert it into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.



◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual span)=20:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	Minimum span	Maximum span	Measuring range
B	10.0 kPa	100 kPa	-100~100 kPa
C	20 kPa	400 kPa	-100~400 kPa
D	0.15 MPa	3.0 MPa	-0.1~3.0 MPa
E	0.6 MPa	10 MPa	-0.1~10 MPa

Note: The long term working pressure of PDS879 is recommended to be higher than 50kPa (ABS).

HC-276 diaphragm is not recommended when the span is less than 10kPa and the flange size is less than or equal to DN50.

Reference accuracy δ

PDS879 span code	Accuracy δ
B, C, D, E	δ≤±0.1% δ≤± (0.04+0.012 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio>5:1

Impact of temperature

δ≤± (0.06r+0.35) %/28°C, -60°C~+80°C

Overload limit

Not higher than the nominal flange pressure and not higher than 1.5 times the maximum span of the transmitter.

◆Model

Model No.	code	Remarks				
PDS879	-	Ultra-high temperature remote pressure transmitter				
Type	G	Gauge pressure type				
Communication protocol	H P F A B	HART (7) communication (Note 1) PROFIBUS-PA (3.02) field bus communication FF (6.1.1) field bus communication Ethernet-APL communication(Note 2) AutBus communication				
Liquid sealed in diaphragm capsule	-1	Silicone oil				
Measuring range		Span	Measuring range			
	B	10~100kPa	-100~100kPa			
	C	20~400kPa	-100~400kPa			
	D	0.15~3MPa	-0.1~3MPa			
	E	0.6~10MPa	-0.1~10MPa			
Explosion-proof			HART	PA and FF	APL	Autbus
	A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-
Housing (Note 3)		Material	Electrical interface			
	1	Aluminium	1/2 NPT female thread, two electrical interfaces			
	2	Aluminium	M20×1.5 female thread, two electrical interfaces			
	3	Stainless steel	1/2 NPT female thread, two electrical interfaces			
	4	Stainless steel	M20×1.5 female thread, two electrical interfaces			
Display head (Note 4)	N D E	Without display LCD display Multi-functional LCD head (only applicable to HART7)				
Installation bracket		Type	Material			
	A	Horizontal (I type) mounting bracket	Q235			
	B	Horizontal (I type) mounting bracket	304			
	E	Horizontal (I type) mounting bracket	316			
	C	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	Q235			
	D	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	304			
	F	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	316			
	N	Without installation bracket				
Flange type	-P	Plane face flange				
Length of remote transmission	-□□ (0m~10m)	Cable length				
Liquid sealed remote pressure transmitter (Note 5)	U	Sealed liquid	Liquid contact temperature			
		Ultra-high temperature filling liquid	+12°C~+700°C			
Flange size	-2 -3	DN 50 (2 inches) DN 80 (3 inches)				
Material of flange diaphragm	S H M C	316L HC-276 Monel INCONEL 625				
Flange sealing type	1 2	RF face RJ ring joint face				

	3 4	M FM	
Flange standard (Note 6)		Standard	Pressure
	A	ANSI 150	2.0MPa
	B	ANSI 300	5.0MPa
	C	ANSI 600	11MPa
	L	ANSI 900	15MPa
	P	ANSI1500	26MPa
	R	ANSI2500	40MPa
	D	DIN PN 10/16	1.6MPa
	E	DIN PN 25/40	4.0MPa
	F	DIN PN 64	6.4MPa
	K	DIN PN 100	10MPa
	M	DIN PN 160	16MPa
Material of flange	A B C D	S25C 304 316 316L	
Cleaning of measuring part	A B	Conventional Degreasing treatment	
Additional options	/××	Refer to the additional options table	

◆Additional options

Item	**Remarks**		**Code** (Note 7)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management		A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output		A11
Additional certification	EU SIL CE V&V Russian SIL Commonwealth of Independent States EAC020		C01 C02 C03 C04 C05
APL communication method	HART-IP PROFINET		AH AP
Protection treatment (Note 8)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone) Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea) Corrosion grade C5-I: High humidity and severe corrosion area		P10 P11 P12
Companion flange	Type	Material	
	WN hubbed butt welding	S25C 304 316 316L	F50 G50 H50 K50
	PL plate-type flat welding	S25C 304 316 316L	F52 G52 H52 K52
	SO hubbed flat welding	S25C 304 316 316L	F53 G53 H53 K53
	TH thread flange	S25C 304 316 316L	F54 G54 H54 K54

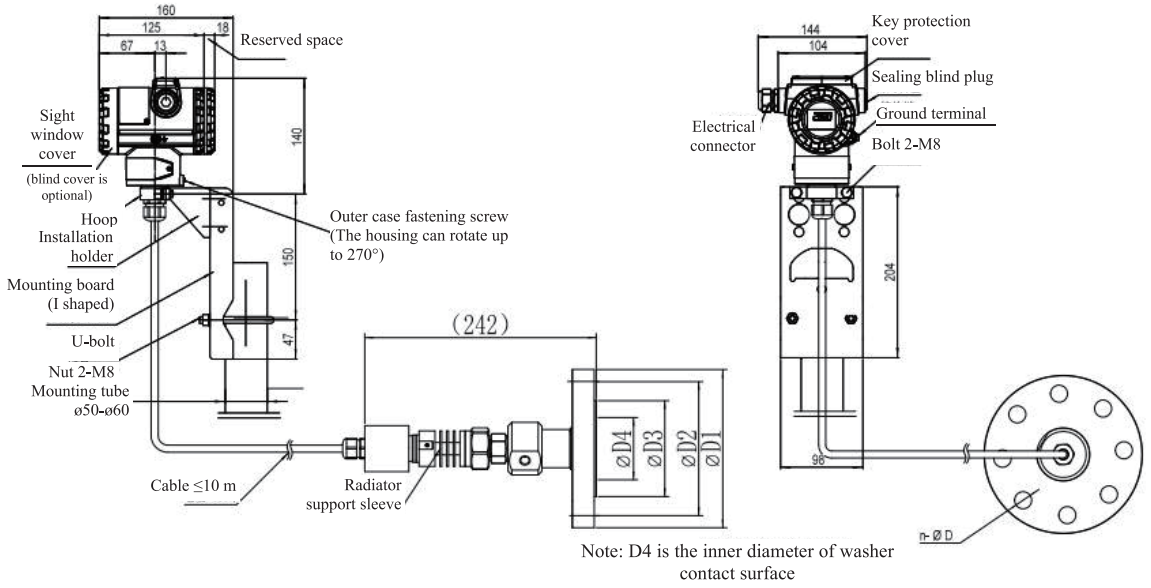
Mounting accessories of flange (Note 9)	Carbon steel bolt+spiral wound gasket Stainless steel bolt+spiral wound gasket		G56 G58
Electrical connector	Specification and dimension M20×1.5 electrical connector + 1 sealing plug 1/2 NPT electrical connector + 1 sealing plug M20×1.5 one sealing plug M20×1.5 sealing plug（EAC） 1/2 NPT sealing plug（EAC） M20×1.5 flameproof electrical plug + one sealing plug(NEPSI) 1/2NPT flameproof electrical plug + one sealing plug(NEPSI) 1/2 NPT one sealing plug 1/2 NPT one sealing plug M20×1.5 one sealing plug M20×1.5 flameproof electrical plug + one sealing plug (ATEX/IECEx) 1/2NPT flameproof electrical plug + one sealing plug (ATEX/IECEx) M20×1.5 flameproof electrical plug + one sealing plug(EAC) 1/2NPT flameproof electrical plug + one sealing plug(EAC)	Material Plastic Plastic 304 316L 316L 316 316 304 316 316 316 316 316L 316L	 G60 G61 G62 G63 G64 G70 G71 G72 G73 G74 G75 G76 G77 G78
Lightning prevention	Lightning prevention terminal board		F20
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).		NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).		A1
Document	Delivery and acceptance document (Note 10)		D1
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)		L01 L02 L03
Display unit	% mA Pa kPa MPa gf/cm^2 kgf/cm^2 mmH_2O mH_2O inH_2O ftH_2O mbar bar psi mmHg inHg Torr Atm $i4H_2O$ (inches of water 4°C) $m4H_2O$ (millimeter of water 4°C)		U01 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32 U33 U34 U35 U36 U37 U38

Special reminder

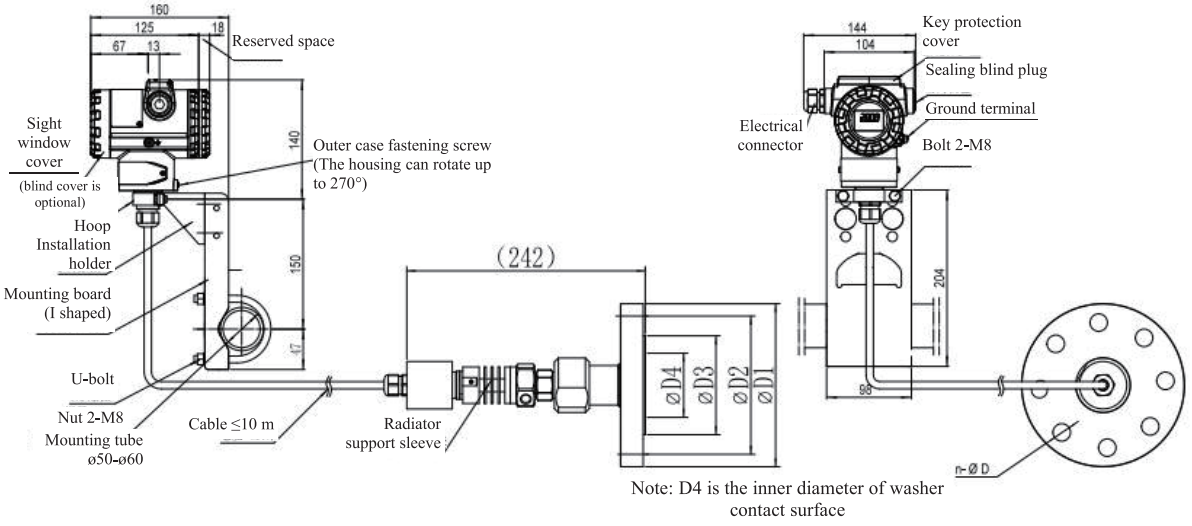
※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.
Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.
Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.
Note 3: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.
Note 4: The default display is pressure value, and the other display modes are described in "Additional Options".
Note 5: Please consult for ultra-high temperature and ultra-high pressure.
Note 6: Serial numbers A, B, C, L, P and R are adapted to American systems in HG20615-2009~HG20635-2009 and GB/T9112-2000~GB/T9131-2000.
Serial numbers D, E, F, K and M are adapted to European system in HG20592-2009~HG20614-2009 and GB/T9112-2000~GB/T9131-2000.
Note 7: The options shall be separated with a “/”, for example “/P10/G61/K81”.
Note 8: If the housings in P11 and P12 are selected, please choose 1 or 2.
Note 9: The material of the winding metal tape shall be 316. The filling material shall be flexible graphite ribbons with service temperature within 650°C. If it is used for oxidizing medium, the max. service temperature might be 450°C. Please consult if the temperature exceeds 650°C.
Note 10: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

◆Overall and installation size of PDS879

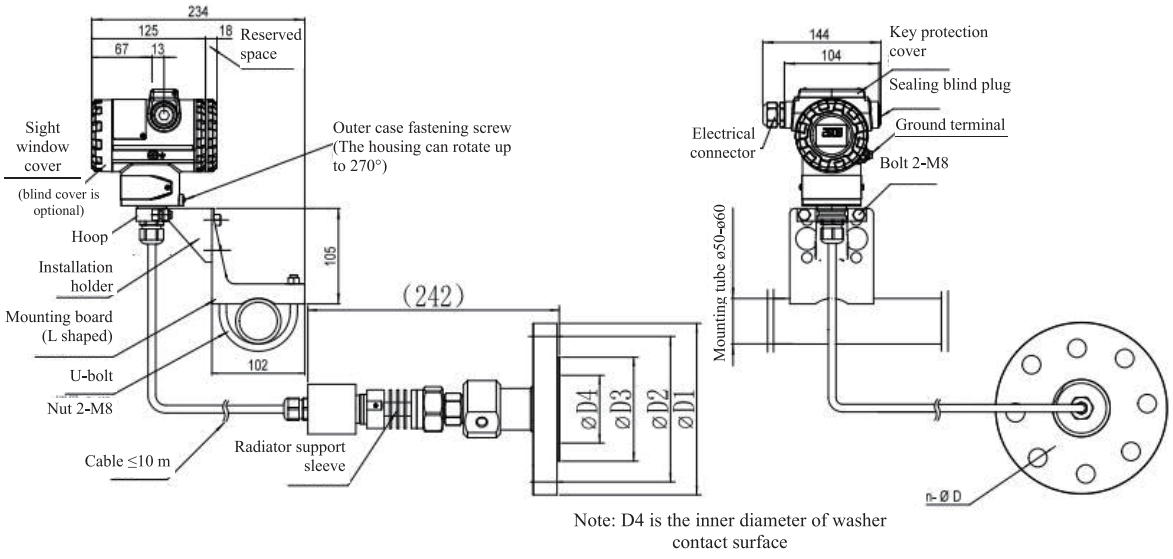
Unit: mm



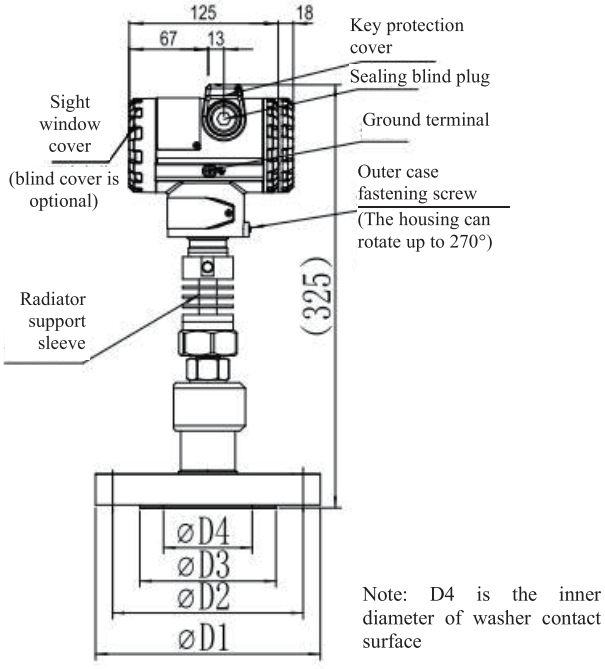
Horizontal piping mounting type (vertical mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



PDS879 ultra-high temperature remote pressure transmitter (direct-coupled)

Size specification of plane face flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	61	19.5	4	18
ANSI 300	165	127	100	61	22.7	8	18
ANSI 600	165	127	100	61	32.4	8	18
ANSI 900	215	165.1	100	61	45.1	8	26
ANSI 1500	215	165.1	100	61	45.1	8	26
ANSI 2500	235	171.4	100	61	57.9	8	30
DIN PN10/16	165	125	100	61	18	4	18
DIN PN25/40	165	125	100	61	20	4	18
DIN PN64	180	135	100	61	26	4	22
DIN PN100	195	145	100	61	28	4	26
DIN PN160	195	145	100	61	30	4	26

Size specification of plane face flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	89	24.3	4	18
ANSI 300	210	168.3	130	89	29	8	22
ANSI 600	210	168.3	130	89	38.8	8	22
ANSI 900	240	190.5	130	89	45.1	8	26
ANSI 1500	265	203.2	130	89	54.7	8	33
ANSI 2500	305	228.6	130	89	73.7	8	36
DIN PN10/16	200	160	130	89	20	8	18
DIN PN25/40	200	160	130	89	24	8	18
DIN PN64	215	170	130	89	28	8	22
DIN PN100	230	180	130	89	32	8	26
DIN PN160	230	180	130	89	36	8	26

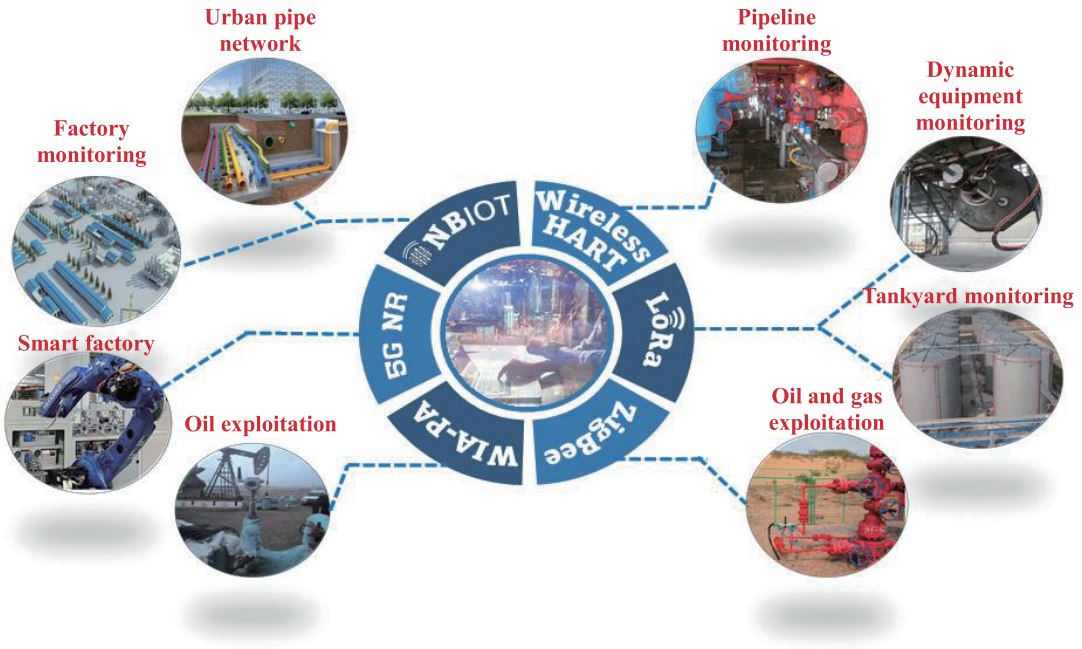
PDS800 wireless pressure transmitter

PDS800 wireless smart pressure transmitter can provide several communication solutions such as WirelessHART, ZigBee, NB-IOT, LoRa, 5G NR and WIA-PA. It has mastered the independent core technology of each wireless application, and achieved the coverage of multi-band, high-low rate, local area network, wide area network, multi-standard specifications, and multi-application scenarios. It is widely used in industrial IoT scenarios, such as oil and gas exploitation, petrochemical processing, tank yard storage, dynamic equipment monitoring, urban pipe network, 5G smart factory, cloud service and other fields. It has the end-to-end efficient combination ability from on-site measurement to central control dispatching, terminal instruments to industrial Internet, enabling smart industrial construction.



◆ Performance specification

For specification on performance of wireless transmitters, please refer to that of corresponding models such as PDS803 and PDS843.



Wireless application scenarios

PDS803 wireless pressure transmitter

◆Model

Model No.	code	Remarks			
PDS803	-	Wireless pressure transmitter			
Type of pressure	G A	Gauge pressure type Absolute pressure type			
Communication protocol	WP WH WB WL WN WG	WIA-PA communication WirelessHart communication ZigBee communication LORA/LORAWAN communication NB-IOT communication 5G NR communication			
Liquid sealed in diaphragm capsule	 -1 -2 -3	Sealed liquid Silicone oil Silicone oil Fluorine oil		Cleaning of measuring part Conventional Degreasing treatment Degreasing treatment	
Measuring range		G gauge pressure type		A absolute pressure type	
		Range	Measuring range	Range	Measuring range
	B	1kPa~100kPa	100kPa~100kPa	0.5kPa~25kPa	0kPa~25kPa(A)
	C	4 kPa~400kPa	-100kPa~400kPa	2.6kPa~130kPa	0kPa~130kPa(A)
	D	0.03MPa~3Mpa	-0.1MPa~3MPa	5.0kPa~500kPa	0kPa~500kPa(A)
	E	0.2MPa~20MPa	-0.1MPa~20MPa	0.03MPa~3.0MPa	0MPa~3.0MPa(A)
	F	0.4MPa~40MPa	-0.1MPa~40MPa	0.2MPa~20MPa	0MPa~20MPa(A)
	G	0.7MPa~70MPa	-0.1MPa~70MPa		
Material of liquid contact part	 S H C G	Isolation diaphragm 316L HC-276 HC-276 316L gold plated		Relevant liquid contact parts 316 316 HC-276 316	
Process connection	0 1 3 4	G1/2 male thread 1/2NPT female thread M20×1.5 male thread 1/2NPT male thread			
Explosion-proof	-A -B -D -F	Non-explosion proof Intrinsic safety type Ex ia IICT4 Ga Explosion-proof type Ex db mb ⅡCT6 Gb Dust-EX Ex Td A21 IP67 T85°C			
Housing	 1 2	Material Aluminium Stainless steel			
Display head	N D	Without display LCD display			
Installation bracket	 A B C D E F N	Type Horizontal (I type) mounting bracket Horizontal (I type) mounting bracket Horizontal (I type) mounting bracket Vertical (L type) mounting bracket Vertical (L type) mounting bracket Vertical (L type) mounting bracket Without installation bracket		Material Q235 304 316 Q235 304 316	
Additional options	/××	Refer to the additional options table			

PDS805 wireless differential pressure transmitter

◆Model

Model No.	code	Remarks			
PDS805	-	Wireless differential pressure transmitter			
Type of pressure	G	Gauge pressure type			
	A	Absolute pressure type			
Communication protocol	WP	WIA-PA communication			
	WH	WirelessHart communication			
	WB	ZigBee communication			
	WL	LORA/LORAWAN communication			
	WN	NB-IOT communication			
	WG	5G NR communication			
Liquid sealed in diaphragm capsule		Sealed liquid	Cleaning of measuring part		
	-1	Silicone oil	Conventional		
	-2	Silicone oil	Degreasing treatment		
	-3	Fluorine oil	Degreasing treatment		
Measuring range		G gauge pressure type		A absolute pressure type	
		Range	Measuring range	Range	Measuring range
	A	0.5kPa~ 10kPa	-10kPa~ 10kPa	——	
	B	1kPa~ 100kPa	-100kPa~ 100kPa	0.5kPa~ 25kPa	0kPa~ 25kPa(A)
	C	4kPa~ 400kPa	-100kPa~ 400kPa	2.6kPa~ 130kPa	0kPa~ 130kPa(A)
	D	0.03MPa~ 3MPa	-0.1MPa~ 3MPa	5kPa~ 500kPa	0kPa~ 500kPa(A)
	E	0.2MPa~ 16MPa	-0.1MPa~ 16MPa	0.03MPa~ 3MPa	0MPa~ 3MPa(A)
	F	0.4MPa~ 40MPa	-0.1MPa~ 40MPa	0.2MPa~ 16MPa	0MPa~ 16MPa(A)
Material of liquid contact part		Isolation diaphragm	Relevant liquid contact parts		
	S	316L	316		
	H	HC-276	316		
	C	HC-276	HC-276		
	T	Tantalum	316		
	M	Monel	316		
	G	316L gold plated	316		
	R	Tantalum	HC-276		
	L	316L gold plated	HC-276		
	K	Monel	Monel		
Process connection	0	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the back			
	1	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the side			
	2	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the back			
	3	Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the side			
	4	Downward impulse port, with 1/4NPT female thread on the chamber flange			
	5	Downward impulse port, with 1/2NPT female thread on the process joint			
Chamber bolt	1	SCM435 (35CrMo)			
	2	304			
	3	316			
Explosion-proof	-A	Non-explosion proof			
	-B	Intrinsic safety type Ex ia IICT4 Ga			
	-D	Explosion-proof type Ex db mb ⅡCT6 Gb			
	-F	Dust-EX Ex Td A21 IP67 T85°C			
Housing		Material			
	1	Aluminium			
	2	Stainless steel			
Display head	N	Without display			
	D	LCD display			
Installation bracket		Type		Material	
	A	Horizontal (I type) mounting bracket		Q235	
	B	Horizontal (I type) mounting bracket		304	
	C	Horizontal (I type) mounting bracket		316	
	D	Vertical (L type) mounting bracket		Q235	
	E	Vertical (L type) mounting bracket		304	
	F	Vertical (L type) mounting bracket		316	
	N	Without installation bracket			
Additional options	/××	Refer to the additional options table			

PDS843 Wireless differential pressure transmitter

◆Model

Model No.	code	Remarks			
PDS843	-	Wireless differential pressure transmitter			
Type of pressure	L M H	Microdifferential pressure Differential pressure High static pressure			
Communication protocol	WP WH WB WL WN WG	WIA-PA communication WirelessHart communication ZigBee communication LORA/LORAWAN communication NB-IOT communication 5G NR communication			
Liquid sealed in diaphragm capsule	 -1 -2 -3	Sealed liquid Silicone oil Silicone oil Fluorine oil		Cleaning of measuring part Conventional Degreasing treatment Degreasing treatment	
Measuring range (Note 1)		M differential pressure, H high static pressure		L micropressure	
		Range	Measuring range	Range	Measuring range
	C	0.5kPa~ 10kPa	-10kPa~ 10kPa	0.1kPa~ 2kPa	-2kPa~ 2kPa
	D	1kPa~ 100kPa	-100kPa~ 100kPa	0.1kPa~ 2kPa	-2kPa~ 2kPa
	E	5kPa~ 500kPa	-500kPa~ 500kPa	50Pa~ 100Pa	-100Pa~ 100Pa
	F	0.03MPa~ 3MPa	-0.5MPa~ 3MPa	——	
	G(Note 1)	0.14MPa~ 14MPa	-0.5MPa~ 14MPa	——	
Material of liquid contact part	 S H C T M G R L K	Isolation diaphragm 316L HC-276 HC-276 Tantalum Monel 316L gold plated Tantalum 316L gold plated Monel		Relevant liquid contact parts 316 316 HC-276 316 316 316 HC-276 HC-276 Monel	
Process connection	0 1 2 3 4 5	Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the back Chamber flange is equipped with 1/4NPT female thread, with exhaust and drain ports at the side Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the back Process joint is provided with 1/2NPT female thread, with exhaust and drain ports at the side Impulse port is downward and chamber flange is equipped with 1/4NPT female thread (not applicable to high static pressure of 843H) Impulse port is downward and process joint is provided with 1/2NPT female thread (not applicable to high static pressure of 843H)			
Chamber bolt	1 2 3	SCM435 (35CrMo) 304 316			
Explosion-proof	-A -B -D -F	Non-explosion proof Intrinsic safety type Ex ia IICT4 Ga Explosion-proof type Ex db mb ⅡCT6 Gb Dust-EX Ex Td A21 IP67 T85°C			
Housing	 1 2	Material Aluminium Stainless steel			
Display head	N D	Without display LCD display			
Installation bracket	 A B C D	Type Horizontal (I type) mounting bracket Horizontal (I type) mounting bracket Horizontal (I type) mounting bracket Vertical (L type) mounting bracket		Material Q235 304 316 Q235	

	E F N	Vertical (L type) mounting bracket Vertical (L type) mounting bracket Without installation bracket	304 316
Additional options	/××	Refer to the additional options table	

Note 1: Span C and G is applicable to PDS843M only.

Select PDS863 wireless pressure transmitters with reference to the above 3 wireless models and PDS863 models.

Select PDS873 wireless remote pressure transmitters with reference to the above 3 wireless models and PDS873 models.

Select PDS883 wireless remote differential pressure transmitters with reference to the above 3 wireless models and PDS883 models.

Select PDS813 wireless paper-making type pressure transmitters with reference to the above 3 wireless models and PDS813 models.

Select PDS879 wireless ultra-high temperature remote pressure transmitters with reference to the above 3 wireless models and PDS879 models.

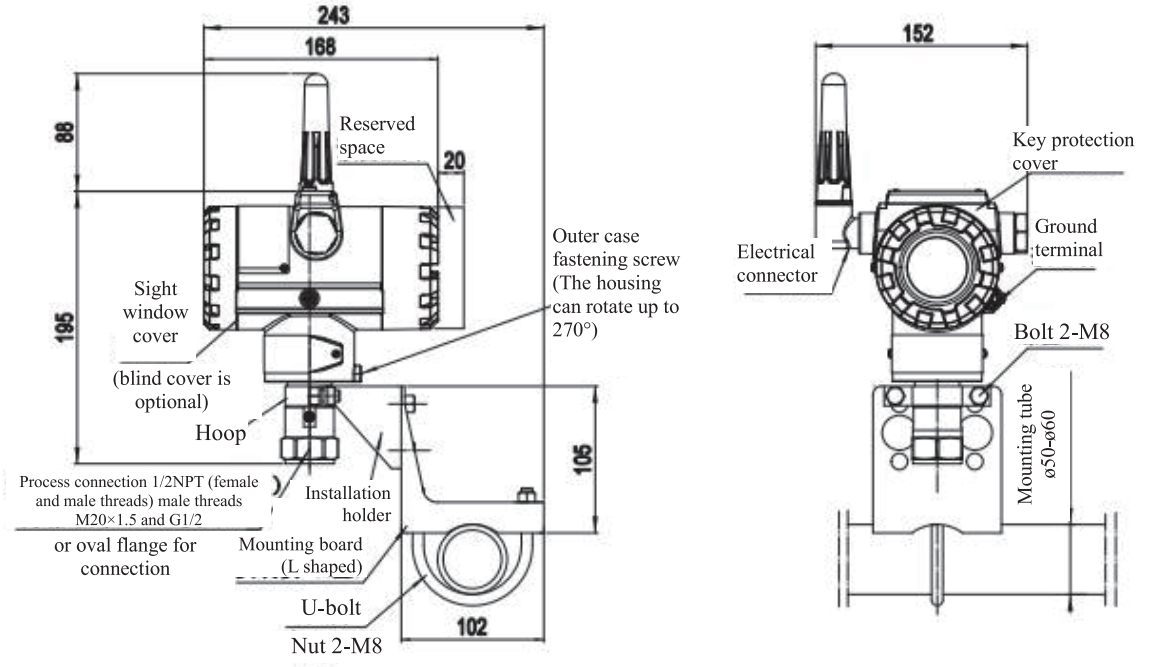
Select PDS815 wireless hygienic type pressure transmitters with reference to the above 3 wireless models and PDS815 models.

Table for Additional Options of PDS800 Wireless Transmitters

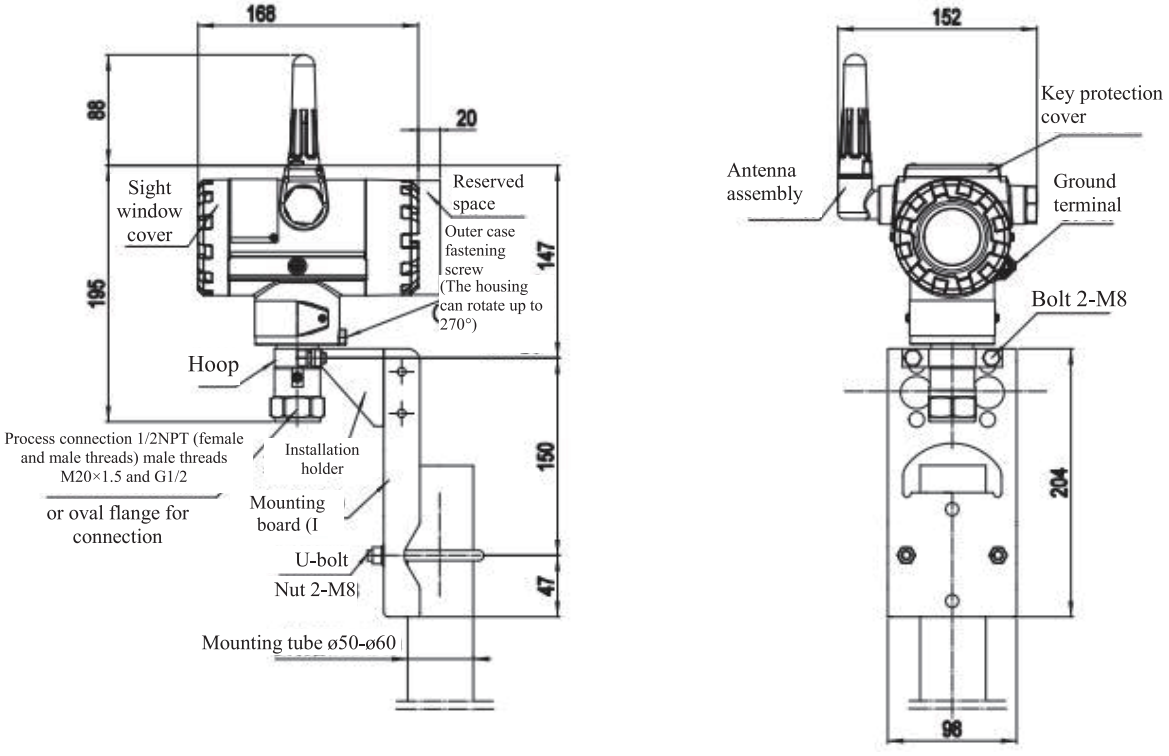
Item	Code	Remarks
Display unit	%	U01
	mA	U 20
	Pa	U 21
	kPa	U 22
	MPa	U 23
	gf/cm2	U 24
	kgf/cm2	U 25
	mmH2O	U 26
	mH2O	U 27
	inH2O	U 28
	ftH2O	U 29
	mbar	U 30
	bar	U 31
	psi	U 32
	mmHg	U 33
	inHg	U 34
	Torr	U 35
	Atm	U 36
	i4H_2O (inches of water 4°C)	U 37
	m4H_2O (millimeter of water 4°C)	U 38
Antenna direction	T	I-shaped antenna, in horizontal direction (L-shaped upward antenna is selected by default)
Type of SIM card	1	Plug-in type
	2	Industrial grade Telecom chip card
	3	Industrial grade Mobile chip card
	4	Industrial grade Unicom chip card

◆Overall and installation size of PDS800 wireless pressure transmitter

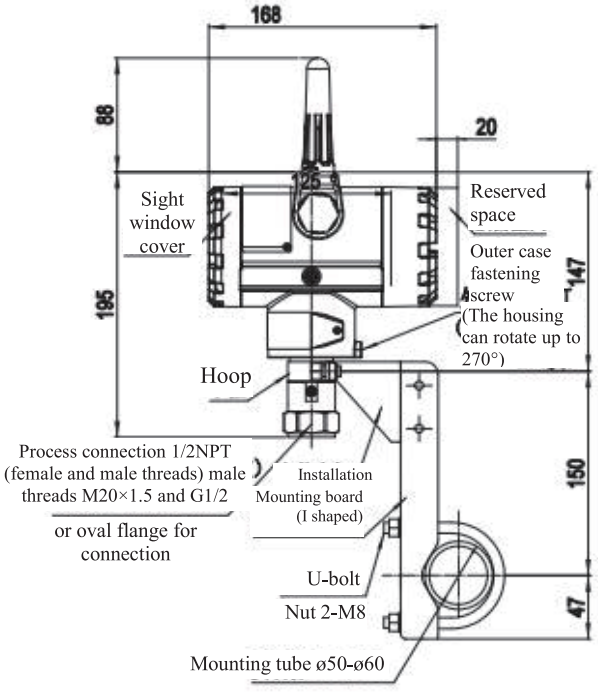
Unit: mm

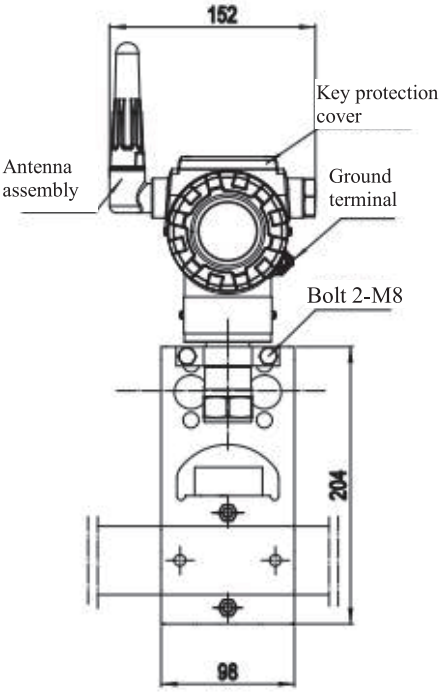


a) Horizontal piping mounting type (horizontal mounting pipe)



b) Horizontal piping mounting type (vertical mounting pipe)

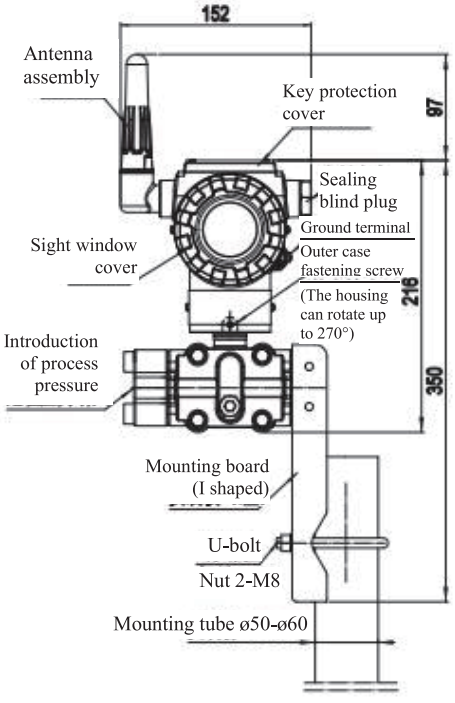




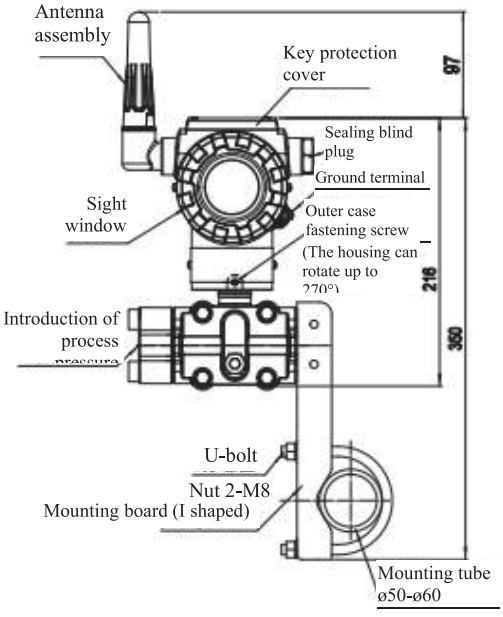
c) Horizontal piping mounting type (horizontal mounting pipe)

◆Overall and installation size of PDS800 wireless differential pressure transmitter

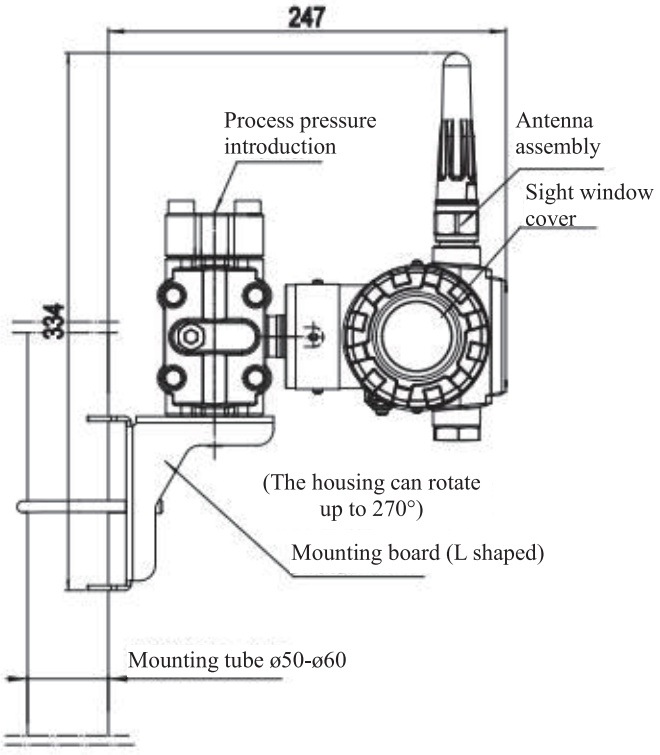
Unit: mm



a) Horizontal piping mounting type (vertical mounting pipe)



b) Horizontal piping mounting type (horizontal mounting pipe)



b) Vertical piping mounting type

SIC-H375 handheld communicator

SIC-H375 HART protocol handheld communicator (hand-held communicator for short) is an instrument conforming to the HART protocol. It can configure, manage and maintain all pressure transmitters conforming to the HART protocol.

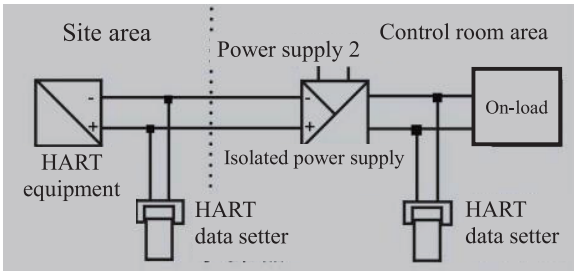
At present, device description (DD) software of the following transmitter models is stored in the handheld communicator, which can support the operation of its general, common and special commands.

PDS8xxH	**Chongqing Chuanyi Automation Co., Ltd.**
7MF4x33	SIEMENS
EJAxxx-E	YOKOGAWA
3051x	ROSEMOUNT
Smart 1151	ROSEMOUNT
FCX-A/X	FUJI
xxx-3151	Domestic 3151

For the transmitter uncovered, the handheld communicator provides a general operation interface to complete the operation of general and common commands.

◆ Working principle

The handheld communicator is connected in parallel to the transmitter through a communication cable, which can be realized directly or through an isolated power supply. The polarity of the lead wire is not required when connecting, but the load resistance must be greater than 250. See the figure below for wiring:



◆ Key functions

- Monitor process variables (read test values)
- Diagnosis of transmitter
- Zero trim
- Set pressure unit
- Set URV (span)
- Set LRV (zero point)
- Set damp



◆ Technical data

Dimensions

228mm×98mm×60mm;

handheld communicator 70mm (width) × 37mm (thickness)

LCD

8 linesx21 characters

HART interface

- In line with HCF protocol, bidirectional half-duplex mode of 1200bit/s
- Bearable common mode voltage±40V
- Communication distance <1500 m
- Automatic amplitude multiplication

Power consumption

- 4.5V DC, 23.2mA (typical value in working state)
- 5uA (typical value in OFF state)

Battery

Three AA batteries (SIZE AA)

Continuous working event

When alkaline batteries are used, the typical value is 100 hours.

When 1,000mAH rechargeable batteries are used, the typical value is 43 hours.

Ambient conditions

Working temperature: 0°C~+50°C

Storage temperature: -20°C~+55°C

Relative humidity

0%~95%

Order data

SIC-H375 handheld communicator

Scope of supply

Handheld communicator

Communication cable with plug and clamp

Portable bag

User manual

Bluetooth modem+explosion-proof cell-phone handheld communicator

SIC-BH475-SP** is an explosion-proof handheld communicator conforming to the HART protocol and wireless Bluetooth communication. It can configure, manage and maintain all instruments conforming to the HART protocol (all instruments conforming to the HART protocol and registered with HART Foundation, including but not limited to pressure transmitters, such as valves and temperature transmitters).

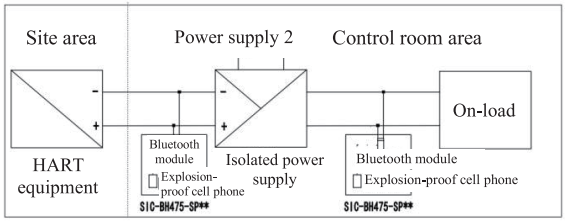
At present, the explosion-proof handheld communicator stores more than 1000 types of device description (DD) software for instruments and meters, which can support the operation of general, common and special commands, including pressure transmitters of several common brands in the following table.

PDS8xxH	**Chongqing Chuanyi Automation Co., Ltd.**
7MFx33	SIEMENS
EJAxxx-E	YOKOGAWA
305lx	ROSEMOUNT
Smart 1151	ROSEMOUNT
FCX-A/X	FUJI
xxx-3151	Domestic 3151

For transmitters (not limited to transmitters) that are not registered with HART Foundation, as long as device description (DD) is provided and the device description DD can be imported into the communicator, all the functions of DD can be used.

◆ Working principle

The communication cable of Bluetooth modem explosion-proof handheld communicator SIC-BH475-SP* is connected to the transmitter in parallel, which can be realized directly or through an isolated power supply. The polarity of the lead wire is not required when connecting, but the load resistance must not be smaller than 250Ω. (Bluetooth modem comes with a 250Ω resistor, if there is no 250Ω resistor on site, the resistor on the Bluetooth modem can be selected). See the figure below for wiring:



◆ Key functions

- Monitoring of variables
- Diagnosis of transmitter
- Zero trim
- Set pressure unit
- Set URV (upper limit of span)
- Set LRV (lower limit of span)
- Set damp



◆ Technical data

The explosion-proof Bluetooth handheld communicator consists of two parts: explosion-proof Bluetooth MODEM and explosion-proof communicator.

Explosion-proof sign

Bluetooth module HART-BM-BAT-EX: Ex ia IIC T4 Ga

Cellphone EX-SP05: Ex ib IIC T4 Gb

Cellphone EX-SP17: Ex ib IIC T4 Gb

Dimensions

Cellphone modem: 60 mm (width)*80 mm (length)*24 mm (height)

Communicator SP05:

Size 75 mm (width) *154 mm (height)*14 mm (thickness)

Screen: 5.45-inch display screen

Pixel: front 800W+rear 1300W

Battery capacity: 3500mAh

System: Android 10.0

Memory: 4G+64G

Communicator SP17:

Size: 81 mm (width) * 165 mm (height)*15 mm (thickness)

Screen: 6.1-inch display screen

Pixel: front 800W+rear 1600W+500W+200W

Battery capacity: 6080mAh

System: Android10.0

Memory: 6G+128G

HART interface

- In line with HCF protocol, bidirectional half-duplex mode of 1200bit/s
- Bearable common mode voltage±40V
- Communication distance <1500m
- Automatic amplitude multiplication

Communication distance of Bluetooth

Less than the max. distance of 10m

Power consumption

Less than 700mW

Battery

One AA 3.6V battery

Note: Only EVE ER14505 lithium-thionyl chloride batteries produced by Huizhou Eve Lithium Energy Co., Ltd. may be used as the power supply. It is forbidden to charge the battery, and it is forbidden to replace the battery in an explosive environment.

Continuous communication duration

The typical value is 30 hours.

Ambient conditions

Working temperature: -20°C~50°C

Storage temperature: -20°C~55°C

Relative humidity

0%~95%

Order type

SIC-BH475-SP**(**05 and 17 optional)

Scope of supply

Bluetooth modem

Explosion-proof handheld device

Battery

Clip

One portable bag

User manual

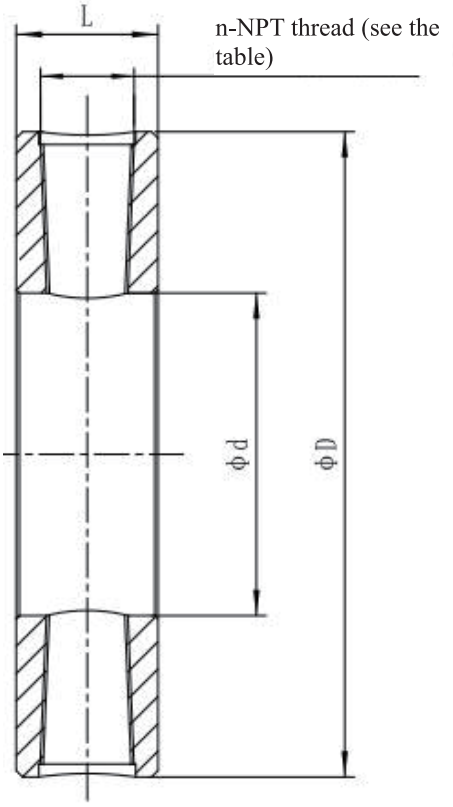
Flush ring

To measure the medium which is easy to crystallize and precipitate, install the flush ring between the companion flange and the transmitter flange, and flush it regularly, so as to solve measuring difficulty after the blockage of pipe and scaling of flange.

Unit: mm

Material	D	d	L	NPT thread	Name suffix	n
304	100	60	24	1/4NPT	DN50	1 or 2
316L	100	60	24	1/4NPT	DN50	1 or 2
304	100	60	35	1/2NPT	DN50	1 or 2
316L	100	60	35	1/2NPT	DN50	1 or 2
304	130	90	24	1/4NPT	DN80	1 or 2
316L	130	90	24	1/4NPT	DN80	1 or 2
304	130	90	35	1/2NPT	DN80	1 or 2
316L	130	90	35	1/2NPT	DN80	1 or 2
304	155	115	24	1/4NPT	DN100	1 or 2
316L	155	115	24	1/4NPT	DN100	1 or 2
304	155	115	35	1/2NPT	DN100	1 or 2
316L	155	115	35	1/2NPT	DN100	1 or 2

G30X/G31X/G32X/G33X flush cup



G8 valve manifold

G8 valve manifolds are used for ON, OFF and balancing of input pressure signals of pressure transmitters, differential pressure transmitters, flow transmitters and level transmitters. In the table, two-valve manifolds and stop valves are mainly applicable to PDS803 direct-coupled pressure transmitters and three-valve manifolds are mainly applicable to PDS843 differential pressure transmitters. If HC-276 and Monel valve manifolds are required, please refer to SICV series valve manifolds.

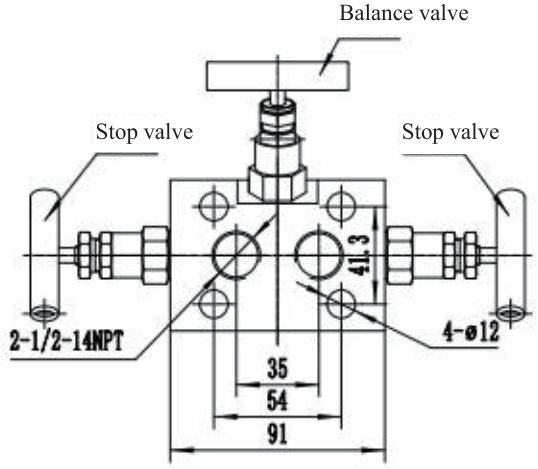
◆Model and specification code

G8	Specification code	Remarks	Applicable target		
			Three-valve manifold	Two-valve manifold	Stop valve
Type of valve manifold	5————	Three-valve manifold	◆		
	7————	Two-valve manifold		◆	
	8————	Stop valve			◆
Process connection size	-M————	M20×1.5 male thread	◆	◆	◆
	-N————	1/2-14NPT female thread	◆	◆	◆
Valve material	B————	304	◆	◆	◆
	C————	316	◆	◆	◆
	D————	316L	◆	◆	◆
Transmitter connection size	1————	1/2-14NPT male thread		◆	◆
	2————	G1/2 female thread		◆	◆
	3————	M20×1.5 female thread		◆	◆
	4————	1/2-14NPT female thread		◆	◆
	5————	Flange type	◆		
Mounting bolt	N————	No installation screw		◆	◆
	M————	M10 metric thread	◆		
	U————	7/16-20UNF inch thread	◆		
Pressure level	L————	16MPa	◆	◆	◆
	M————	32MPa	◆	◆	◆
	H————	42MPa	◆	◆	◆
Additional option/XX					
Process joint	D1————	Pressure type joint (Φ14×2)	◆	◆	◆
	D2————	Pressure type joint (Φ14×3)	◆	◆	◆
	D3————	Pressure type joint (Φ16×3)	◆	◆	◆
Others	T————	Degreasing cleaning	◆	◆	◆
Language	EN————	English	◆	◆	◆
	EAC————	Russian	◆	◆	◆

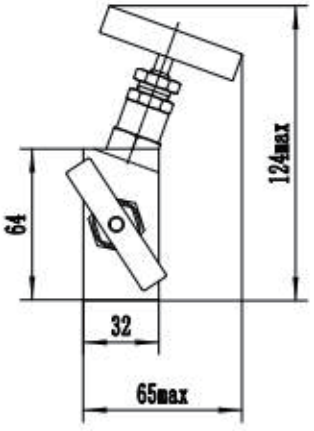
Note 1: BW butt joint is adopted by default. Indicate with Z in case of special requirements.
Note 2: The service temperature is -40°C~150°C. Please consult us for other temperature.
Note 3: Two-valve manifolds and stop valves are only applicable to PDS803 straight side pressure transmitters.
E.G.: Three-valve manifold G85-NB5ML/D2/T, with Φ14 welded joints.

◆Structure and size of valve manifold

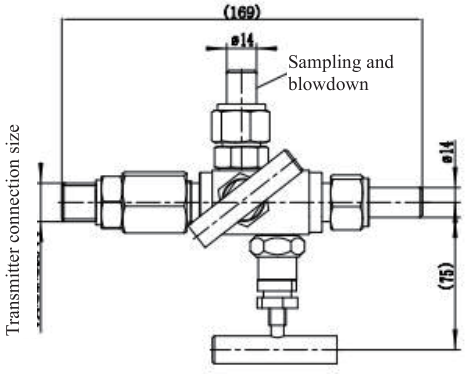
Unit: mm



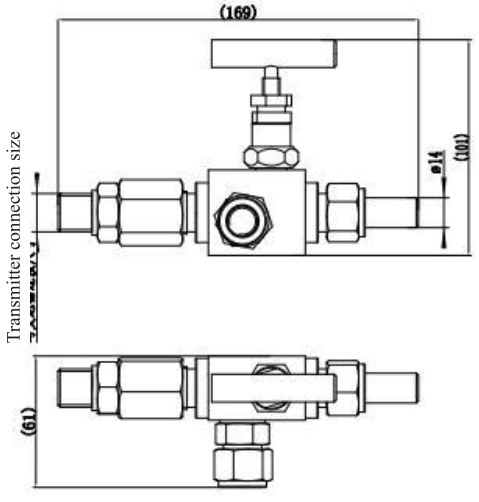
Three-valve manifold



Three-valve manifold



Two-valve manifold



Straight-through stop valve

SICV valve manifold

SICV valve manifolds are used for ON, OFF and balancing of input pressure signals of pressure transmitters, differential pressure transmitters, flow transmitters and level transmitters. Two-valve manifolds are mainly applicable to PDS803 and PDS805 pressure transmitters, and three-valve manifolds are mainly applicable to PDS843 differential pressure transmitters.

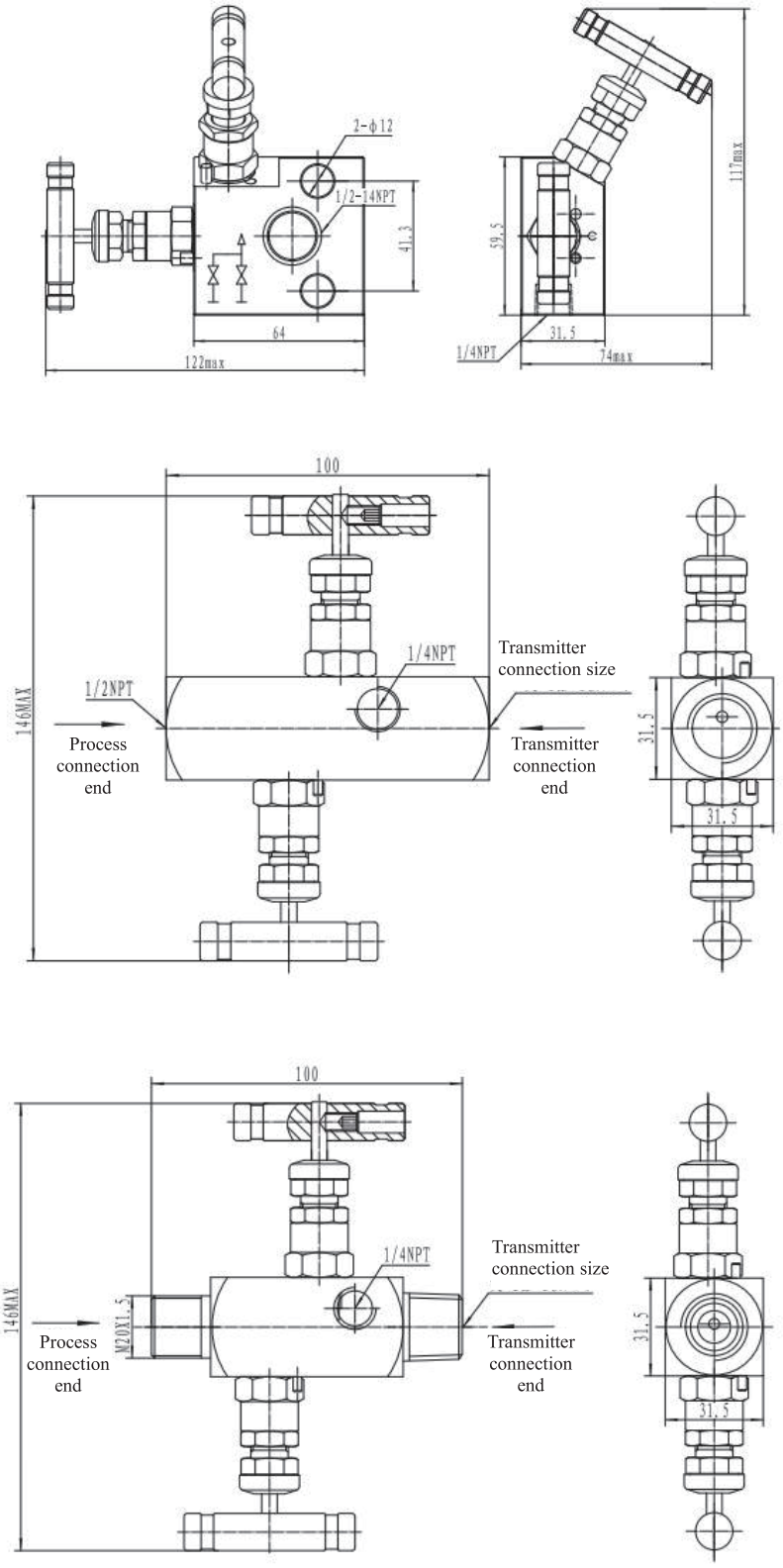
◆Model and spec. code of two-valve manifold

SICV	Specification code	Remarks
Type of valve manifold	2————	Two-valve manifold
Process connection size	-N————	1/2-14NPT female thread
	-M————	M20×1.5 male thread (applicable to options 1, 2, 3 and 4 of 2-valve manifold and transmitter connection size)
Valve and liquid receiving material	C————	316
	D————	316L
	E————	HC-276
	F————	Monel
Transmitter connection size	1————	1/2-14NPT male thread
	2————	G1/2 female thread
	3————	M20×1.5 female thread
	4————	1/2-14NPT female thread
	5————	Flange type
Installation screw of valve manifold	M————	M10 metric thread (applicable to option 5 of transmitter connection size only)
	U————	7/16-20UNF inch thread (applicable to option 5 of transmitter connection size only)
	N————	No installation screw (applicable to options 1, 2, 3, and 4 of transmitter connection size only)
Pressure level	L————	16MPa
	M————	32MPa
	H————	42MPa
Additional option/XX		
Process joint	D1————	Pressure type joint (Φ14×2)
	D2————	Pressure type joint (Φ14×3)
	D3————	Pressure type joint (Φ16×3)
	D4————	Ferrule type joint (1/4")
	D5————	Ferrule type joint (3/8")
	D6————	Ferrule type joint (7/16")
	D7————	Ferrule type joint (Φ14)
Others	T————	Degreasing cleaning
	N————	NACE test
Language	EN————	English
	EAC————	Russian

Note 1: BW butt joint is adopted by default.
Note 2: The service temperature is -40°C~150°C. Please consult us for other temperature.
Note 3: For other special requirements, please indicate with Z.
E.G.: SICV2-NC5ML/D2 or SICV2-NC1NL/D2/T.

◆Structure and size of two-valve manifold

Unit: mm



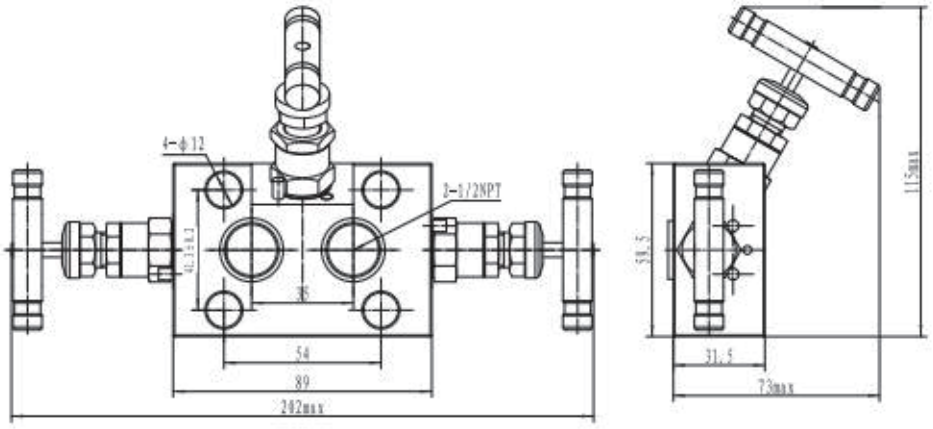
◆Model and specification code or three-valve or five-valve manifold

SICV	Specification code	Remarks
Type of valve manifold	3———	Three-valve manifold
	5———	Five-valve manifold
Process connection size	-N———	1/2-14NPT female thread
Valve and liquid receiving material	C———	316SS
	D———	316LSS
	E———	HC-276
	F———	Monel
Installation screw of valve manifold	M———	M10 metric thread
	U———	7/16-20UNF inch thread
Pressure level	L———	16MPa
	M———	32MPa
	H———	42MPa
Additional option/XX		
Process joint	D1———	Pressure type joint (Φ14×2)
	D2———	Pressure type joint (Φ14×3)
	D3———	Pressure type joint (Φ16×3)
	D4———	Ferrule type joint (1/4")
	D5———	Ferrule type joint (3/8")
	D6———	Ferrule type joint (7/16")
	D7———	Ferrule type joint (Φ14)
Others	T———	Degreasing cleaning
	N———	NACE test

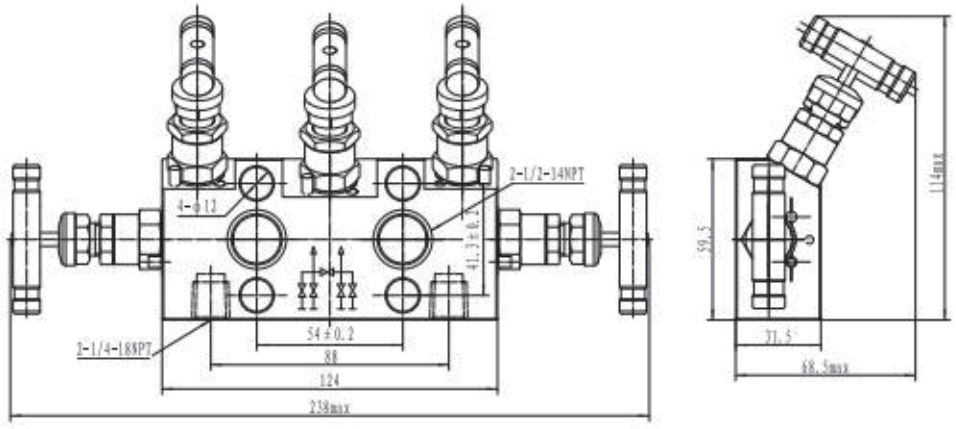
Note 1: BW butt joint is adopted by default.
Note 2: The service temperature is -40°C~150°C. Please consult us for other temperature.
Note 3: For other special requirements, please indicate with Z.
E.g.: SICV3-NCML/D2 or SICV3-NCML/D2/T.

◆Structure and size of valve manifold

Unit: mm



SICV three-valve manifold

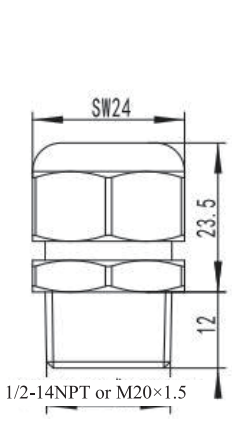


SICV five-valve manifold

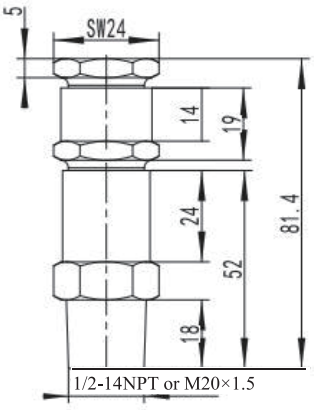
Specification and drawing of accessories

Electrical connector

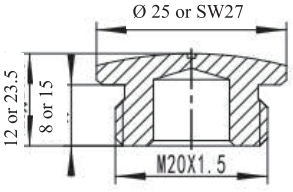
Unit: mm



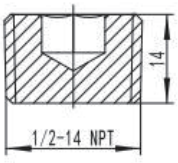
G60/G61 electrical connector



G70/G71 explosion-proof electrical connector



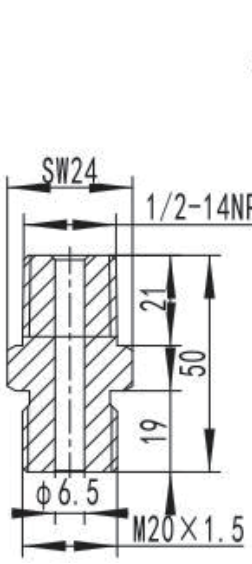
G60/G62/G63/G70/G74 sealing plug



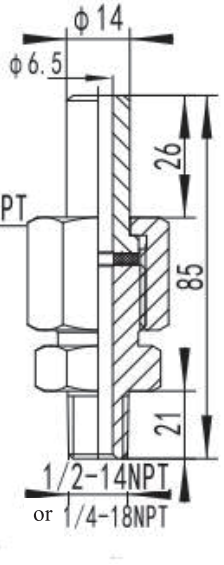
G61/G71/G72/G73 sealing plug

Process joint

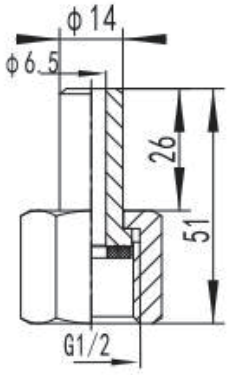
Unit: mm



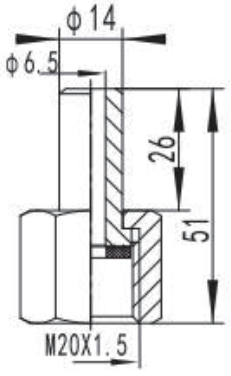
G84/H84/K84 transition joint
(1/2NPT male thread--M20×1.5 male thread)



G81/H81/K81/G91 welded pipe joint
(1/2NPT male thread-welded pipe joint)
G82/H82/K82/G92 welded pipe joint
(1/4NPT male thread-welded pipe joint)

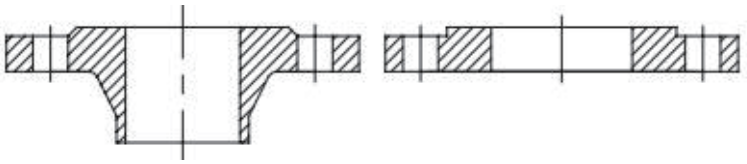


G83/H83/K83/G93 welded pipe joint
(G1/2 female thread-welded pipe joint)



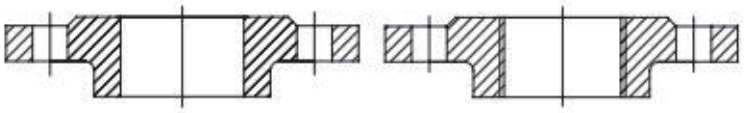
G80/H80/K80 welded pipe joint
(M20×1.5 female thread-welded pipe joint)

Type of companion flange



Hubbed butt welded flange (WN)

Plate-type flat welding flange (PL)

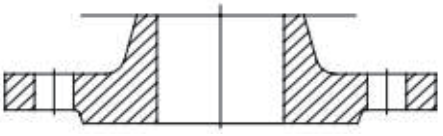


Hubbed flat welding flange (SO)

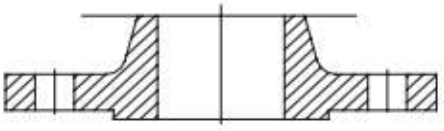
Thread flange (TH)

Flange sealing face type

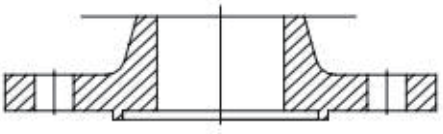
Raised face (RF)



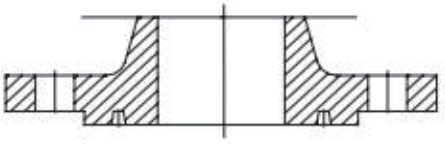
Convex (M)

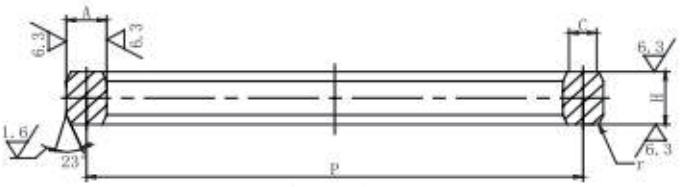


Concave (FM)



Ring junction (RJ)





Metallic ring joint gasket

Chemical industry standard of the People's Republic of China HG/T20612—2009 Metallic Ring Joint Gaskets for Use with Steel Pipe Flanges (PN designated)
Metallic ring joint gaskets for use with steel pipe flanges (PN designated) HG/T20643—2009 Metallic Ring Joint Gaskets for Use with Steel Pipe Flanges (Class designated)

Unit: mm

Nominal pressure	Nominal size DN25				
	Pitch P	Ring width A	Octagonal gasket H	Ring plane width C	Fillet radius R
PN64/100/160	50	8	13	5.5	1.6
Class150/300/600/900/1500	47.64	7.94	12.70	5.23	
Class2500	60.33	7.94	12.70	5.23	

Nominal pressure	Nominal size DN50				
	Pitch P	Ring width A	Octagonal gasket H	Ring plane width C	Fillet radius R
PN64/100	85	11	16	8	1.6
PN160	95	11	16	8	
Class150/300/600	82.55	7.94	12.7	5.23	
Class900/1500	95.25	11.11	10.58	7.75	
Class2500	101.60	11.11	10.58	7.75	

Nominal pressure	Nominal size DN80				
	Pitch P	Ring width A	Octagonal gasket H	Ring plane width C	Fillet radius R
PN64/100	115	11	16	8	1.6
PN160	130	11	16	8	
Class150	114.30	7.94	12.7	5.23	
Class300/600/900	123.83	11.11	10.58	7.75	
Class1500	136.53	11.11	10.58	7.75	
Class2500	127.00	12.70	17.46	8.66	

Nominal pressure	Nominal size DN100				
	Pitch P	Ring width A	Octagonal gasket H	Ring plane width C	Fillet radius R
PN64/100	145	11	16	8	1.6
PN160	160	11	16	8	
Class150/300/600/900	149.23	11.11	10.58	7.75	
Class1500	161.93	11.11	10.58	7.75	
Class2500	157.18	10.58	20.64	10.49	

Table for conversion of pressure unit

PV Unit	Kilogram force/square centimeter (kgf/cm^2)	Megapascal (MPa)	bar (bar)	Standard atmospheric pressure (atm)	Millimeter of water (mmH_2o)	Millimeter mercury column (mmHg)	pound/inch^2 (lb/in^2)
Kilogram force/square centimeter	1	0.0981	0.981	0.9678	1×10^4	735.6	14.22
Megapascal	10.2	1	10	9.869	1.02×10^5	7.50×10^3	1.45×10^2
bar	1.02	0.1	1	0.9869	10.2×10^3	750	14.50
Standard atmospheric pressure	1.0332	0.103	1.0133	1	1.0332×10^4	760	14.696
Millimeter of water	10^{-4}	9.81×10^{-6}	98.1×10^{-6}	0.9678×10^{-4}	1	73.56×10^{-3}	1.422×10^{-3}
Millimeter mercury column	1.36×10^{-3}	1.333×10^{-4}	1.333×10^{-3}	1.316×10^{-3}	13.6	1	19.34×10^{-3}
pound/inch2	70.3×10^{-3}	6.89×10^{-3}	68.9×10^{-3}	68.05×10^{-3}	703	51.72	1

1MPa=1000kPa=10^6Pa=10.1972kgf/cm^2=10bar=9.86927atm=145.038lb/in^2=7500.62mmHg =10.1972×10^4 mmH_2O

1kgf/cm^2=98.0665kPa=9.80665×10^{-2}MPa=0.980665bar=0.967841atm=10mmH_2O =735.559mmHg

Coefficient: mmHg: 0°C, g=9.80665m/s^2; mmH_2O: 0°C, g=9.80665m/s^2

Table for reference of corrosion resistant materials

A—excellent B—usable C—poor ×—not recommended

Classification	Medium name	Concentration /%	Temperature/°C	Carbon steel	316/316 L	Hastelloy C	Monel	Tantalum	Nickel	Titanium
Inorganic acid	Sulfuric acid	5	25	×	A	A	A	A	C	C
			100	×	C	B	B	A	C	C
		10	25	×	C	A	A	A	C	C
			100	×	C	C	B	A	C	C
		20	25	C	B	A	C	A	×	C
			100	×	C	C	×	A	×	C
		60	25	C	C	A	C	A	C	C
			100	×	×	C	×	A	C	C
		80	25	B	A	A	C	A	C	C
			100	C	C	C	×	B	C	C
		98	25	B	B	A	C	A	×	C
			100	×	×	A	×	A	×	C
		Fuming sulphuric acid	25	C	C	B	C	C	×	C
			100	×	C	B	C	C	×	C
	Nitric acid	10	25	C	A	B	C	A	C	A
			100	×	B	C	C	A	C	A
		30	25	C	A	B	C	A	C	A
			100	×	B	C	C	A	C	C
		68	25	C	A	A	×	A	C	A
			100	×	×	×	×	A	C	A
		Fuming	25	×	×	×	×	A	C	C
	Hydrochloric acid	5	25	×	C	B	C	A	B	B
			100	×	C	C	C	A	C	C
		10	25	×	C	B	C	A	B	B
			100	×	C	C	C	A	C	C
		20	25	×	C	B	C	A	C	B
			100	×	C	C	C	A	C	C
		35	25	×	C	B	C	A	C	C
			100	×	C	C	C	A	C	C
	Phosphoric acid	20	25	C	A	A	C	A	C	B
			100	×	A	A	C	A	C	C
		30	25	C	A	A	C	A	C	B
			100	C	B	A	C	A	C	×
		50	25	C	A	A	C	A	C	×
			100	C	B	A	C	A	C	×
		70	25	C	A	A	C	A	C	×
			100	C	C	B	C	A	C	×
		85	25	C	A	A	C	A	C	×
			100	C	C	C	C	A	C	×
		90	25	C	C	B	C	A	×	×
			100	×	C	B	C	A	×	×
	Hydrofluoric acid	5	25	C	C	C	A	C	×	×
			100	C	C	C	B	C	×	×
		40	25	C	C	A	A	×	×	×
			100	×	C	C	A	×	×	×
		90	25	B	C	B	×	×	×	×
			100	C	C	×	×	×	×	×
	Hydrobromic acid	<60	25	C	C	×	C	A	C	A
			100	A	C	×	C	A	C	A
	Hydrocyanic acid		25	B	B	B	B	A	×	×
			100	A	B	B	B	A	×	×
	Argon-sulfuric acid		25	C	B	B	C	A	B	A
			100	×	B	B	C	A	B	A
	Carbonic acid	10	25	B	B	A	A	A	B	A
			100	×	C	×	A	A	B	A
		100	25	B	A	A	B	A	B	A
			100	×	A	×	A	A	B	A
	Chromic acid	<50	25	C	C	B	C	A	B	A
			100	×	C	B	C	A	B	A
		>50	25	A	C	B	C	A	B	A
			100	×	C	×	C	A	B	A
	Chloric acid	10	25	C	C	B	C	A	×	×
			100	×	C	×	C	A	×	×
	Hypochloric acid		25	C	C	A	C	A	×	A
			100	×	C	×	C	A	×	×
	Boric acid	0~10	25	C	A	A	B	A	×	A
			100	C	A	A	B	A	×	A
	Chlorosulfonic acid	10	25	C	C	B	C	A	×	×
			100	C	C	×	C	A	×	×
		100	25	B	B	A	C	A	×	×
			100	×	B	A	C	A	×	×
	Chrome water	20	25	×	×	A	×	A	C	×
			100	×	×	×	×	A	C	×
	Chloroazotic acid		25	C	C	C	C	A	×	×
			100	C	C	C	C	×	×	×

Classification	Medium name	Concentration /%	Temperature/°C	Carbon steel	316/316 L	Hastelloy C	Monel	Tantalum	Nickel	Titanium
Organic acid	Formic acid	10	25	C	×	A	×	A	×	×
			100	×	×	A	C	A	×	×
		100	25	×	×	A	C	A	×	×
			100	×	×	A	C	A	×	×
	Acetic acid	<100	25	C	A	A	C	A	×	A
			100	×	A	A	C	A	×	A
		100	25		B	A	B	A	×	A
			100		B	A	B	A	×	A
	Propionic acid	60~90	25	C	B	A	B	A		C
			100		B	A	B	A		C
	Butyric acid		25	C	A	A	B	A		A
			100		A	A	B	A		A
	Butenoic acid		25	C	B	B	B	A		×
			100		B	B	B	A		×
	Stearic acid		25		A	A	B	A		A
			100	C	A	A	×	A		A
	Fatty acid		25	×	A	A	B	A		A
			100	×	A	A	B	A		A
	Glycollic acid		25	×	B	B	B	A		A
			100	×	B	B	B	A		A
	Pyroacetic acid	10	25	C	A	B	B	A		×
			100	×	A	×	B	A		×
		100	25	A	B	A	B	A		×
			100	×	×	×	B	A		×
	Monochloroacetic acid	<70	25	C	C	B	B	A		×
			100	×	C	B	B	A		A
		100	25	B	B	A	B	A		A
			100	×	×	A	B	A		A
	Lactic acid	<20	25	C	A	B	C	A		A
			100	×	B	B	C	A		A
		>70	25	×	A	B	B	A		A
			100	×	B	B	B	A		A
	Oxalic acid	10	25	×	B	B	B	A	B	B
			100	×	C	B	B	B	B	C
	Butanedioic acid	<50	25	B	B	B	B	A		A
			100	B	B	B	B	A		A
		100	25	B	B	B	B	A		A
			100	B	B	B	B	A		A
	Benzoic acid	<70	25	C	B	A	B	A		A
			100	×	B	A	B	A		A
	Citric acid	0~100	25	C	A	A	B	A	B	A
			100	×	A	A	B	A	B	B
	Salicylic acid		25	C	B	B	B	A	×	×
			100	C	B	×	B	A	×	×
	Aminobenzoic acid		25	B	B	B	B	A		A
			100	B	B	B	B	A		A
	Benzenesulfonic acid	0~100	25	C	B	B	B	A		A
			100	C	×	B	B	A		A
	Naphthalene sulfonic acid	100	25	C	B	A	B	C	×	×
			100	×	×	A	B	C	×	×
Bases and hydroxides	Sodium hydroxide	10	25	A	A	A	A	C		A
			100	B	A	A	A	C		A
		20	25	A	A	B	A	A	A	A
			100	B	A	B	B	B	A	×
		40	25	A	A	B	A	C	A	×
			100	B	A	B	B	C	A	×
		70	25	B	A	A	A	C	B	×
			100	C	B	A	A	C	B	×
	Potassium hydroxide	<60	25	B	A	B	B	A	C	A	A
			100	B	A	B	A	C	A	A
		100	25	B	A	B	A	C	B	B
			100	×	A	×	A	C	C	C
	Ammonium hydroxide	0~100	25	A	A	A	A	×		A
			100	B	B	A	A	×		A
	Calcium hydroxide	<50	25	B	A	A	B	A		A
			100	B	A	A	B	A		A
	Magnesium hydroxide	100	25	B	A	A	A	A		A
			100	B	A	A	A	A		A
	Lithium hydroxide	10	25	B	B	B	B	×		×
			100	B	B	B	B	×		×
	Aluminium hydroxide	10	25	B	A	B	B	A		A
			100	B	A	B	B	A		A

Classification	Medium name	Concentration /%	Temperature/°C	Carbon steel	316/316L	Hastelloy C	Monel	Tantalum	Nickel	Titanium
Salt	Ammonium sulfate	<40	25	×	B	B	B	A	B	A
			100	×	B	B	B	A	C	C
	Ammonium nitrate	10	25	A	A	B	C	A	×	×
			100	A	A	B	C	A	×	×
	Ammonium carbonate	100	25	B	B	B	B	A		A
			100	×	B	B	B	A		A
	Ammonium chloride	<40	25	C	A	A	B	A	A	A
			100	C	A	A	B	A	B	A
		100	25	B	×	B	B	A	×	×
			100	×	×	B	B	A	×	×
	Ammonium acetate	0~100	25	A	A	A	A	×		×
			100	×	A	A	A	×		×
	Ammonium sulfite	<30	25	C	B	B	C	A		×
			100	×	B	B	C	A		×
	Sodium sulfate	<40	25	B	×	×	A	A	×	×
			100	B	×	B	B	A	×	×
	Sodium carbonate	10	25	A	A	A	A	A		A
			100	A	A	A	A	A		A
		100	25	A	B	B	B	A		×
			100	A	B	B	B	A		C
	Sodium hypochlorite	<20	25	B	C	B	C	A		A
			100	×	C	B	C	A		A
	Sodium chloride	<30	25	C	B	B	×	A	A	A
			100	C	C	B	×	A	A	A
	Sodium bicarbonate	<30	25	C	A	B	B	A		A
			100	C	C	B	B	A		A
	Sodium nitrite		25	A	A	A	B	A		A
			100	C	A	A	B	A		A
	Natrium aceticum	<60	25	A	A	B	A	A		A
			100	A	A	B	A	A		A
	Sodium benzoate	<60	25	B	B	B	B	B		B
			100	B	B	B	B	B		B
	Potassium sulfate	<20	25	B	A	A	A	A		A
			100	C	A	A	A	A		A
	Potassium nitrate	<100	25	B	B	B	B	A	×	×
			100	×	×	×	B	A	×	×
	Potassium carbonate	<50	25	×	B	B	B	×		A
			100	×	B	B	B	C		A
	Potassium perchlorate	10	25	C	B	B	B	×		A
			100	B	B	B	B	×		A
	Potassium chloride	<30	25	B	A	B	B	A		A
			100	×	A	B	B	A		A
	Potassium bromide	<30	25	×	B	B	B	A		A
			100	×	B	B	B	A		A
	Potassium chromate	<30	25	B	B	A	B	A		A
			100	B	B	A	B	A		A
	Potassium permanganate	10	25	B	B	B	B	×		A
			100	B	B	B	B	×		×
	Aluminium sulfate	<50	25	C	A	A	B	A		A
			100	×	A	A	C	A		A
	Aluminium chloride	0~100	25	C	B	A	A	A		B
			100	×	×	A	C	A		C
	Magnesium sulfate	<50	25	A	A	A	A	A		A
			100	A	A	A	A	A		A
	Magnesium nitrate		25	B	B	B	B	A		B
			100	B	B	B	B	A		B
	Magnesium chloride	<40	25	×	B	A	B	A	×	A
			100	×	B	A	B	A	×	A
	Calcium sulfate	10	25	B	A	B	B	A		A
			100	B	A	B	B	A		A
		100	25	B	B	B	B	A		A
			100	C	B	B	B	A		A
	Calcium carbonate	100	25	B	B	B	B	A		A
			100	B	×	B	B	A		A
	Calcium phosphate	10	25	B	B	B	B	A		A
			100	B	B	B	B	A		A
	Calcium chloride	<80	25	A	B	A	A	A	A	A
			100	A	B	A	A	A	×	A
	Ferric chloride	30	25	C	C	B	C	A	C	A
			100	×	C	C	C	A	×	A

Classification	Medium name	Concentration /%	Temperature/°C	Carbon steel	316/316L	Hastelloy C	Monel	Tantalum	Nickel	Titanium
Elements, gases and inorganic compounds thereof	Chlorine	Dry gas	25	B	B	A	B	A	A	C
			100	B	B	B	B	A	A	C
		Wet gas	25	C	C	B	C	A	×	×
			100	C	C	C	C	A	×	×
	Chlorine water	Saturated	RT	×	C	B	B	A	×	×
	Bromine	Dry	25	C	C	A	A	A		C
			100	C	C	B	A	A		C
		Wet	25	C	×	A	C	A		C
			100	C	×	A	C	A		C
	Phosphorus		25	B	A	A	C	×		×
			100		A	×	C	×		×
	Sodium	370	A	A	A	A	A		A	
	Hydrogen chloride	100	25	A	A	A	A	A		B
			100	A	A	A	A	A		B
	Sulfur dioxide	10	25	C	A	A	C	×		A
			100	C	A	A	C	×		A
		90~100	25	A	B	B	C	×		A
			100	B	B	B	C	×		A
	Phosphorus trichloride	Dry	25	A	A	A	A	A		A
			100	A	A	A	A	A		
	Arsenic trichloride	10	25	C	C	B	C	×		×
			100	C	C	B	C	×		×
	Sodium peroxide	10	25	B	A	B	B	×		C
			100	B	A	B	B	×		C
	Sulfur dichlorate	Wet		×	A	×	×	A	B	×
	Hydrogen sulfide	Wet	25	×	A	×	×	A	C	A
Alcohol, aldehyde, ether, ketone, ester	Methanol.		25	B	A	A	A	A		A
			100	A	A	A	A	A		A
	Ethanol		25	A	A	A	A	A		A
			100	A	A	A	A	A		A
	Formaldehyde	<70	25	C	A	B	A	A		A
			100	C	A	B	A	A		A
	Acetaldehyde		25	A	A	A	A	A		A
			100	A	A	×	B	A		A
	(II) Methyl ether		25	B	B	B	B	A		A
			100	B	B	B	B	A		A
	(II) Diethyl ether		25	A	A	B	A	A		A
			100	B	A	B	A	A		A
	Acetone		25	B	A	A	A	A		A
			100	B	A	A	A	A		A
	Butanone	<100	25	B	B	B	B	A		A
			100	B	B	B	B	A		A
	Methyl formate	<30	25	B	B	B	B	B		A
			100	B	B	B	B	B		A
	Acetic ether		25	A	A	B	A	A		A
			100	B	B	B	A	A		A
Hydrocarbons and petroleum products	Methane		25	A	A	A	A	A		A
			100	A	A	A	A	A		A
	Benzene		25	B	B	B	A	A		A
			100	B	B	B	A	A		A
	Toluene		25	A	A	A	A	A		A
			100	A	A	A	A	A		A
	Phenol	90	25	A	B	A	B	A		A
			100	×	B	A	B	A		A
	Acrylonitrile		25	A	A	A	A	A		A
			100	A	A	A	A	A		A
	Urea	<50	25	B	B	B	B	A		A
			100	C	B	B	B	A		A
	Nitroglycerin		25	A	A	A	A	A		A
			100	×	A	×	×	A		×
	Methyl nitrobenzene		25	A	A	B	B	A		B
			100	A	A	B	B	A		B
Other	Sea water		25	C	A	A	A	A	C	A
			80	C	A	A	×	A	×	×
	Saline		25	B	B	A	A	A	B	A
			80	×	B	A	×	A	×	×
Mixture	35%HCL+65%HNO3		25	×	×	×	×	A	×	×
	90%H2SO4+10%HNO3		25	×	×	×	×	A	×	×
	70%H2SO4+30%HNO3		RT	×	×	×	×	A	×	×
	50%H2SO4+50%HNO3		RT	×	×	×	×	A	×	×

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