

# PC90D Monocrystalline Silicon Differential Pressure Sensor

## Features

- Imported ultra-high stability differential pressure die
- High accuracy and excellent stability
- Static pressure error within  $\pm 0.15\%FS/10MPa$
- Patented double overpressure protection diaphragm design
- Unilateral overpressure limit of up to 40MPa
- Constant voltage excitation
- 316L stainless steel all welded integrated structure
- Positive and negative pressure symmetrical, no O-ring inside
- With small flange kit

## Applications

- Differential pressure transmitter core component
- Differential pressure flow transmitter core component

### Notes:

- 1 Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.
- 2 Please read the Instruction Manual of the product carefully before installation and check the relevant information of the product.
- 3 Strictly follow the wiring method for wiring, otherwise it may cause product damage or other potential faults.
- 4 Misuse of the product may cause danger or personal injury.



## Overview

PC90D Monocrystalline Silicon Differential Pressure Sensor is a kind of differential pressure sensor designed with overpressure protection function. The differential pressure sensitive core element adopts high performance piezoresistive silicon chip, which is assembled in all-welded seal structure and filled with silicon oil in high vacuum. Diaphragm of different materials isolates measuring medium and differential pressure die, meanwhile, the sensor performs long-term reliable measurement of differential pressure signals of various strong corrosive media. Differential pressure sensor converts the measured differential pressure signal into millivolt voltage signal proportional to its linearity by external constant current or constant voltage excitation.

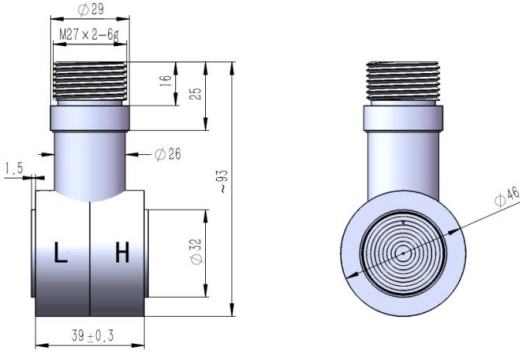
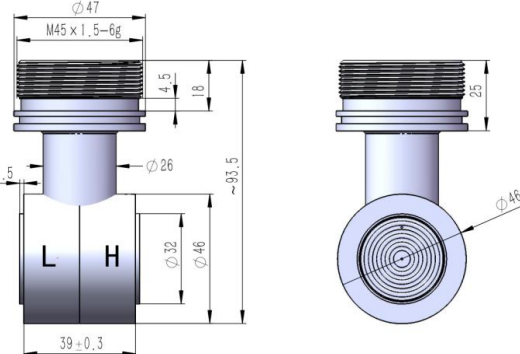
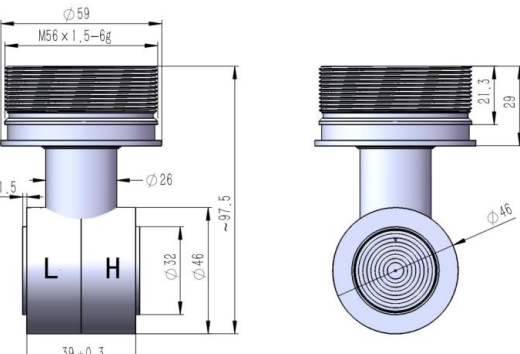
### Notes:

- 1 Do not misuse documentation.
- 2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- 3 Complete installation, operation, and maintenance information is provided in the instructions of the product.
- 4 Misuse of the product may cause danger or personal injury.

### Performance parameters

Supply	5V
Operating temp.	-40°C-85°C
Storage temp.	-50°C-125°C
Output voltage	60~140mV
Zero temp. coefficient	±0.05%FS/°C
Temp. hysteresis	±0.1%FS(10kPa<Range≤1000kPa) ±0.5%FS(Range≤10kPa)
Pressure hysteresis	±0.025%FS
Long-term drift	±0.05%FS/Year
Nonlinearity	±0.5%FS(10kPa<Range≤1000kPa) ±1.5%FS(Range≤10kPa)
Static pressure impact	±0.15%FS/10MPa
Diaphragm material	Stainless steel 316L

### Structure & dimensions

Thread code	Dimensional drawing	in mm
<b>H2: M27×2</b>		
<b>H9: M45×1.5</b>		
<b>H10: M56×1.5</b>		

## Structure & dimensions (cont.)

Thread code	Dimensional drawing	in mm
<b>H11:</b> <b>55-16 British</b> <b>thread</b>		

## Pressure range selection

Code	Pressure range	Unilateral overpressure	Static pressure
6k	-6kPa~0~6kPa	16MPa	16MPa
40k	-40kPa~0~40kPa	16MPa	16MPa
100k	-100kPa~0~100kPa	16MPa	25MPa
250k	-250kPa~0~250kPa	16MPa	25MPa
1M	-1MPa~0~1MPa	16MPa	40MPa

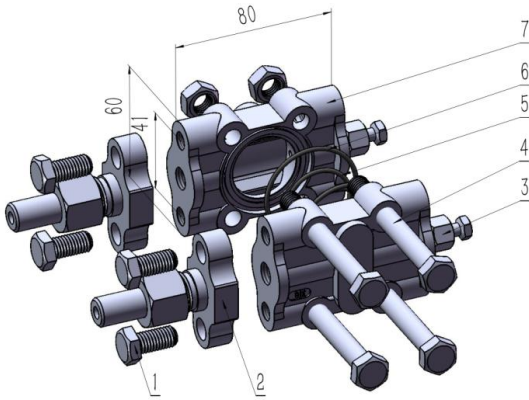
## Electrical connection

Schematic Diagram 1*	Schematic Diagram 2	Schematic Diagram 3
Wire color	Wire definition	
Red	Excitation+ (IN+)	
Blue	Excitation - (N-)	
Yellow	Output+ (OUT+)	
White	Output- (OUT-)	
Green	Temperature (T) or Temperature+ (Diode+)	
Black	Temperature- (Diode-)	

\* Default electrical connection

Small flange kit

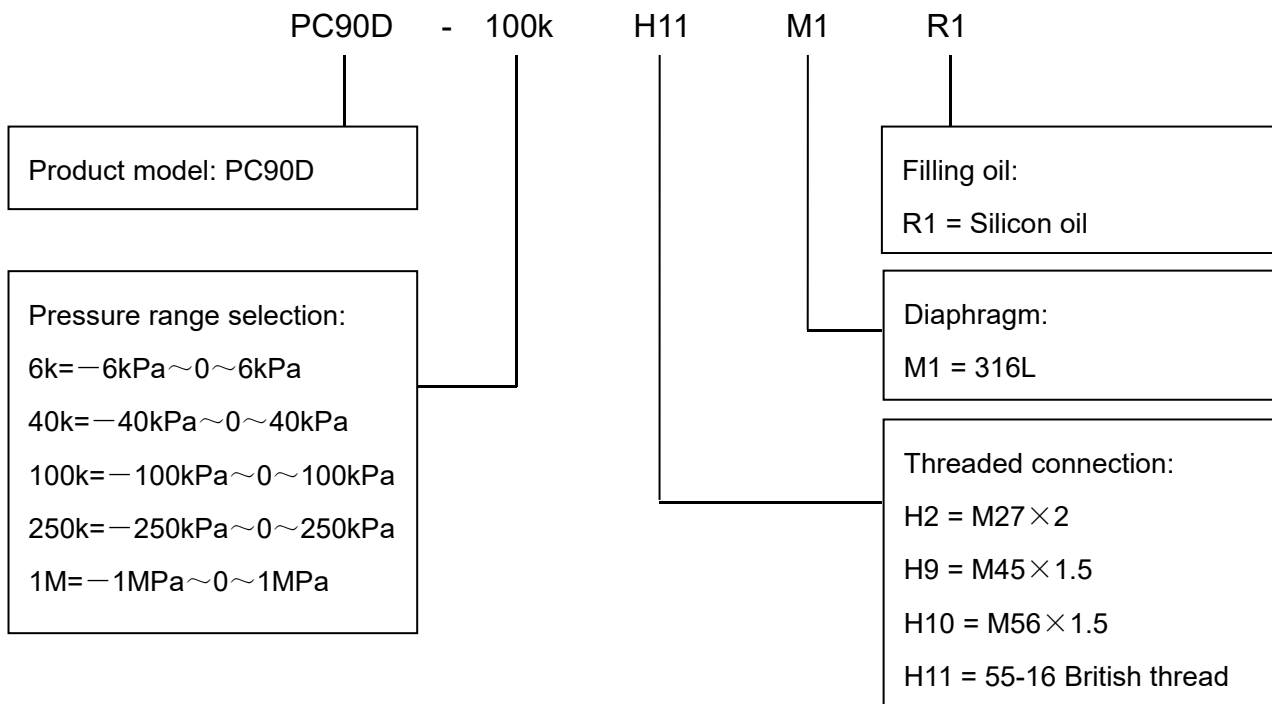
in mm



Note: O-rings are provided free of charge with small flange.

No.	Name	Material No.	Quantity
1	Screw bolt M10×20	100040700000	4
2	T-type connector M20	100040700002	2
3	Relief valve NPT1/4	100040700003	2
4	Bolt and nut M8×90	100033100022	4
5	O-ring $\phi 34 \times 1.9$	100060000045	2
6	O-ring $\phi 46 \times 1.9$	100060000044	2
7	Small flange NPT1/4	100033100021	2

How to order



**Example:** PC90D-100kH11M1R1

Refer to product model PC90D, with pressure range - 100kPa ~ 0 ~ 100kPa, thread 55-16 British thread, diaphragm material stainless steel 316L, and filling oil silicon oil.

**Ordering tips:**

- Accessories need to be ordered separately.
- The default electrical connection is 1. If 2 or 3 is required, please specify.



Wotian reserves the right to make any change in this publication without notice. The information provided is believed to be accurate and reliable as of this product sheet.

### **Contact us**

Nanjing Wotian Technology Co.,Ltd.

website: [www.wtsensor.com](http://www.wtsensor.com)

Add: 5 Wenyong Road, Binjiang Development Zone, Nanjing, 211161, China

Sales Manager: Wuzhou Lian

Email: [lianwuzhou@wtsensorus.com](mailto:lianwuzhou@wtsensorus.com)