# HPM710 Flat Film Hygienic Pressure Transmitter

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## Overview

HPM710 Flat Film Hygienic Pressure Transmitter adopts flat film which can directly receive the pressure signal and adopts the silicon pressure core as sensitive element and the standard silicon oil or olive oil as pressure transmission medium. The measuring terminal of product uses 316L stainless steel with compact structure, corrosion resistance, vibration resistance and wide range of temperature compensation. Because the exposed stress diaphragm at the end of thread can directly receive the pressure, it can solve the problems like scale formation, insanitation and blocking of viscous pressure, especially suitable for the measurement of viscous fluid and liquid level with hygienic requirements in the fields of medicine and food.

Application: medicine, food, wine making, dairy products, drinks and other viscous easily blocked sanitary requirements for easy cleaning occasions;Environmental protection chemical coating, polyurethane equipment, paint detection system

## Features

.pressure interface adopts 316L flat film structure

.hygienic type, scale formation resistance

.short-circuit protection and reverse polarity protection

.with cooling fin design optional, excellent application performance for high temperature mediums

.optional various output signal , can be customized according to requirements

## Technical Parameters

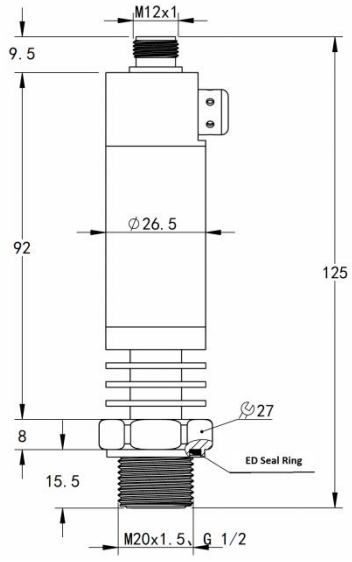
| | |
|---|---|
| Measuring Medium | Various liquid and gas compatible with 316L stainless steel |
| Pressure Range | -100kPa…0～20kPa…40MPa |
| Overload | 1.5 times pressure range of full scale |
| Pressure Type | Gauge pressure, absolute pressure or sealed gauge pressure |
| Accuracy | 0.5%FS |
| Long-Term Stability | ±0.50%FS/Year，≤100kPa<br>±0.25%FS/Year，>100kPa<br><br>(includes linearity, hysteresis, and repeatability)* |

| | |
|---|---|
| Output Signal /Power Supply | Two wire, 4~20mA / Vs=8~30V<br>Two wire, 4~20mA+HART / Vs=12~32V<br>Three wire: 0～5V / Vs=8.5~30V or Vs=3.1~8V(Also need to be higher than the maximum output voltage 0.4V)<br>Three wire: 0～10V / Vs=12~30V |
| Temperature Coefficient of Zero | 0.4%FS/10℃ |
| Temperature Coefficient of Full Scale | 0.3%FS/10℃ |
| Medium Temperature | -40 ~ 80℃ -Without cooling fins<br>-40 ~ 140℃ -With 3pcs cooling fins<br>-40 ~ 180℃ -With 5pcs cooling fins |
| Ambient Temperature | -40 ~ 80℃ |
| Storage Temperature | -40 ~ 100℃ |
| Ingress Protection of Shell | IP65， Hirschmann<br>IP65， Cable outlet<br>IP69K， M12×1 |

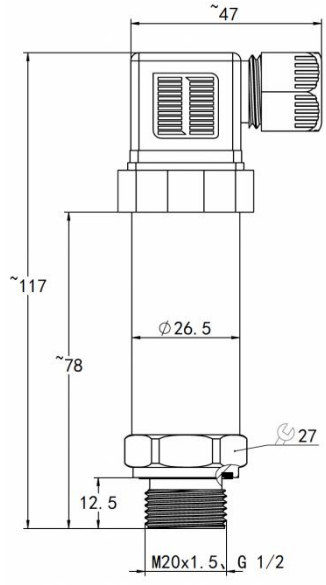
| | |
|---|---|
| Electrical protection | |
| Short circuit protection | Yes |
| Reverse polarity protection | No damage, circuit does not work |
| Mechanical stability | |
| Vibration | 20g (20~5000Hz) |
| Impact resistance | 50g(11ms) |

## Structure Drawings

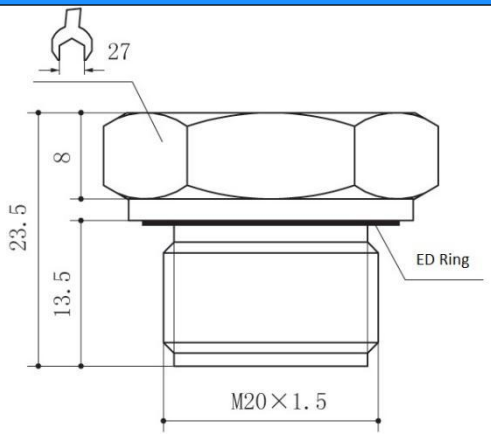
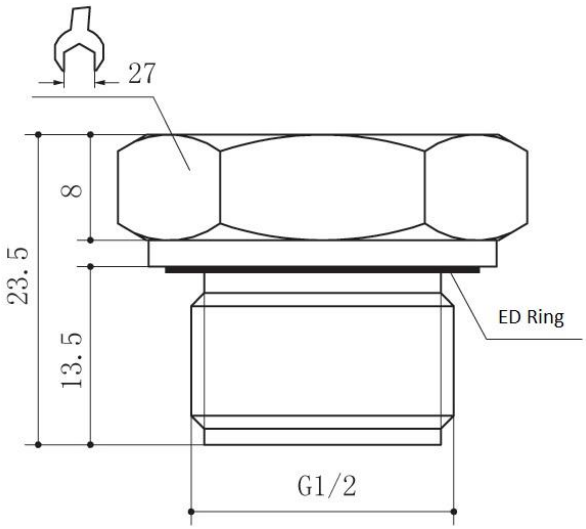
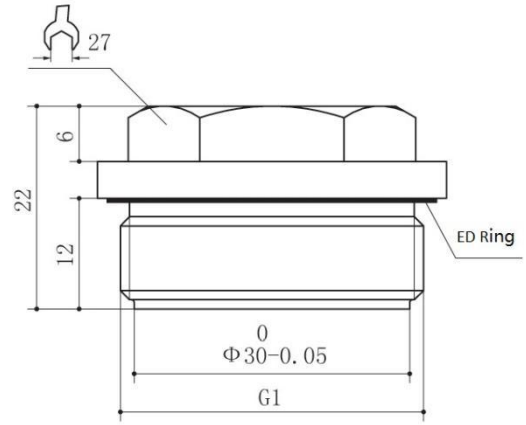
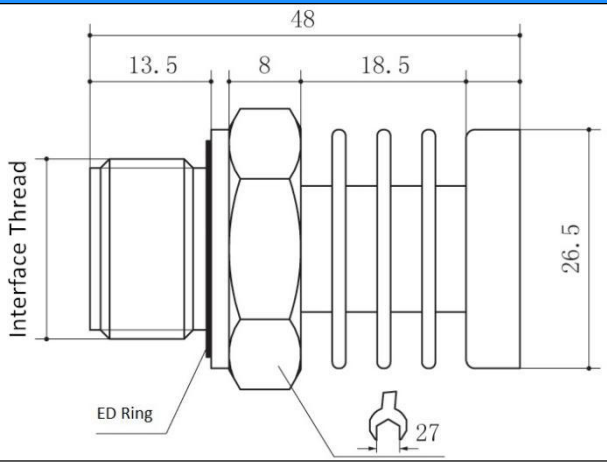
**M12×1，With 3pcs cooling fins**




**Hirschmann, without cooling fins**



## Pressure Port

| M20×1.5 | G1/2 |
|---|---|
|  |  |
| **G1** | **High Temperature** |
|  |  |

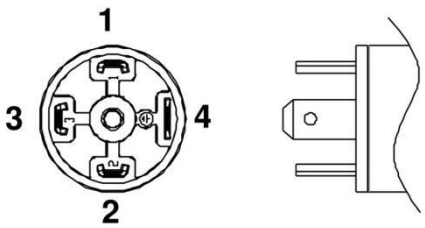
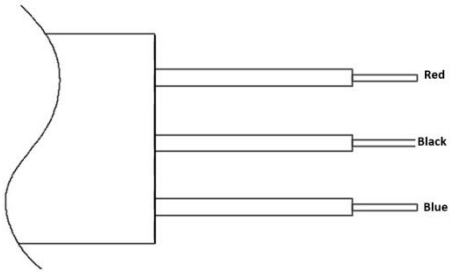
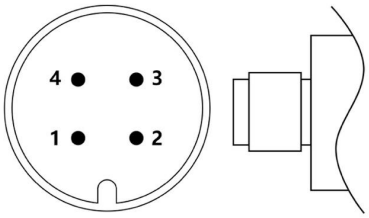
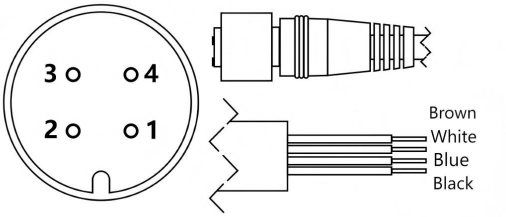


Note:

1. The dimensions listed in the picture may change as the technology is updated.

2. For other shapes, please consult us.

## Electrical Connection

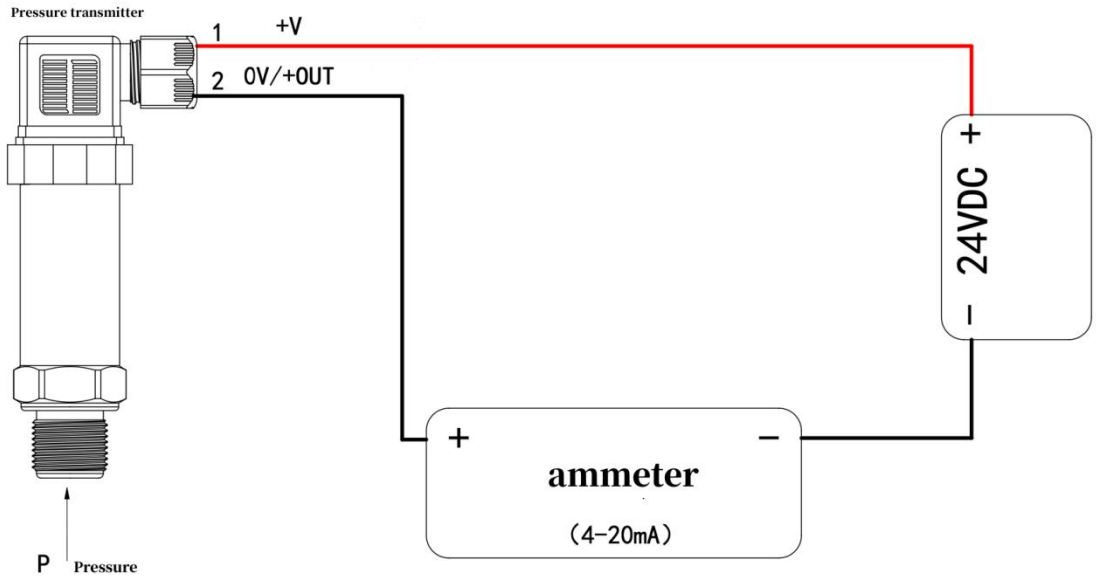
| Hirschmann DIN43650 | Cable Outlet |
|---|---|
|  |  |
| **M12×1** | **M12×1，with cable** |
|  |  |

| **Two wire 4 ~ 20mA current output** | | |
|---|---|---|
| Signal Definition | Power Supply+(+V) | Power Supply-(0V/+OUT) |
| Hirschmann DIN43650 | 1 | 2 |
| Cable outlet | red | black |
| M12×1-4P | 1 | 3 |
| M12×1-4P, with cable | Brown | Blue |

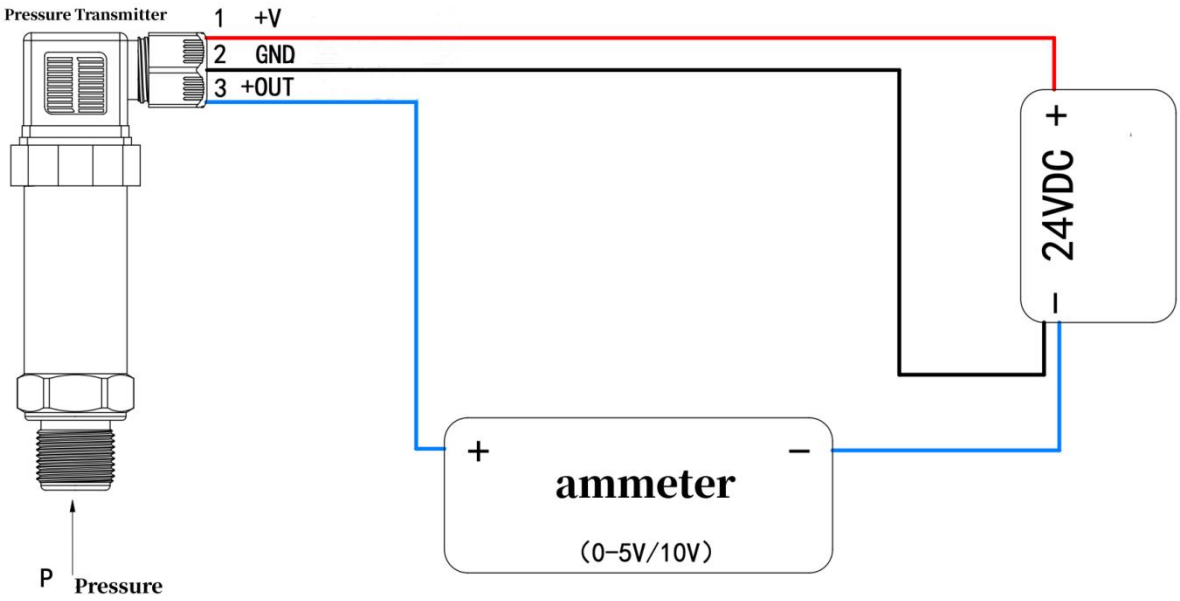
| **Three wire 0~5V/10V voltage output** | | | |
|---|---|---|---|
| Signal Definition | Power Supply+(+V) | Power Supply-(GND) | Signal+(+OUT) |
| Hirschmann DIN43650 | 1 | 2 | 3 |
| Cable outlet | red | black | blue |
| M12×1-4P | 1 | 3 | 2 |
| M12×1-4P, with cable | Brown | Blue | White |

## Wiring Diagram

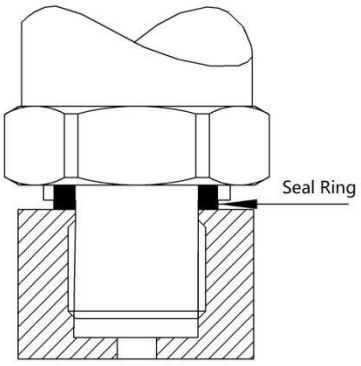
**A: Two wire 4 ~ 20mA current output**




**B: Three wire voltage output**



## Process Connection




Tips:

1.The thread length of the pressure transmitter must be less than the depth of the base thread to ensure the effective seal of the root gasket

2.Flush film pressure transmitter front diaphragm can not touch the bottom of the base

## Ordering Code

| Item NO. | Type |
|---|---|
| HPM710 | Flat Film Hygienic Pressure Transmitter |

| Pressure Range | Measuring Range |
|---|---|
| (0~X)kPa | Fill out X directly |

| Code | Output Signal |
|---|---|
| B1 | (4～20)mA |
| B3 | (0～10)V |
| B4 | (0～5)V |
| B5 | (1～5)V |

| Code | Thread Spec |
|---|---|
| KG12 | G1/2 |
| KG1 | G1 |
| KP1 | M20×1.5 |

| Code | Electrical Connection |
|---|---|
| C1 | DIN43650 |
| C2 | Cable Outlet |
| C5 | M12*1 |
| C5X | M12*1 with cable |

| Code | Pressure Port |
|---|---|
| S6 | 316L |

| Code | Housing Material |
|---|---|
| S4 | 304 |
| S6 | 316L |

| Code | Cooling Fins |
|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | T3 | 3pcs | |
| | | | | | | | T5 | 5pcs | |
| | | | | | | | NT | without | |
| | | | | | | | | Code | Additional Functions |
| | | | | | | | | G | Gauge |
| | | | | | | | | S | Sealed Gauge |
| | | | | | | | | A | Absolute |
| | | | | | | | | NB | NBR Nitrile Seals |
| | | | | | | | | FK | FKM Fluorine Rubber Seals |
| | | | | | | | | ED | EPDM Seals |
| | | | | | | | | FF | Perfluoroelastomer FFKM seals |
| HPM710 | (0~1)Bar | B1 | KG12 | C1 | S6 | S4 | T3 | G NB | |