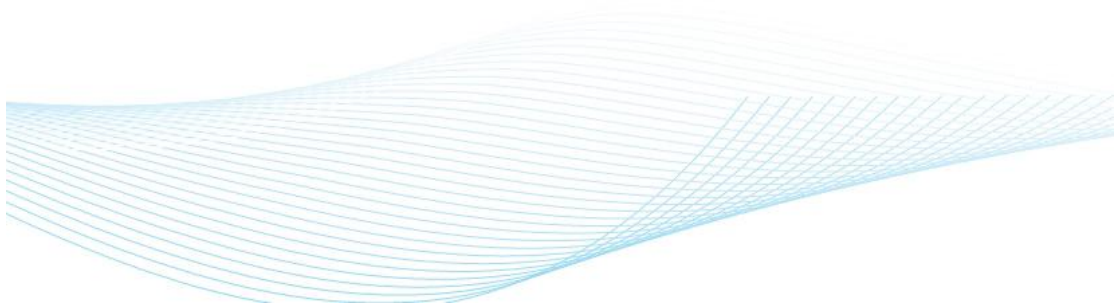


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## 一般压力表、压力真空表、真空表

### Normal Pressure Gauge, Pressure Vacuum Gauge, Vacuum Gauge

#### ● 用途 Application

该系列产品广泛用于输送气体、液体的管道及容器中，测量无爆炸危险，无结晶体、不凝固并对合金不起腐蚀作用的液体、气体等介质的工作压力。仪表具有体积小、结构精巧、性能稳定、安全可靠、显示清晰、直观等优点。

This series are widely used in gas transmitting liquid tube and vessels, measuring the working pressure of medium such as liquid and gas without danger of explosion, without crystallizing, without freezing and without corrosive function to alloy. Having advantages as small volume, ingenious structure, stable performance, safety and reliability, clear display and intuitionistic.

#### ● 概述 Summary

一般压力表，用“Y”表示；  
压力真空表，用“YZ”表示；  
真空表，用“Z”表示；  
压力表从安装形式区分，有径向安装及轴向安装之区别。

Normal pressure gauge, marked with “Y”  
Pressure vacuum gauge, marked with “YZ”  
Vacuum gauge, marked with “Z”  
Distinguishing from the installation, there are two types, radial and axial.

#### ● 型号命名

仪表类型 Type	表直径 Diameter	安装形式 Installation	表壳种类 Sheath Type
Y	Φ60; Φ100; Φ150; Φ200; Φ250	轴向: Z; Z: Axial 径向无代号 Blank: Radial	T表示表壳带边; 直接安装无代号 T: Sheath with border Blank: Direct installation
YZ			Y Normal Pressure Vacuum Gauge
Z			Z Vacuum Gauge

注：T 径向表带后边—径向凸装；

轴向表带前边—轴向嵌装；

TQ 径向表带前边—径向嵌装；

★：例：Y-150 径向，直接安装压力表；

Y-150ZT 轴向，带边压力表。

★：特殊的安装要求，请在合同上注清。

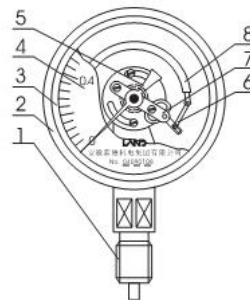
Note: T, Radial gauge with behind border- Radial surface mounted gauge  
Axial gauge with front border- Axial surface concaved gauge  
TQ, Radial gauge with front border- Radial surface concaved gauge

Example: Y-150, Radial, direct installation gauge  
Y-150ZT, Axial, gauge with border

#### ● 结构原理 Structure Principle

仪表的测量系统由接头与弹簧管组成，由于被测压力的变化使弹簧管自由端产生位移，借连杆带动扇形传动齿轮端部的指针旋转，在刻度盘上显示出相应的压力数值。为了消除扇形齿轮转轴齿间的间隙活动，在转轴齿轮上装置了盘形游丝。

The system is made up of junction and spring tube, because the change of measured pressure effect the movement to free ends of spring tube, drives needle on turnable gear circling by the connection rod, then the dial will display the corresponding pressure value. In order to avoid the movement because of the clearance between the turnable gears, we fix a hairspring on the gears.



- 1 接头
- 2 表壳
- 3 衬圈
- 4 度盘
- 5 指针
- 6 连杆
- 7 传动机构(机芯)
- 8 弹簧管

- 1.Connection header
- 2.Sheath
- 3.Lined band
- 4.Dial
- 5.Needle
- 6.Connection rod
- 7.Turnable Implement (core)
- 8.Spring tube

### ● 主要技术指标 Main Technic Indicator

产品型号 Model #	Y-60 YZ-60 Z-60	Y-100 YZ-100 Z-100	Y-150 YZ-150 Z-150	Y-200 YZ-200 Z-200	Y-250 YZ-250 Z-250
公称直径 Nominal Diameter	Φ60	Φ100	Φ150	Φ200	Φ250
接头螺纹 Connection Thread	M14×1.5	M20×1.5			
精度等级 Accuracy Class	2.5	1.6	1.0; 1.6		
测量范围 (Mpa) Measuring Range (Mpa)	Y-	0-0.1; 0-0.16; 0-0.25; 0-0.4; 0-0.6; 0-1; 0-1.6; 0-2.5; 0-4; 0-6; 0-10; 0-16; 0-25; 0-40; 0-60;			
	YZ-	-0.1~-0.06; -0.1~-0.15; -0.1~-0.3; -0.1~-0.5 -0.1~-0.9; -0.1~-1.5; -0.1~-2.4			
	Z-	-0.1~0			

★：注：连接螺纹可按客户要求特殊加工

Note: The junction screw thread can be according to user's special requests

### ● 使用环境条件 Operation Circumstance

-40~70℃，相对湿度不大于85%。

-40~70℃, the relative humidity is 85% or smaller.

### ● 温度影响 Temperature Affection

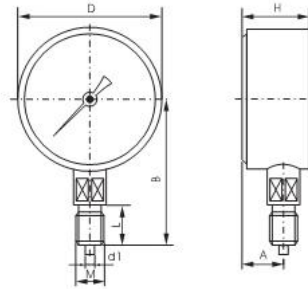
使用温度偏离20±5℃时：仪表示值误差=±(基本误差+0.04%×Δt)  
the error of using temperature is 20±5℃

### ● 主要零部件材质 The materials of main components

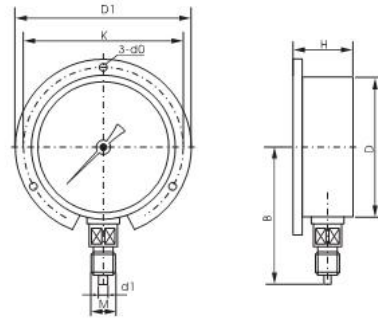
零件名称 Name	接头 Connection Header	弹簧管 Spring Tube	机芯 Core	外壳 Sheath
材料牌号 Material Tag	铜合金HPb59-1 Copper alloy HPb59-1	磷铜QSn4-0.3 phosphor bronze QSn4-0.3	铜合金 Copper alloy	钢板0.8F Steel panel

● 安装型式 Installation

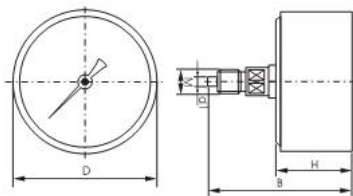
径向直接安装  
Radial direction installation



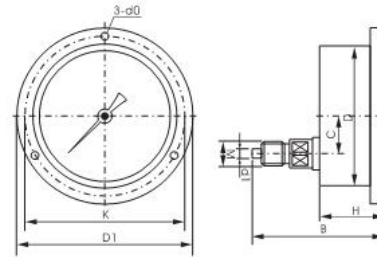
径向凸装 (径向带后边)  
Radial surface mounted installation (With Back Side)



轴向直接安装  
Axial direct installation



轴向嵌装 (轴向带前边)  
Axial surface concaved installation (With Front Side)



● 外形尺寸 Outer Size

型号 Type	D	D1	K	d0	A	B	C	H	L	M
Y-40	φ40			φ4	8	38		23	10	M10×1
Y-40Z	φ40			φ4		39		23	10	M10×1
Y-60	φ60			φ5	14	57		34	14	M14×1.5
Y-60Z	φ60			φ5		55		34	14	M14×1.5
Y-60ZT	φ60	φ85	φ72	φ5		60		37	14	M14×1.5
Y-100	φ100			φ6	20	88		45	20	M20×1.5
Y-100ZT	φ100	φ130	φ118	φ6		90	32	48	20	M20×1.5
Y-150	φ150			φ6	20	116		51	20	M20×1.5
Y-150ZT	φ150	φ180	φ165	φ6		96	53	50	20	M20×1.5
Y-250	φ250			φ6	25	170		60	20	M20×1.5

## 特种介质压力表

### Special Pressure Gauge

#### ● 概述

Yo系列氧气压力表：适用于测量氧气的压力：

Ya系列氨用压力表：适用于测量氨气的压力：

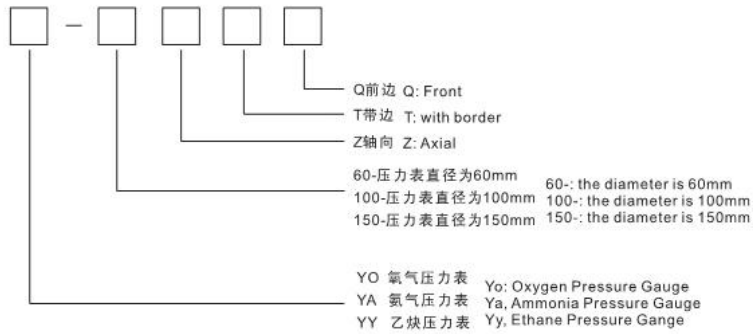
Yy系列乙炔压力表：适用于测量乙炔气体的压力。

Yo series Oxygen Pressure Gauge, suitable for measuring the pressure of Oxygen.

Ya series Ammonia Pressure Gauge, suitable for measuring the pressure of ammonia.

Yy series Ethane Pressure Gauge, suitable for measuring the pressure of ethane.

#### ● 型号命名 Model Name



## Y-B系列不锈钢压力表

### Y-B Series S.S. Pressure Gauge

#### ● 用途 Application

该系列压力表的零件采用耐腐蚀的不锈钢材料及耐腐蚀的合金材料制成。仪表具有良好的耐腐蚀性能，可广泛应用于石油、化工、冶金、矿山、电力及食品行业，可测量对铜、铁等金属有腐蚀性，但不结晶的气体、液体压力。

The parts of this series are made up of cauterization-resisting S.S. and alloy material. The gauge has good cauterization-resisting performance, can be used widely in petroleum, chemical, metallurgy, mine, power and food industries, measuring the pressure of gas and liquid which have cauterization function to cooper, iron etc, but never makes them crystallized.

#### ● 结构原理 Structure Principle

仪表由导压系统（包括接头、弹簧、限流螺钉等）、齿轮传动机构、示数装置（指针与度盘）和外壳（包括表壳、表盖、表玻璃等）所组成。外壳为气密型结构，能有效地保护内部机件免受环境影响和污秽侵入。

The gauge is made up of pressure-conducting system (including header, spring, flux-limiting bolt), gear turning parts, display parts (needle and dial) and sheath (sheath, cover, glass etc). The structure of sheath is sealed style, this can protect the inner parts from circumstance affection and dirt.



#### ● 主要技术指标 Main Technic Indicator

产品型号 Model#	测量范围MPa Measuring Range	精确度等级 Accuracy Class
Y-60BF Y-60ZBF	0-0.6, 1, 1.6, 2.5, 4, 6, 10, 16, 25, 40, 60 -0.1-0.5, 0.9, 1.5, 2.4	2.5
Y-100BF Y-100ZBF Y-150BF Y-150ZBF	0-0.1, 0.16, 0.25, 0.4, 0.6, 1, 1.6, 2.5, 4, 6, 10, 16, 25, 40, 60 -0.1-0, 0.06, 0.15, 0.3, 0.5, 0.9, 1.5, 2.4	1.0 1.6

注：特殊订货，请在合同上注明。  
Note, the data in bracket is for special order only.

#### ● 主要零部件材质 Material of Main Components

零件名称 Name	材料牌号 Material Tag	
	Y-60B	Y-100B, Y-150B
接头 Connection Header	0Cr18Ni9 (304)	0Cr17Ni12Mo2 (316)
弹簧管 Spring Tube	Cr18Ni9Ti (321)	0Cr17Ni12Mo2 (316)
外壳 Thermowell	1Cr18Ni9	

#### ● 型号命名 Name

仪表类型 Type	表直径 Diameter	安装形式 Installation	表壳种类 Sheath Type
Y-BF	不锈钢压力表	Y-BF S.S.	T表示表壳带边； 直接安装无代号 T: Sheath with border Blank: Direct installation
YZ-BF	不锈钢压力真空表	YZ-BF S.S. Vacuum Pressure Gauge	轴向：Z； 径向无代号 Z: Axial Blank: Radial
Z-BF	不锈钢真空表	Z-BF S.S. Vacuum Gauge	Φ60; Φ100; Φ150; Φ200; Φ250

例：Y-100BF为Φ100mm，径向不锈钢防腐压力表；

Y-150ZBF为Φ150mm，轴向不锈钢防腐压力表；

YZ-150ZBF为Φ150mm，轴向不锈钢防腐压力

真空表。

Example, Y-100BF, Φ100mm, radial, S.S. Cauterization-resisting pressure gauge  
Y-150ZBF, Φ150mm, axial S.S. Cauterization-resisting pressure gauge  
YZ-150ZBF, Φ150mm, axial S.S. Cauterization-resisting vacuum pressure gauge

● 使用环境温度 Operation Circumstance

- 25~70℃ (外壳内充液)
- 40~70℃ (外壳内不充液)
- 25~70℃ (filling liquid in sheath)
- 40~70℃ (non filling liquid in sheath)

● 温度影响 Temperature Affection

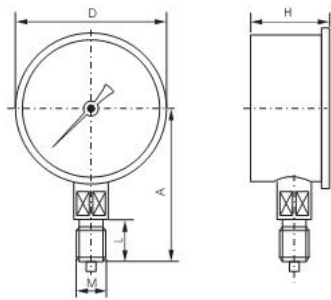
使用温度偏离20±5℃时：仪表示值误差=±(基本误差+0.04%×Δt)  
the error of using temperature is 20±5℃

● 抗工作环境振动 Vibration Resisting

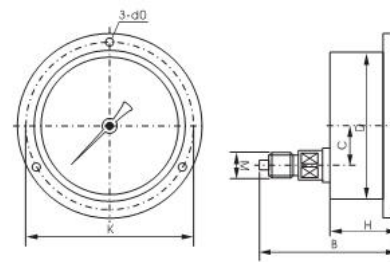
V·H·3级  
V.H.3 Class

● 外形尺寸 Outer Size

● 径向  
Radial



● 轴向  
Axial



D	K	d0	B	C	L	H	A	接头螺纹M Connection Thread
Φ60	Φ76	Φ4.5	≤60	Φ60	14	36	66	M14×1.5; G1/4"
Φ100	Φ116	Φ4.8	≤100	≤35	20	50	98	M20×1.5;
Φ150	Φ165	Φ5.8	≤125	≤60				

★ 注：连接螺纹可按客户要求特殊加工  
Note: The connection thread can be ordered according to user's special requests

## YN系列抗振压力表

### YN Series Vibration-resisting Pressure Gauges

#### ● 用途 Application

YN系列抗振压力表。具有良好的抗振性能，特别适用于有机械振动和有介质脉动的工作环境。可测量无爆炸危险，无结晶体的液体、气体、蒸汽等介质。YN series have good vibration-resisting performance, suitable for the working circumstance with mechanical vibration and medium pulse. They can be used to measure the liquid, gas and steam mediums without explosion danger and crystallization.

#### ● 产品优点: Advantages

- 1) YN系列抗振压力表的外壳、接头、机芯、弹性元件等主要元器件，均采用不锈钢材料。产品既美观，又耐腐蚀。
- 2) YN系列抗振压力表，表盖与表壳用卡口式结构连接，密封性能可靠。
- 3) YN系列抗振压力表，结构设计合理，制作工艺可靠，具有优越的抗振性能。

- 1) The main parts, sheath, connection header, core, spring elements etc, are made up of stainless steel materials. So they are not only handsome, but cauterization-resisting.
- 2) By using bayonet to connect the cover and the case, the YN series have reliable seal performance.
- 3) YN series have reasonable design and reliable production process, so have ascendant vibration-resisting performance.

#### ● 主要技术指标: Main Technic Indicator

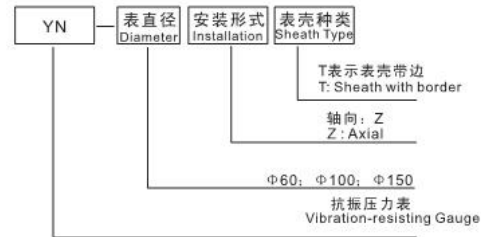
产品型号 Model#	YN-60	YN-100	YN-150	YN-200
公称直径 Nominal Diameter	Φ60	Φ100	Φ150	Φ200
接头螺纹 Connection Thread	M14×1.5	M20×1.5		
精确度等级 Accuracy Class	2.5	1.6	1.0; 1.6	
测量范围 Measuring range Mpa	0~0.1; 0~0.16; 0~0.25; 0~0.4; 0~0.6; 0~1; 0~1.6; 0~2.5; 0~4; 0~6; 0~10; 0~16; 0~25; 0~40; 0~60;			
抗振等级 Vibration-resisting Class	V.H.4级			
使用环境条件 Operation Circumstance	温度-40~70℃; 相对湿度≤85%			

#### ● 防护等级: IP65

Protection Class: IP65



#### ● 型号命名: Name



#### ● 工作压力 Working Pressure

静负荷: 测量上限值;

交变负荷: 测量上限值的0.9。

Static Load: Measure the upper limit  
Alternating Load: Measure 0.9 times of upper limit.

#### ● 接头连接 Header Connection

径向或轴向

M20×1.5

或按约定的特殊要求

Radial or Axial

M20×1.5

Or due to the appointed special request

#### ● 测压元件材质: 不锈钢

Material of Measurement Element: Stainless Steel

#### ● 机芯: 不锈钢

Core: S.S.

#### ● 充液: 99.7% 硅油或约定其它类别。

Filling Liquid: 99.7% silicon oil or others.



## Yx、YXC系列电接点压力表

### Yx, YXC Series Electric Contact Pressure Gauge

#### ● 用途 Application

电接点压力表广泛应用于石油、化工、冶金、电站等一般压力表允许工作的场所。仪表与相配的电气器件中，即口实现被测的系统的自动控制的目的。

- YX—为缓行接点位式开关压力表
- YXC—为磁助式接点位式开关压力表
- YXN—为抗振电接点压力表

This series are used widely in petroleum, chemical, metallurgical and power station, by cooperating with the electric parts, they can realize the auto control of measured system.

- YX-Retarded contact Pressure Gauge
- YXC-Magnet Contact Switch Pressure Gauge
- YXN-Vibration-resisting Electric Contact Pressure Gauge

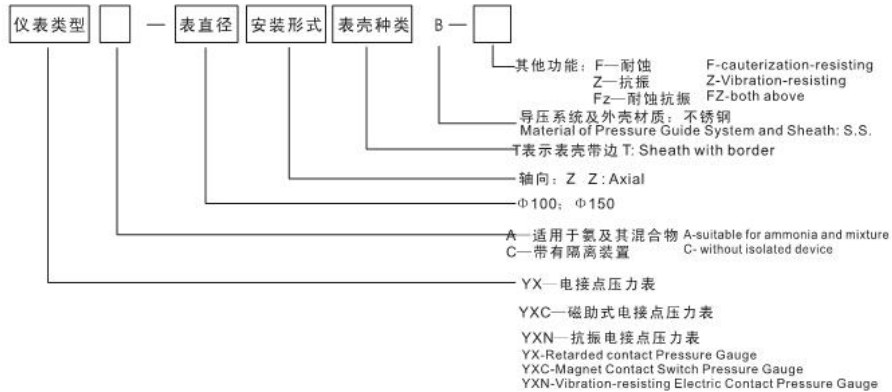


#### ● 结构原理 Structure Principle

仪表由测量系统、指示装置、电接头装置、外壳、调整装置和接线盒等组成。仪表的工作原理，基本压力表在压力作用下，指针（在此仪表中被称为活动指针），指示上升，当活动指针与电接头系统中的上限设定指针接触时，仪表发出一个电信号给控制系统，使压力系统的动力源停止继续工作。反之，当活动指针与电接头系统中的下限设定指针接触时，仪表又发出一个电信号给控制系统，使压力系统的动力源重新工作给系统增压。

The instruments are made up of measurement system, electric contact device, adjustment device, and the case. Principle: under the pressure, the needle (named active needle in this instrument) of basic pressure gauge will raise, when the needle contact to the upper limit, a signal will be transferred to control system, this will make the resource pressure stop working. On the contrary, when the active need contact to the lower limit, signal will be transferred to control system, this will make resource pressure system add the pressure to system again.

#### ● 型号命名 Name



● 主要技术指标：Main Technic Indicator

产品型号 Model #	YX-100 YXC-100 YXN-100	YX-150 YXC-150 YXN-150
公称直径 Nominal Diameter	Φ100	Φ150
接头螺纹 Connection Thread	M20×1.5	M20×1.5
精确度等级 Accuracy Class	1.6	1.6
测量范围 Measuring Range Mpa	YX	0~0.1; 0~0.16; 0~0.25; 0~0.4; 0~0.6; 0~1; 0~1.6; 0~2.5; 0~4; 0~6; 0~10; 0~16; 0~25; 0~40; 0~60;
	YXC	-0.1~0.06; -0.1~0.15; -0.1~0.3; -0.1~0.5 -0.1~0.9; -0.1~1.5; -0.1~2.4
	YXN	-0.1~0
抗振性能 Performance of Vibration resisting	YX系列, YXC系列: V.H.3级 YX, YXC Series: V.H.3 Class YXN系列: V.H.4级 YXN Series: V.H.4 Class	
使用环境条件 Operation Circumstance	YX系列, YXC系列: -40~70℃ YX, YXC Series: -40~70℃ YXN系列: -25~55℃ YXN Series: -25~55℃	

温度影响: 示值不大于0.4%/10℃, 设定点不大于0.6%/10℃ (使用温度偏离20±5℃)。  
Temperature affection: display data is 0.4%/10℃ or smaller, the appointed point is 0.6%/10℃

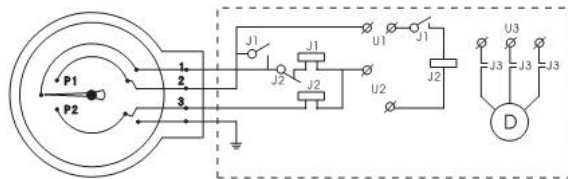
● 接点装置电气参数及控制形式

The Electric Parameter and Control of Contact Device

触点功率 Contact Power	最高工作电压 Highest Working Voltage	最大工作电流 Biggest Working Current	控制形式 Control
30VA (阻性负载) 30VA (resistance load)	220V D.C或380V A.C	1A	上下限, 双上限、双下限 upper and lower limit, dual upper limit, dual lower limit

● 电接点压力表电气线路示意图:

Electrical Circuit Chart of Electric Contact Pressure Gauge



## YTZ-150系列远传压力表

### YTZ-150 Series Remote Control Pressure Gauge

#### ● 用途 Application

该系列压力表适用于一般压力表适用的工作环境场所。仪表既能直观显示出被测压力值，同时又可输出相应的电阻值。将输出的电阻值输入远端的二次仪表上，以实现集中检测和远程控制。This series are used in the occasions which the normal pressure gauges work. Not only can they display the measured pressure data, but also can output the corresponding resistance data. Then input the outputted resistance data to the remote second gauge, this can realize the centralized checking and remote control.

#### ● 结构原理 Structure Principle

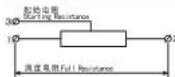
本仪表由一个弹簧管压力表和一个滑线电阻式发送器等组成。仪表机械部分的作用与一般弹簧管压力表相同。由于电阻发送器设置在齿轮传动机构上，因此当齿轮传动机构中的扇形齿轮轴产生偏转时，电阻发送器的转臂（电刷）也相应地得以偏转，由于电刷在电阻器上滑行，使得被测压力值的变化变换为电阻值的变化，而传至二次仪表上，指示出一相应的读数。同时，一次仪表也指示出相应的压力值。

The Gauge is made up of a spring tube pressure and a slip line resistance transmitter. The function of mechanical part of gauge is the same as the normal spring tube pressure gauge, because resistance transmitter is fixed on a turnable gear, when the fan-shaped gear appear deflexion, the electric brush of resistance transmitter will reflex accordingly, this will transfer the change of measured pressure to the change of resistance, then transmit the data to the second gauge, display the corresponding data one by one. Meanwhile, the first gauge will display the corresponding data also.

#### ● 主要技术指标 Main Technic Indicator

精确度等级：1.5  
发送器起始电阻值：30Ω  
发送器满度电阻值：370Ω  
发送器接线端1、2外加电压不大于6V  
Accuracy Class: 1.5  
The started resistance of transmitter: 30Ω  
The full resistance of transmitter: 370Ω  
The outer added voltage shouldn't be over 6V for the connection end of transmitter

#### ● 滑线电阻式发送器接线图 Wiring Connection Chart Of Transmitter

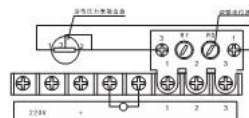


#### ● 主要参数 Main Parameter

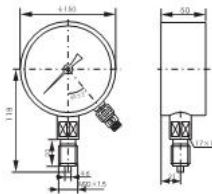
产品型号 Model #	YTZ-150
公称直径 Nominal Diameter	φ150
接头螺纹 Connection Thread	M20×1.5
精确度等级 Accuracy Class	1.6
测量范围 Measuring Range Mpa	-0.1~0.06; -0.1~0.15; -0.1~0.3; -0.1~0.5; -0.1~0.9; -0.1~1.5; -0.1~2.4
使用环境条件 Conditions	温度-40~70℃; 相对湿度≤85% Temperature: -40~70℃; Relative Humidity≤85%
电气参数 Electric Parameter	电阻量程程: 0~400Ω Resistance Full Span 0~400Ω 起始量程: ≤30Ω Start Range ≤30Ω 满量程电阻: ≤370Ω Full Upper limit ≤370Ω 接线端外加电压: ≤6V Outer Added Voltage ≤6V



#### ● 配置二次仪表 Chart of Second Gauge Installation



#### ● 外形尺寸 Outer Size



## YP系列膜片压力表 YPF系列防腐膜片压力表

YP Series Diaphragm Pressure Gauge; YPF Series Cauterization-resisting Diaphragm Pressure Gauge

### ● 用途 Application

膜片压力表适用于测量具有一定腐蚀性、非凝聚或非结晶的各种流体介质的压力或负压。  
This series are used to measure the pressure or loading pressure of each kind of liquid medium with cauterization, without freezing, or non-crystallization.

### ● 结构原理 Structure Principle

仪表由测量系统（包括法兰接头、波纹膜片）、传动指示机构（包括连杆、齿轮传动机构、指针和度盘）和外壳（包括表壳和罩圈）等组成。仪表外壳为防溅结构，具有较好的密封性，故能保护其内部机构免受污秽浸入。

仪表的作用原理是基于弹性元件（测量系统上的膜片）变形。在被测介质的压力作用下，迫使膜片产生相应的弹性变形——位移，借助连杆组经传动机构的传动并予放大，由固定于齿轮上的指针将被测值在度盘上指示出来。



The gauge is made up of measurement system (including flange connection head, ripple diaphragm), turnable display parts (including connection rod, needle, dial), and crust (including crust and cover ring). The crust is made up of bespatterment proof structure, has good seal performance, so can protect the inside from bespattering.

The working principle is basic on the spring element (the diaphragm on the measuring system). Under the pressure from measured medium, the diaphragm will transfigure accordingly, referring to the connection rod to make the turnable part circle and blow up, then the needle wil display the data.

### ● 主要技术指标 Main Technic Indicator

精确度等级：2.5

使用环境温度：-40~+70℃；相对湿度不大于90%。

温度影响：使用温度偏离20±5℃时，其温度附加误差  
不大于0.4%/10℃。

工作位置：垂直安装。

外壳防护等级：IP64。

Accuracy Class: 2.5

Operation Temperature: -40~+70℃ Relative humidity ≤ 90%

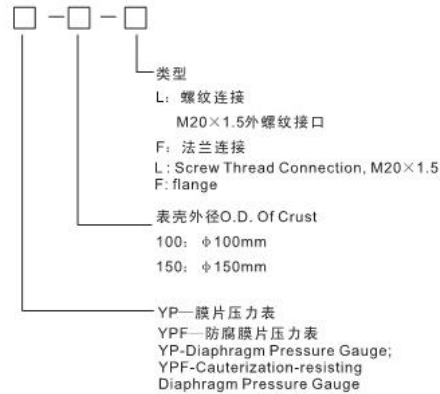
Temperature affection: when the difference is 20±5℃,

the additional error should be 0.4%/10℃ or smaller.

Working Location: upright installation

Protection Class of Crust, IP 64

### ● 型号命名 Name



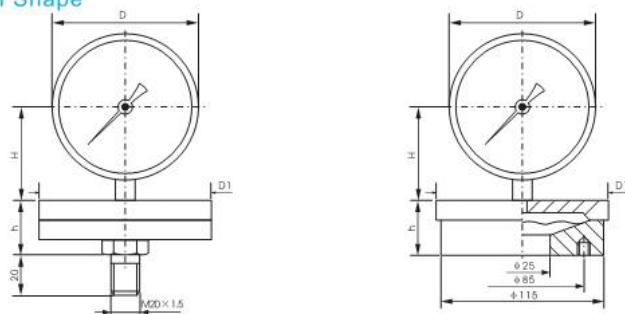
● 测量范围及尺寸 Scale Range and Size

型号 Type	测量范围 Scale Range	承受部尺寸D1 Size of Loading Part	表壳外径D O. D. of Crust
YP-100L	0-0.06; 0-0.1; 0-0.16; 0-0.25; 0-0.4; 0-0.6; 0-1; 0-1.6; 0-2.5; -0.1-0; -0.1-0.06; -0.1-0.15; -0.1-0.3; -0.1-0.5; -0.1-0.9; -0.1-1.5; -0.1-2.4MPa	φ85	φ100
YPF-100L YPF-100F		φ115	
YP-150L		φ85	φ150
YPF-150L YPF-150F		φ115	

● 导压系统及外壳等主要零件的材质

型号 Type	名称 Name	导压系统 Pressure-conducting system			表壳材料 Material of Crust
		膜片Diaphragm	法兰接头 Flange Connector	密封垫圈 Sealed Washer	
YP-100L 150L	膜片压力表 Diaphragm Pressure Gauge	Cr15Ni7Mo (PH15-7Mo) 316 (≤40kPa)	1Cr18Ni9	丁腈橡胶 Butadiene-acrylonitrile rubber	铸铝 Cast Al
YPF-100L 150L	不锈钢膜片压力表 S.S. Diaphragm Pressure Gauge			聚四氟乙烯 PTFE	1Cr18Ni9
YPF-100F 150F	法兰不锈钢膜片压力表 Flange S.S. Diaphragm Pressure Gauge				

● 外形 Outer Shape



参数 Parameter	YP-100	YPF-100L	YPF-100F	YP-150	YPF-150L	YPF-150F
D	φ100	φ100	φ100	φ150	φ150	φ150
H	66	66	66	90	90	90
h	32	32	36	32	32	36

## YE系列膜盒压力表 YE Series Gauges with Capsule Elements

### ● 用途 Application

膜盒压力表适用于测量对铜合金不起腐蚀作用，无爆炸危险和微压和负压。广泛应于锅炉通风和气体管道等设备上，本仪表可以就地安装并现场指示。

YE-75膜盒压力表具有体积小等特点。  
This series are used to measure the light pressure or loading pressure of each kind of liquid medium without cauterization and explosion danger. They are used widely in boiler pipe and gas tube, can be installed and controlled locally.  
Having advantages such as small volume etc.



### ● 结构原理 Structure Principle

仪表由测量系统（包括法兰接头、波纹膜片）、传动机构（包括连杆、齿轮传动机构），指示部件（指针和度盘）和外壳（包括表壳和衬圈、玻璃）等组成。

仪表的作用原理是基于波纹膜盒在被测介质的压力作用下，其自由端产生相应的弹性变形，再经拔杆—齿轮传动机构的传动并予放大，由固定于齿轮上的指针逐将被测值在度盘上指示出来。

The gauge is made up of measurement system (including flange connection head, ripple diaphragm), turnable parts (including connection rod), display parts (needle, dial), and crust (including crust and washer, and glass).

The working principle is, when the ripple capsule element under the pressure from measured medium, the free end will raise transfiguration accordingly, referring to the connection rod to make the turnable part circle and blow up, then the needle will display the data.

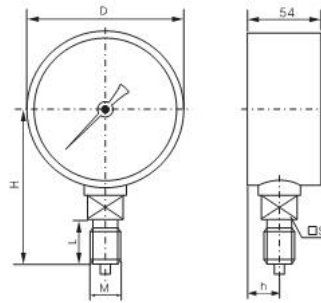
### ● 主要技术指标 Main Technic Indicator

型号 Type	标度范围kPa Scale Range			精确度等级 Accuracy Class
	正压 Positive pressure	负压 Negative pressure	正负压 Both	
YE-75	0~1.6	-1.6~0	-0.8~+0.8	2.5
	0~2.5	-2.5~0	-1.2~+1.2	
YE-100	0~4	-4~0	-2~+2	
	0~6*	-6~0	-3~+3	
YE-150	0~10*	-10~0	-5~+5	
	0~16*	-16~0	-8~+8	
	0~25*	-25~0	-12~+12	
	0~40*	-40~0	-20~+20	

注：YE-75、100仅生产带\*规格。

Note: YE-75, 100, we only produce the items with \*

● 外形尺寸 Shape



型号 Type	D	H	L	M	h	□S
YE-75	φ77	71	14	M14×1.5	14	□17
YE-100	φ100	90	20	M20×1.5	17	□22
YE-150	φ150	118	20	M20×1.5	17	□22

使用环境温度：-25~+55℃；相对湿度不大于80%  
 Operation Temperature -25~+55℃，  
 并且周围空气中不含有腐蚀仪表的有害气体。  
 and there is no harmful gas which has cauterization affection to instrument.  
 温度影响：使用温度偏离20±5℃时；仪表示值误差=±(基本误差+0.04%×Δt)  
 Temperature affection: when the difference is 20±5℃, the additional error  
 should be 0.4%/10℃ or smaller.  
 工作位置：垂直安装。  
 Working Location, vertical installation  
 外壳防护等级：IP64  
 Protection Class of Crust, IP 64

● 导压系统及外壳等主要零件的材质 Material of Pressure Conducting System and Main Components

零件名称 Name	材料牌号 Material Tag
接头 Connector	黄铜HPb59-1 Brass
膜盒 Capsule Elements	锡青铜QSn65 Bronze
齿轮传动机构 Gear Turnable Parts	黄铜HPb59-1 Brass
表壳、罩壳 Crust, Cover	冷轧钢板20 cold rolled steel sheet

## YE-100B不锈钢膜盒压力表 YE-100 Series S.S. capsule gauges

### ● 用途 Application

不锈钢膜盒压力表参照普通膜盒压力表的结构特点而研制的具有耐腐蚀作用的微压表，应用于锅炉通风和气体管道等设备上，在耐腐要求较高的工艺流程中测量各种流体介质的微压和负压。为国内用户对引进的国外先进技术设备中同类仪表实现国产化的理想配套产品。

This series are light pressure gauges with cauterization resisting referring to the structure of normal gauges with capsule, used in the equipment of boiler pipe and gas tube to measure the light pressure or loading pressure of each kind of liquid medium which have higher request of cauterization -resisting. They are the good choices for the civil users.

### ● 结构原理 Structure Principle

仪表由测量系统（包括法兰接头、波纹膜片）、传动机构（包括连杆、齿轮传动机构）、指示部件（指针和度盘）和外壳（包括表壳和衬圈、玻璃）等组成。

仪表的作用原理是基于波纹膜盒在被测介质的压力作用下，其自由端产生相应的弹性变形，再经拔杆一齿轮传动机构的传动并予放大，由固定于齿轮上的指针将被测值在度盘上指示出来。

在结构上配有保护装置，防止膜盒由于过载而使膜盒变形，还有调零装置，可以方便调整零位。

The gauge is made up of measurement system (including flange connection head, ripple diaphragm), turnable parts (including connection rod), display parts (needle, dial), and crust (including crust and washer, and glass). The working principle is, when the ripple capsule element under the pressure from measured medium, the free end will raise transfiguration accordingly, referring to the connection rod to make the turnable part circle and blow up, then the needle will display the data.

There is protection device to prevent the capsule from transfiguration when over loading, and there is zero adjustment device also, which can adjust zero point conveniently.

### ● 主要技术指标 Main Technic Indicator

精确度等级：2.5

Accuracy Class

测量范围 (kPa)：

Measuring Range

0~2.5；0~4；0~6；0~10；0~16；0~25；0~40；  
-2.5~0；-4~0；-6~0；-10~0；-16~0；-25~0；  
-40~0；-2~2；-3~3；-5~5；-8~8；  
-12~12；-20~20

使用环境温度：-25~+55℃；相对湿度不大于80%。

Operation Temperature: -25~+55℃, Relative Humidity, no bigger than 80%.

温度影响：使用温度偏离20±5℃时，其温度附加误差误差不大于0.4%/10℃

Temperature affection: when the difference is 20±5℃, the additional error should be 0.4%/10℃ or smaller.

抗工作环境振动：V·H·3级

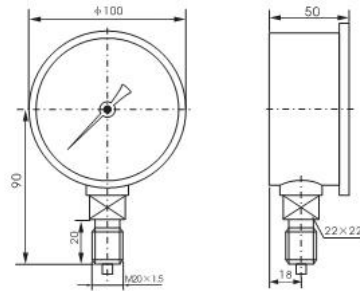
Vibration Protection Class.

### ● 外形尺寸 Shape

### ● 导压系统及外壳等主要零件的材质

Material of Pressure Conducting System and Main Components

零件名称	Name	材料牌号	Material Tag
接头	Connector	1Cr18Ni9	
膜盒	Capsule Elements	1Cr18Ni9	
齿轮传动机构	Gear Turnable Parts	1Cr18Ni9	
表壳、罩壳	Crust, Cover	1Cr18Ni9	





## YM隔膜压力表

### YM Series Diaphragm Seal Pressure Gauge

#### ● 用途 Application

为使通用型压力表能适用于测量强腐蚀、高温、高粘度、易凝固、有固体悬浮物的介质压力以及必须避免测量介质直接进入通用型压力表和防止沉淀物积聚且易清洗的场合，应采用由隔膜隔离器与通用型压力表组成一个系统的隔膜表。

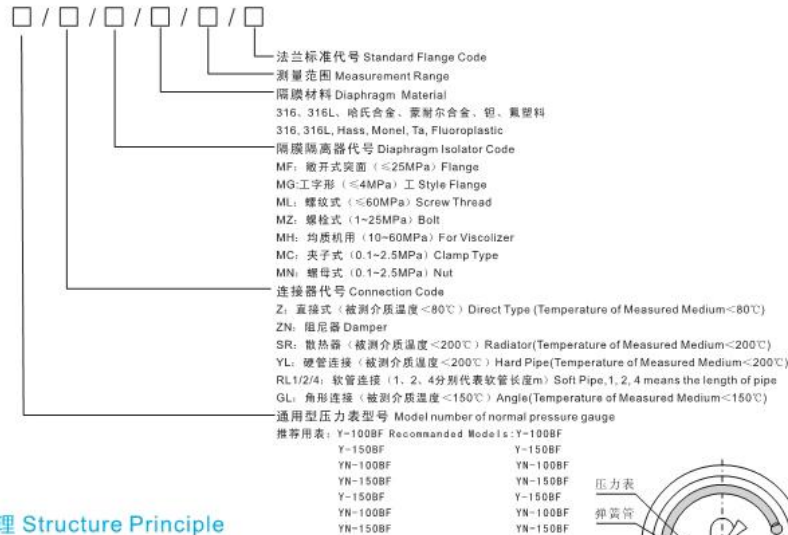
隔膜表主要用于石油化工、制碱、化纤、染化、制药、食品和制酪等工业部门生产过程中测量流体介质压力之用。

In order to make pressure gauge suitable to measure the mediums with strong cauterization, high temperature, high viscosity, easy solidifying, and with solid suspended matter, need to avoid the measured mediums into normal pressure gauge directly and to avoid precipitation, we need to adopt diaphragm seal pressure gauges which made up of diaphragm isolator and normal pressure gauge.

This series products are mainly used in petroleum and chemical industry, basic industry, chemical fiber, dyeing chemical, pharmacy, food and dairying.



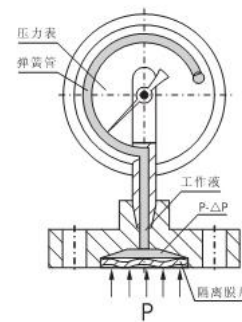
#### ● 型号命名



#### ● 结构原理 Structure Principle

当测量介质的压力P作用于隔膜，则隔膜产生变形，压缩压力仪表测压系统的密封液，使其形成P- $\Delta P$ 的压力。当隔膜的刚性足够小时，则 $\Delta P$ 也很小，压力仪表测压系统形成的压力就近于测量介质的压力。

When the pressure of measured medium affect the diaphragm, which make the diaphragm transfiguration, and then compress the sealed liquid in pressure measuring system, pressure P- $\Delta P$  is formed. When the rigidity of diaphragm is small enough,  $\Delta P$  will be very small also, the pressure which the pressure measuring system formed will be very near to the pressure of measured mediums



## ● 主要技术指标 Main Technical Indicator

### 隔膜表的温度特性 Temperature Characteristic

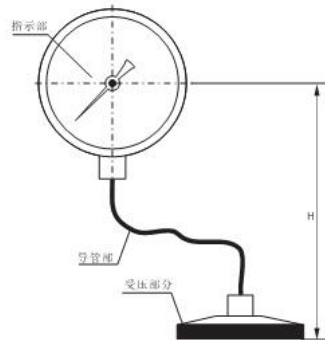
由于隔膜表系统由填充了密封液作为传递压力的介质，则由于密封液的温度膨胀系数，使压力仪表随受压部温度升高而示值也升高，其温度影响量与密封液膨胀系数，隔膜刚度以及受压部温度有关，尤其对于低量程的压力仪表，则影响更明显。一般受压部温度误差规定不大于0.1%/℃。故隔膜压力仪表总的温度影响一般是由通用型仪表温度影响量与隔膜装置受压部温度影响一般是由通用型仪表温度影响量与隔膜装置受压部温度影响量两者之和。

Because it is filled with sealed liquid as the medium for pressure transmitting, when the temperature of pressured part raised, the displayed temperature will raise accordingly due to the inflating modulus, the temperature affection has relationship with the inflating modulus of sealed liquid, diaphragm rigidity and the temperature of pressured part, especially for the pressure gauges with low measure span. Normally, the error of pressured part should not be bigger than 0.1%/℃. So, normally, the total temperature affection of diaphragm pressure gauge is the sum of normal pressure gauge and the pressured part.

### 隔膜表液位差 Liquid Pressure Difference:

尤其对于带软管连接的隔膜压力表，由于受压部与通用型压力表安装位置不同，会产生如图所示的液位差的影响量 $\Delta P$ 。

The gauge with soft pipe installed, if the gauge and the suffer pressure part are not at the same height, there will be a pressure difference  $\Delta P$ ,  $\Delta P = \text{sealing liquid density} \times \text{difference between gauge and suffer pressure part}$ .



$$\Delta P = d \cdot H$$

d—密封液的比重

H—液位差

### 隔膜表的耐蚀性 Corrosion-proof

隔膜表的耐蚀性可通过合适的选择与测量介质接触部分的隔膜、法兰及密封垫圈的材料来保证。The Corrosion-proof performance can be guaranteed by suitable selection, diaphragm, flange, and sealed washer.

隔膜材料 Diaphragm Material: 0Cr17Ni12Mo2 (316);

蒙乃尔合金 (Cu30Ni70); Monel (Cu30Ni70)

哈氏合金 (HC276); Hass (HC276)

钽 (Ta) 及氟塑料 (F4), Ta & F4

法兰材料 Flange Material: 不锈钢 0Cr17Ni12Mo2 (316);

S.S. 0Cr17Ni12Mo2 (316)

不锈钢内衬氟塑料 (316+F4)。

S.S with F4 liner.

密封垫圈材料 Sealed Washer Material:

丁腈橡胶; Butyl Rubber

氟橡胶; Fluorine Rubber

硅橡胶及氟塑料 Silicon Rubber & Fluorine plastic.

### 法兰的选择 Flange Selection

现根据GB (中国)、HGJ (化工部)、DIN (德国)、JIS (日本)、ANSI (美国)等法兰标准以及国内实际使用情况编制成常用法兰系列标准，供用户选用，也可以接受用户其他规格的特殊订货。

We worked out flange series standards for users to select according to GB, HGJ, DIN, JIS, ANSI and actual usage information. And we also accept the special order for other specifications.

### 密封液的选择 Sealed Liquid Selection

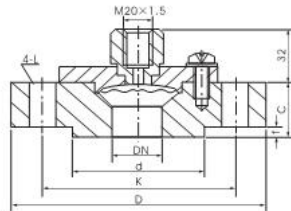
为保证隔膜表使用可靠性和安全性，应根据不同用途选择合适的密封液。

In order to make sure the reliability and safety, we should select the suitable sealed liquid according to the different application

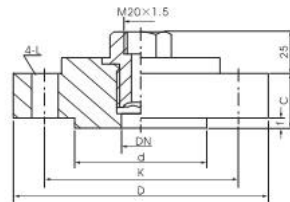
密封液 Sealed Liquid	受压部温度范围 T. Range	比重 g/cm <sup>3</sup> Ratio	体积膨胀系数 1/℃ Inflating Modulus	用途 Application
高粘度硅油 High Viscosity Silicon Oil	-10~200℃	1.07	0.95 × 10 <sup>-5</sup>	高温用 High Temperature
低粘度硅油 Low Viscosity Silicon Oil	-30~100℃	0.94	1.08 × 10 <sup>-5</sup>	一般用 Common
甘油水溶液 Glycerin	-5~100℃	1.27	0.61 × 10 <sup>-5</sup>	食品用 Food
植物油 Plant Oil	-5~100℃	0.93	1.03 × 10 <sup>-5</sup>	食品用 Food
氟油 Fluorocarbon Oil	-30~150℃	1.93	0.75 × 10 <sup>-5</sup>	氟氟 Common

● 隔膜法兰外形及尺寸 Flange Shape and Size

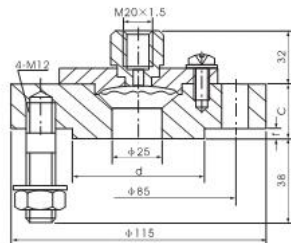
1、敞开式突面法兰 Flange



图一：MF1型 (P≤4MPa)  
Drawing 1, MF1 Type



图二：MF1型 (6MPa≤P≤25MPa)  
Drawing 2, MF1 Type



图三：MF型 (P≤4MPa)  
Drawing 3, MF Type

代号 Code	量程上限值 P (MPa) Code	法兰代号 Flange Code	突面法兰尺寸 (mm) Flange Size							尺寸图 Drawing
			D	K	d	f	L	C	DN	
MF1	4	JIS-10/20K50A	φ155	φ120	φ100	3	19	18	50	图一 Drawing 1
	4	50-1.0/4.0 HGJ46	φ160	φ125	φ100	3	19	18	50	
	4	ANSI-2B 150b	φ152	φ121	φ92.1	3	19	18	2'	
	4	ANSI-2B 300/600b	φ165	φ127	φ92.1	3	19	18	2'	图二 Drawing 2
	6~10	25-10.0 HGJ47	φ125	φ89	φ50.8	7	20	20	25	
	6~10	50-10.0 HGJ47	φ165	φ127	φ92.1	3.5	20	26	50	
	16~25	20-25.0 HGJ53	φ130	φ89	φ43	7	22	20	25	图三 Drawing 3
MF	4	25-4.0DIN	φ115	φ85	φ65	3	M12	26	25	

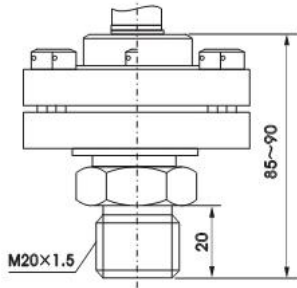
## 2、工字型突面法兰 "I" Style Flange

法兰代号 Flange Code	法兰尺寸 (mm) Flange Size				
	DN	D	K	d	L
JIS-10/20K25A	25	φ125	φ90	φ70	19
JIS-10/20K20A	20	φ100	φ75	φ58	15
JIS-10/20K15A	15	φ95	φ70	φ52	15
ANSI-1B-150b	1"	φ108	φ79.4	φ50.8	15.7
ANSI-1B-300/600b	1"	φ124	φ88.9	φ50.8	19.1
20-1.0/4.0HGJ47	20	φ105	φ75	φ56	14

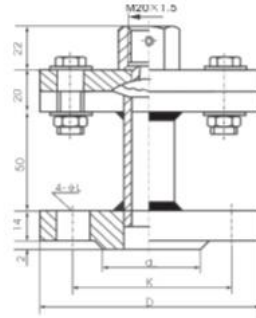
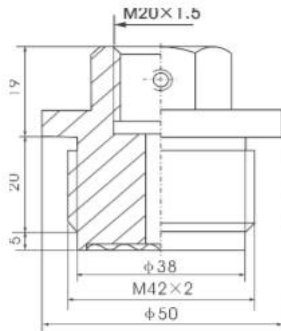
※均可按用户提供或指定的法兰标准尺寸制造。  
We can produce according to special standard.

### 3、螺纹接头式 (代号ML) Screw thread (ML)

量程上限值 ≤ MPa  
Scale Upper Range ≤ MPa

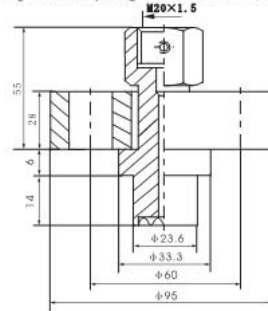


### 4、螺栓式隔膜隔离器 (代号MZ) Bolt Type Diaphragm Isolator (MZ)

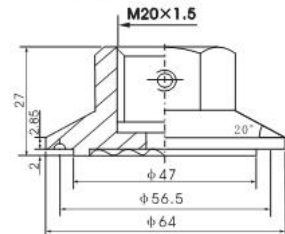


### 5、均质机用隔膜隔离器 (代号MH) Viscolizer Diaphragm Isolator (MH)

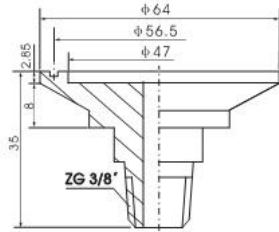
量程范围 10~60MPa  
隔膜和隔膜材料: 0Cr17Ni12Mo2 (316)  
Scale Range 10~60MPa  
Diaphragm and diaphragm material: 0Cr17Ni12Mo2(316)



### 6、夹子式隔膜隔离器 (代号MC) Clamp Type Diaphragm Isolator (MC)

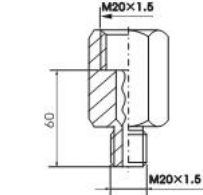
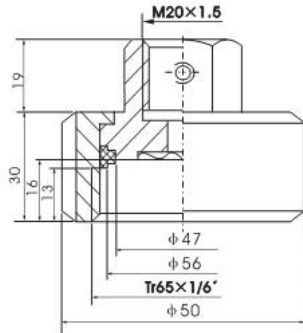


量程范围: 0.1~2.5MPa  
隔膜材料: 0Cr17Ni12Mo2 (316)  
隔膜座材料: 0Cr17Ni12Mo2 (316)  
Scale Range 0.1~2.5MPa  
Diaphragm Material: 0Cr17Ni12Mo2(316)  
Diaphragm Seat Material: 0Cr17Ni12Mo2(316)

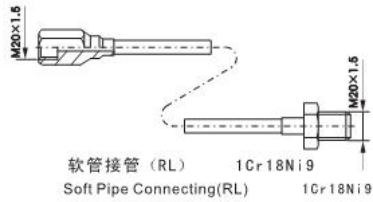


夹子式下座 1Cr18Ni9  
Clamp Type Lower Seat 1Cr18Ni9

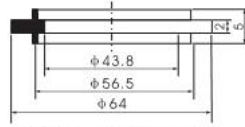
7、螺母式隔膜隔离器 (代号MN)  
Nut Type Diaphragm Isolator (MN)



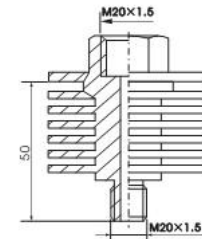
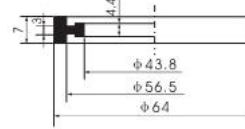
阻尼器 (ZN) 1Cr18Ni9  
Damper (ZN) 1Cr18Ni9



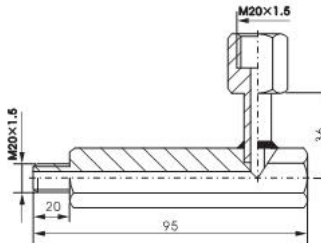
软管接管 (RL) 1Cr18Ni9  
Soft Pipe Connecting (RL) 1Cr18Ni9



量程范围: 0.1~2.5MPa  
隔膜材料: 0Cr17Ni12Mo2 (316)  
隔膜座材料: 0Cr17Ni12Mo2 (316)  
螺母套材料: 1Cr18Ni9  
Scale Range 0.1~2.5MPa  
Diaphragm Material: 0Cr17Ni12Mo2(316)  
Diaphragm Seat Material: 0Cr17Ni12Mo2(316)  
Nut Sleeve Material: 1Cr18Ni9



散热器 (SR) 铜镀镍  
Radiator (SR) Copper w/ Ni Plated



角形接管 (GL)  
Angle Connecting (GL)

硬管接管 (YL)  
Hard Pipe Connecting (YL)