天康集团

2024年版

压力变送器选型样本

Pressure Transmitter Catalogue

安徽天康集团

安徽天康(集团)股份有限公司

ANHUI TIANKANG (GROUP) SHARES CO.,LTD.

安徽天康集团

INNOVATION MAKES EXCELLENT

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安徽天康(集团)股份有限公司
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关于天康

- 长江宛如一条巨龙奔腾不息，在长江之滨的天长市有这样一颗璀璨的明珠——安徽天康（集团）股份有限公司，在经历了岁月的历练与洗礼后愈发闪耀夺目。

安徽天康（集团）股份有限公司创建于1974年，总部位于“长三角”经济圈核心区域—天长市，是中国民营企业制造业500强企业、中国电子信息百强企业、国家级守合同重信用企业、国家高新技术企业、安徽省依法纳税先进企业、银行资信AAA级企业、中国仪表行业十强企业、中国电线电缆十强企业、安徽省重点骨干企业、“全国五一劳动奖状”获得者等荣誉。

天康集团历经五十年的蓬勃发展，已形成集仪器仪表、光电缆、医疗卫生、锂电池等跨行业、多元化的集团公司，下属子公司达二十余家。旗下产品凭借良好的质量与服务，被广泛应用于石油、电力、化工、通讯、卫生、新能源汽车及储能等行业和领域。

作为皖东经济最具活力与贡献的骨干企业之一，天康集团以“追求卓越，缔造满意”为目标，依托一流的产品、一流的管理、一流的服务，不仅在国内市场中赢得了广泛赞誉；在国际市场中，天康产品远销欧洲、非洲、亚洲等46个国家和地区。

天康集团在发展中逐步形成了独特的品牌文化及着眼全球的经营部局，全力塑造“高科技、高品质、国际化”的品牌形象。始终秉承“有跨越才有卓越”的天康精神，在创建和谐企业的基础上，引进国际先进的构架与模式，组织企业的生产经营管理体系。在积极参与国际化竞争的基础上，不断把握市场发展脉搏，寻求经济战略联盟，与全球伙伴共同发展与进步。如今天康人将全新的投入化为无私的奉献，与世界共同发展，与人类一起进步。

安徽天康集团

打造百年天康 拉动千亿产业

引领中国民族工业发展，成为技术领先与产品领先型企业，
备受瞩目的国际化经营公司。



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工作原理
Working Principle

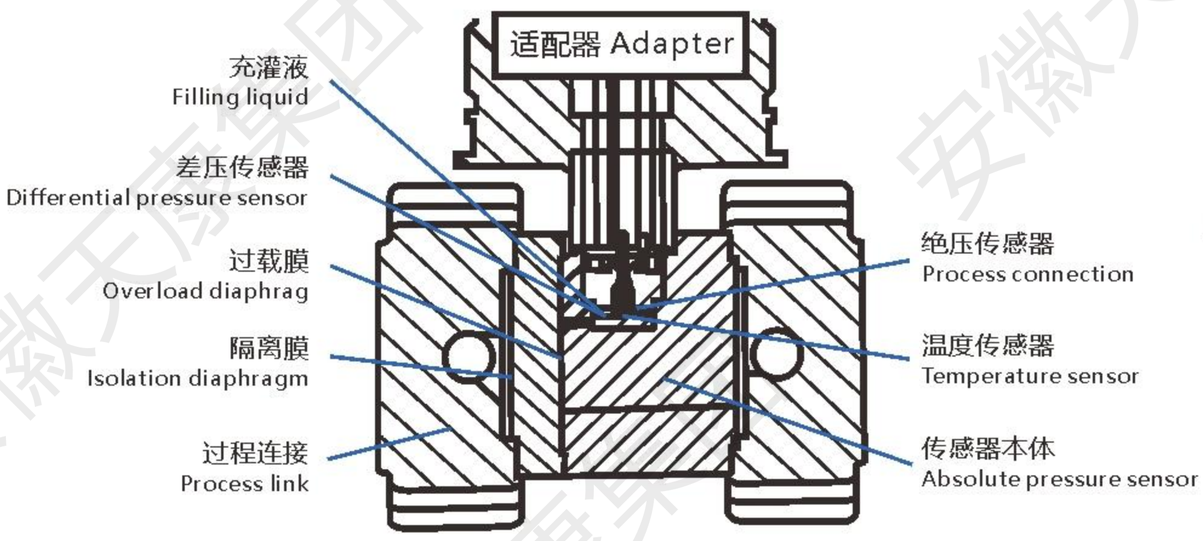
产品原理
Product Principle

差压变送器包括两个功能单元：①主单元，②辅助单元。

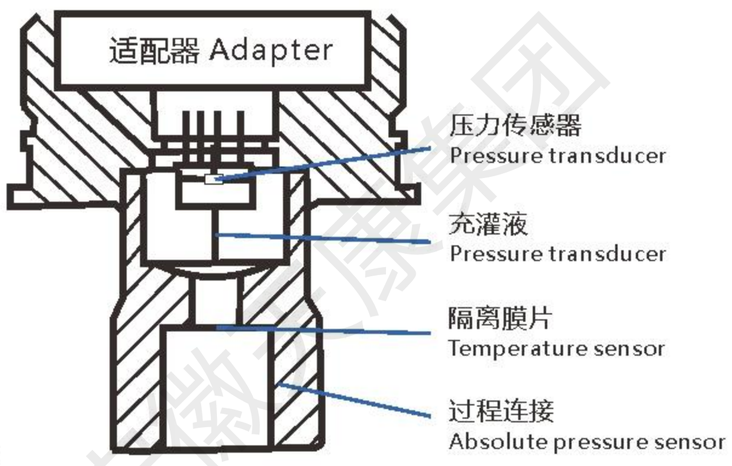
主单元包括传感器和过程连接，工作原理如下：传感器模块采用全焊接技术，内部拥有一个整体化的过载膜片，一个绝对压力传感器、一个温度传感器和一个差压传感器。绝压传感器只装在传感器膜盒的高压侧，做为静压测量和补偿的参考价值。温度传感器做为温度补偿的参考值，差压传感器的负压侧与传感器膜盒的低压腔相连，差压通过隔离膜片和填充液，传递给差压传感器的硅芯片，使差压传感器的芯片的阻值发生变化，从而导致检测系统输出电压变化，该输出电压与压力变化成正比，再由适配单元和放大器转化成以标准化信号输出。

The differential pressure transmitter consists of two functional units:Main unit,Auxiliary unit.
The main unit comprises a sensor and process links, the working principle is as follows: the sensor module adopts the welding technology, has an integrated overload diaphragm, an absolute pressure sensor, a temperature sensor and a pressure sensor. The pressure sensor is installed on the high pressure side of the sensor box, which is the reference value of static pressure measurement and compensation. As the temperature sensor for temperature compensation of the reference value, the low pressure chamber side and negative pressure sensor diaphragm differential pressure sensor is connected to the differential pressure through the diaphragm and liquid filling, transfer to the silicon chip differential pressure sensor, the differential pressure sensor chip resistance changes, resulting in the detection system of the change of output voltage, the output voltage changes with pressure the signal is proportional to the output of the amplifier adapter unit and transformed into a standard.

基于微处理器的单晶硅传感器
Single product silicon sensor based on Microprocessor



基于微处理器的单晶硅传感器
Single product silicon sensor based on Microprocessor



技术优势
Technical advantage

•差压变送器中心传感单元采用国内外领先的高精度单晶硅传感器技术，最高可达±0.05%的高精度；

•微差压送器采用全球领先的双过载保护膜片专利技术，最高可达±0.075%的高精度；

●The center sensor unit of the differential pressure transmitter adopts the leading high-precision single product silicon sensor technology at home and abroad, which can reach up to ±0.05% high precision.

●Micro differential pressure transmitter using the world's leading double overload protection diaphragm patented

•差压变送器工作压力分别为16MPa、40MPa，单向过载压力最高到40MPa；

•差压变送器可选封装静压传感器，可用于现场工作静压的测量和显示，也可应用于静压补偿，静压性能极佳，静压误差最优≤±0.05%/10MPa；

•传感器内部集成高灵敏度传感器，变送器温度性能极佳，最优≤±0.04%/10K；

•全不锈钢316L硅油充灌焊接密封性结构；

•微量程表压/绝压变送器采用全球领先的无传压损耗过载保护膜片专利技术，单向过压最高达7MPa，即满量程的1166倍；

•稳定可靠，长期漂移为±0.1%/3年，5年免维护；

•极宽的测量范围100Pa~40MPa（最高可扩展至60MPa）；

•最高100：1的可调节量程比；

•EMC符合GB/T 18268，1-2008标准要求。

technology, up to + 0.075% high precision.

●The transmitter pressure differential pressure were 16MPa, 25MPa and 40MPa gear, one-way overload pressure up to 40MPa.

●Differential pressure transmitter optional static pressure sensor package, can be used to measure the static pressure field work and display, but also can be applied to static compensation, excellent static; performance, static optimal error less than 0.05%/10MPa.

●The sensor integrated sensor with high sensitivity, excellent performance of optimal temperature transmitter, less than 0.04%/10K.

●Full stainless steel 316L silicone oil filling welding sealing structure.

●Micro range gauge / absolute pressure transmitter with no loss of pressure overload protective membrane patent technology leading, one-way over voltage of up to 7MPa, which is the full range of 1166 times.

●Stable and reliable, long-term drift of + 0.1%/3 years, 5 years free maintenance.

●Very wide measurement range 100Pa~40MPa (Scalable up to 60MPa).

●Adjustable range of maximum 100:1.

●EMC comply with GB/T18268, 1-2008 standard requirements.

产品特点

Product Features

• 采用先进的单晶硅传感器技术及电容传感技术；

• 高稳定性、高可靠性、高抗干扰性；

• 带自诊断功能；

• 多种调试方法：就地按钮、手操器、通信软件；

• 就地按钮与LCD表头可实现变送器的功能组态；

• 可选防雷保护（耐瞬变电压）功能；

• 可选不锈钢电子外壳

液位、远传变送器：形式、隔离膜片、灌充液选择丰富；

• 测量介质：液体、蒸汽和气体；

• 基本误差：±0.05%~±0.1%；

• 最大量程比：100：1；

• 测量范围（未迁移时）

差压范围：0-50Pa~10MPa；

压力范围：0-1kPa~40MPa；

• 绝压范围：0-10kPa~3MPa；

• 环境温度：-40~+85℃（防爆、防雷：-40°C+60°C）（带LCD表头、充氟油：-20°C~+60°C）；

• 被测介质温度：-40°C~+315°C；

• 温度影响

-20℃+65℃时：

•Advanced single crystal silicon sensor technology and capacitive sensing technology.

•High stability, high reliability, high anti-interference.

•With self diagnosis function

•A variety of debugging methods: on the spot button, hand operator, communications software

•the local button and the LCD header can realize the transmitter function configuration

•optional lightning protection (transient voltage resistance) function optional stainless steel electronic case

•Liquid level, remote transmitter: form, isolation diaphragm, filling fluid selection rich

•Measuring medium: liquid, steam and gas

•Basic error:±0.05%~±0.1%

•Maximum range ratio: 100:1

•Measuring range (no migration)

Differential pressure range: 0-50Pa~10MPa pressure range: 0-1kPa ~ 40MPa absolute pressure range: 0-10kPa ~ 3MPa

Ambient temperature: -40~+85℃(explosion-proof, lightning protection: -40 degrees C ~ +60 degrees C) (with LCD header, fluorine oil: -20 degrees C~+60 degrees)

•measured medium temperature: -40 degrees C~+315 degrees C

•temperature affect -20 C ~ +65. (when):

± (0.03%URL+0.05%Span) /20°C;
-40℃~+85℃时:
± (0.1%URL+0. 1%Span) /120°C;
• 静压等级: 16MPa、40MPa;
• 静压影响: ±0. 05%URL/10MPa *长期漂移: 0.10%URL/3年;
• 防爆标志: Ex d IIC T4~T6> Exia IIC T4-T6;
• 输出通信协议: HART、PROFIBUS-PA、FF;
• 输出功能: 线形、平方根等;
• 电磁兼容性: 符合EN 61326-1: 2006;
• 快速的动态响应;
• 防护等级: IP67;
• 灌充液: 硅油、氟油、高温硅油等;
• 基型表隔离膜片: 316L、哈氏合金C、钽等;
• LCD表头: 显示工程单位、百分数、电流值等;
• 远传形式: 平法兰式、插入筒式、对夹式、法兰安装式、螺纹安装式、夹持式、耦合式、微型等;
• 液位、远传隔离膜片: 316L、哈氏合金C、钽、钛、PFA涂层、F46覆膜、镀金等。

±(0.03%URL+0.05%Span) /20℃
-40℃~+85℃:
±(0.1%URL+0.1%Span) /120°C.
•Static pressure level: 16MPa, 40MPa.
•Static pressure effects: +0.05%URL/10MPa*long drift: +0. 10%URL/3 years.
•Explosion proof mark: Ex D T4~T6 > Ex IA IIC IIC T4-T6.
•Reference output communication protocol: HART, PROFIBUS-PA, FF
•Output function: linear, square root isoparametric electromagnetic compatibility: EN 61326-1:2006.
•Fast dynamic response.
•Protection level: IP67.
•Filling fluid: silicone oil, fluorine oil, high temperature silicone oil, etc.
•Base type isolation diaphragm: 316L, Hastelloy C,tantalum etc.
•LCD header: display engineering units, percentage, current value, etc.
•Remote form: flat flange, tube insertion of the clip, flange mounted, screw type, clamp type, coupling type, micro - level, remote diaphragm: 316L, HastelloyC, tantalum, titanium, PFA coating, F46 coating, plating etc.

天康集团

TK3051C系列压力/差压变送器

TK3051C series pressure/differential pressure transmitter



产品概述

Product Overview

TK3051C系列压力/差压变送器用于工业过程全系列差压、压力、绝对压力的测量，具有模拟或数字输出信号。广泛应用于石油、化工、电力、食品、造纸、市政工程等行业。

TK-3051C系列变送器采用先进的高性能传感器技术，满足多种应用范围。且TK3051C系列压力/差压变送器已取得多种国内外体系认证证书，如：欧洲防爆ATEX证书、国际防爆IECEx认证、中国防爆NEPSI认证、欧盟CE认证、ISO9001认证、 ISO14000认证、ISO45001认证、美国HART7通讯认证、SIL3-TUV安全证书，IP67 防护等级认证、中石化EPEC认证、美国3A SSI协会组织认证、3A测量体系认证、PI-China Profibus-PA认证等一系列权威高标准国际认证。EMC电磁兼容认证，CNAS认证等国际认证及国内认证的资质证书10多项。

The TK3051C series pressure/differential pressure transmitter is used for measuring the full range of differential pressure, pressure, and absolute pressure in industrial processes, with analog or digital output signals. Widely used in industries such as petroleum, chemical, power, food, paper, and municipal engineering.

The TK-3051C series transmitter adopts advanced high-performance sensor technology to meet various application ranges. And the TK3051C series pressure/differential pressure transmitter has obtained various domestic and foreign system certification certificates, such as: European explosion-proof ATEX certificate, international explosion-proof IECEx certification, China explosion-proof NEPSI certification, European Union CE certification, ISO9001 certification, ISO14000 certification, ISO45001 certification, American HART7 communication certification, SIL3-TUV safety certificate, IP67 protection level certification, Sinopec EPEC certification, American 3A SSI association organization certification, 3A measurement system certification PI China Profibus-PA certification and a series of authoritative high standard international certifications. More than 10 international and domestic certifications such as EMC electromagnetic compatibility certification, CNAS certification, etc.

产品系列
Product Series

TK3051C系列差压，表压与绝压变送器

精度：0.05%~0.1%；
差压：校验量程从0.1kPa至10MPa；
表压：校验量程从0.12kPa至21MPa；
绝压：校验量程从1.5kPa至10MPa；
隔离膜片密封组件选择：
1199RFW、1199PFW、1199FFW、1199EFW、1199RTW、1199SCW、1199TFW、1199CAP；
过程隔离膜片：不锈钢，哈氏合金，蒙乃尔，钽（仅限CD，CG）及镀金蒙乃尔，镀金不锈钢。

TK3051C differential pressure, gauge pressureand absolute pressure transmitter

Excellent performance: accuracy 0.05%~0.1%.
Differential pressure: the inspection range from 0.1kPa to 21MPa.
Gauge pressure: the inspection range from 0.12kPa to 21MPa.
Absolute pressure: the inspection range from 1.5kPa to 21MPa.
Process isolation diaphragm: stainless steel, hastelloy, Monel, tantalum (only for CD, CG) and gold plated Monel, gold plated stainless steel.
Compact design, solid and light in weight, easy to install
Compound range (only for CD, CG), able to measure the negative pressure.

TK3051C-T型，表压与绝压变送器

精度：0.05%~0.1%；
表压：校验量程从0.12kPa至100MPa；
绝压：校验量程从0.12kPa至10MPa；
隔离膜片密封组件选择：
1199RFW、1199PFW、1199FFW、1199EFW、1199RTW、1199SCW、1199TFW、1199CAP；
过程隔离膜片：不锈钢、哈氏合金、钽、镀金膜片；
灌充液：硅油与惰性液。

TK3051C-T,gauge pressureand absolute pressure transmitter

Accuracy: 0.05%~0.1%;
Gauge pressure: calibration range from 0.12kPa to 100MPa;
Absolute pressure: calibration range from 0.12kPa to 10MPa;
Selection of isolation diaphragm sealing components:
1199RFW, 1199PFW, 1199FFW, 1199EFW, 1199RTW, 1199SCW, 1199TFW, 1199CAP;
Process isolation membrane: stainless steel, Hastelloy alloy, tantalum, gold-plated membrane;
Filling liquid: silicone oil and inert liquid.

TK3051C-L型液位变送器

精度：0.1-0.2%；
隔离膜片密封组件：
1199RFW、1199PFW、1199FFW、1199EFW、1199RTW、1199SCW、1199TFW、1199CAP；
过程隔离膜片：不锈钢、哈氏合金、钽、蒙乃尔、镀金。

TK3051C-L liquid level transmitter

Accuracy: 0.1-0.2%;
Isolation diaphragm sealing components:
1199RFW, 1199PFW, 1199FFW, 1199EFW, 1199RTW, 1199SCW, 1199TFW, 1199CAP;
Process isolation diaphragm: stainless steel, Hastelloy, tantalum, Monel, gold plated.

产品参数
Product parameters

- 采用先进的单晶硅传感器技术；
- 多种调试方法：就地按钮、手操器、通信软件；
- 就地按钮与LCD表头可实现变送器的功能组态；
- 可选浪涌保护（耐瞬变电压）功能；
- 铝合金外壳及不锈钢外壳可选；
- 测量介质：液体、蒸汽和气体；
- 基本误差：±0.05%~±0.2%；
- 最大量程比：40：1；

- Adopting advanced monocrystalline silicon sensor technology.
- Multiple debugging methods: local buttons, manual operators, communication software.
- The local button and LCD meter head can achieve functional configuration of the transmitter.
- Optional surge protection (transient voltage resistance) function.
- Aluminum alloy shell and stainless steel shell are optional.
- Measurement medium: liquid, steam, and gas.
- Basic error: ±0.05%~±0.2%.
- Maximum range ratio: 40:1.

●环境温度：

-40℃～+85℃（防爆、防雷：-40℃～+60℃）（带LCD表头、-20℃～+60℃）；

●温度影响

-20℃～+65℃时：

±（0.03%URL+0.05%Span）/20℃；

-40℃～+85℃时：

±（0.1%URL+0.1%Span）/120℃

●过压保护：大于传感器额定压力的1.5倍

●静压等级：16MPa、25MPa、40MPa；

●静压影响：±0.05%URL/10MPa*长期漂移：0.10%URL/3年。

●Environmental temperature:

-40℃～+85℃(explosion-proof and lightning protection: 40℃～+60℃) (with LCD meter head, -20℃～+60℃).

●Temperature impact

-At 20 ℃ to+65 ℃:

± (0.03% URL+0.05% Span)/20℃.

-At 40 ℃ to+85 ℃:

± (0.1% URL+0.1% Span)/120℃.

●Overvoltage protection: greater than 1.5 times the rated pressure of the sensor.

●Static pressure level: 16MPa, 25MPa, 40MPa.

●Static pressure influence

± 0.05% URL/10MPa * Long term drift: 0.10% URL/3 years.

电子线路板

电子板采用专用集成电路（ASIC）与表面封装技术。该板接收来自传感器的数字输入信号及其修正系数，然后对信号进行修正与线性化。电子板模块的输出部分将数字信号转为模拟输出，并与HART手操器进行通讯。标准的模拟型输出为4-20mA。

可选液晶表头插在电子板上，以压力、流量或液位工程单位或模拟量程值百分比显示数字输出，变送器均可选用液晶表头。

Electronic circuit board

The electronic circuit board uses special integrated circuit (ASIC) and surface mount technology. This board receives the digital input signal from the sensing film head and its correction coefficient and then make correction and linearization for the signal. The output part of the electronic board module converts the digital signal to analog output and communicates with the HART. Standard analog output is 4-20mA.

Optional liquid crystal meter is inserted on the electronic board which shows the digital output with pressure, flow or liquid level engineering unit or analog range percentage. The transmitter can use liquid crystal meter.

数据存贮

组态数据存贮于变送器电子板模块的永久性EEPROM存贮器中。变送器掉电后，数据仍保存，故而上电后变送器能立即工作。

Data storage

The configuration data is stored in the permanent EEPROM memory of the electronic board module of the transmitter. After the transmitter loses power, the data is still kept, thus the transmitter can start work immediately after power on.

数/模转换与信号传送

过程变量以数字式数据存贮，可以进行精确地修正和工程单位的转换。信号经修正后的数据转换为模拟输出信号。HART手操器可以直接以数据信号方式存取传感器读数，不经过数/模转换以得到更高精度。

Digital/Analog Conversion and Signal Transmission

The process variable is stored in the form of digital data which can correct accurately the conversion with engineering unit. The signal is converted to analog output signal via converted data. HART device can access directly the reading of sensor in the form the digital signal and get higher accuracy without A/D conversion.

通讯格式

TK3051C型采用HART协议进行通讯，该协议使用了工业标准Bell202频移调制（FSK）技术。在模拟输出上叠加高频信号可以进行远程通讯。采用该技术，能在不影响回路完整性的情况下，实现同时通讯和输出。

Communication format

TK3051C type adopts HART protocol for communication which uses industrial standard Bell202 frequency shifting keying (FSK) technology. High frequency signal is superposed on the analog output to make remote communication. This technology enables communication and output at the same time without affecting the integrity of the circuit.

软件功能

HART协议使用户可以容易地使用TK3051C型的组态，测试与具体设定的功能。

组态

使用HART手操器可以方便地对TK3051C型进行组态。组态由两部分组成。首先，设定变送器的工作参数，包括：零点与量程设定点。

自诊断与测试

TK3051C型可以进行连续自检。当出现问题时，变送器将激活用户选定的模拟输出报警。HART手操器可以查询变送器，确定问题所在。变送器向手操器输出特定信息，以识别问题，从而快速而便捷地采取维修措施。若操作员确 认是回路有问题，可让变送器给出特定输出，以供回路测试。

具体设定

在变送器初始化阶段和数字电子板维护时需进行具体设定。它允许对传感器与模拟输出进行微调，以符合工厂压力标准。此外，特性化功能令用户可防止模拟输出设定点被意外或故意调整。

选项

Option

●液晶表头；
●M5数字表头，液晶显示；
●直接显示数字数据；
●按用户要求显示流量、液位、体积或压力单位；
●显示诊断信息，用于现场故障检修；
●可旋转90°，便于安装；
●本机量程与零点调整；
●作为标准配制，变送器带有本机量程与零点调整钮；
●非交互式外部零点与量程调整，易于校验；
●按钮代替标准电位计进行调整，以实现本地调整；
●耐瞬变电压保护；
●一体化耐瞬变电压保护端子块；
●法兰与接头用螺栓；
●法兰与接头可配用不同材料的螺栓；
●标准材料为电镀碳钢。

Software function

HART protocol enables the user to use easily the TK3051C type configuration and test the specifically set functions.

Configuration

It is easy to configure the 3051 type with HART communicator. The configuration consists of two parts. Firstly, set the working parameters of the transmitter, including: zero point and range set points.

Self diagnosis and testing

TK3051C type can make continuous self-check. When there is problem, the transmitter will activate the analog output alarm selected by the user. HART device can inquire about the transmitter and determine the problems. The transmitter outputs specific information to the HART device so as to recognize the problem and take maintenance measures rapidly and conveniently. When the operator confirms that there is problem with circuit, he can let the transmitter give specific output to test the circuit.

Specific setting

Specific setting is required during initialization of transmitter and maintenance of digital electronic board. It allows the fine tuning of the sensor and analog output so as to meet the pressure standard of the plant. Besides, characterized function enables the user to prevent the analog output setting point from accident or intentional adjustment.

●Liquid crystal meter.
●M5 digital meter, liquid crystal display.
●Direct display of digital data, higher accuracy.
●Display the flow, liquid level, volume or pressure unit as per customer requirements.
●Display the diagnosis information, for repair of fault on site.
●It can turn 90 degrees, easy to install.
●Range and zero point adjustment of this machine.
●As standard make-up, the transmitter has the adjustment button for range and zero point of this machine.
●Non-interactive external zero point and range adjustment, easy to inspect.
●Button replacing the standard potentiometer to make adjustment to realize the optimum performance.
●Resistant to transient voltage protection.
●Integrated protection terminal block resistant to transient voltage.
●Flange and joint bolts.
●Bolts of different materials can be used for flange and joint.
●The standard material is galvanized carbon steel.

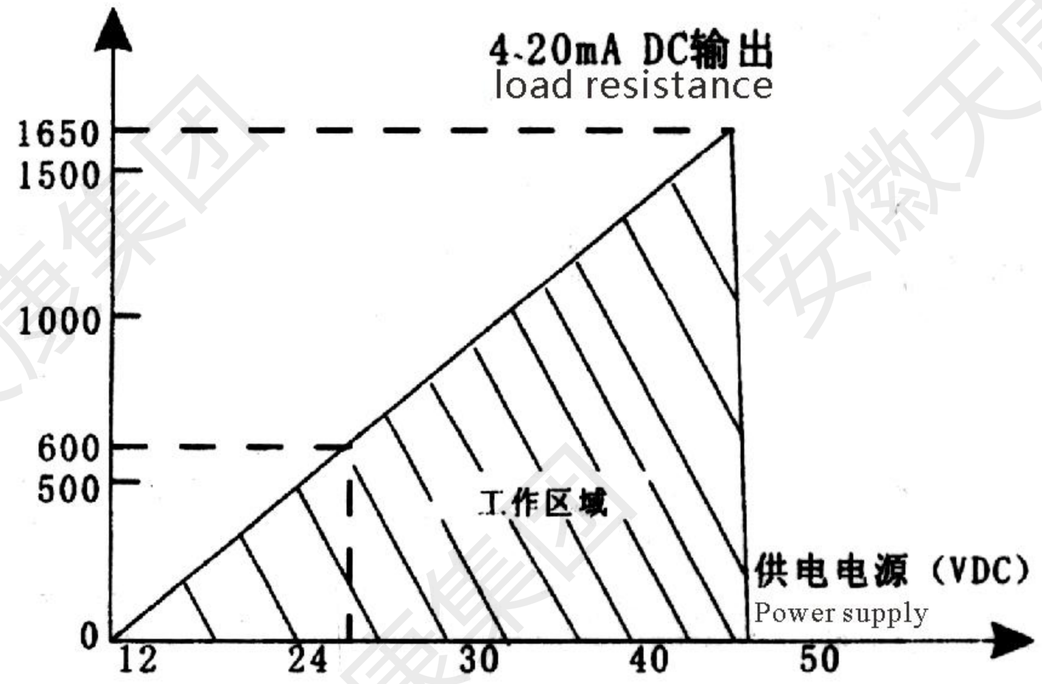
电源极限

需要外部电源。标准变送器（4~20mA）空载时工作。在回路负载极限最大回路电阻由外部电源供电电压决定，关系如下图：

Power limit

External power supply is required. Standard transmitter (4 - 2 0 m A) works during no load condition. The maximum circuit resistance is determined by the voltage of external power supply with the relationship as follows:

负载特性
Load characteristics



量程与传感器的极限值

表1.
3051CD，3051CG，3051C-L，量程与传感器极限值。

Limit Value of Range and Senor

Table 1 Limit value of range and sensor of 3051CD, 3051CG, 3051C-L.

量程 Range	最小量程 Min. Range	量程与传感器极限值 Limit Value of Range and Senor						
	3051CD CG, CL,CH型 (Type)	量程上限 (URL) Upper range limit (URL)	量程下限（URL） Lower range limit					
			3051CD差压 Differential pressure	3051CG表压 Gauge pressure	3051C-L差压 Differential pressure	3051C-L表压 Gauge pressure	3051C-H差压 Differential pressure	3051C-H表压 Gauge pressure
2	10mmH_2O (100Pa)	150mmH_2O (1500Pa)	-150mmH_2O (-1500Pa)	-150mmH_2O (-1500Pa)	NA	NA	NA	NA
3	12mmH_2O (0.12kPa)	750mmH_2O (7.5kPa)	-750mmH_2O (-7.5kPa)	-750mmH_2O (-7.5kPa)	-750mmH_2O (-7.5kPa)	-750mmH_2O (-7.5kPa)	-750mmH_2O (-7.5kPa)	-750mmH_2O (-7.5kPa)
4	40mmH_2O (0.4kPa)	4mH_2O (40kPa)	-4mH_2O (-40kPa)	-4mH_2O (-40kPa)	-4mH_2O (-40kPa)	-4m H_2O (-40kPa)	-4m H_2O (-40kPa)	-4mH_2O (-40kPa)
5	200mmH_2O (2.0kPa)	20mH_2O (200kPa)	-20mH_2O (-200kPa)	-10mH_2O (-100kPa)	-20mH_2O (-200kPa)	-20mH_2O (-100kPa)	-20mH_2O (-200kPa)	-10mH_2O (-100kPa)
6	700mmH_2O (7.0kPa)	70mH_2O (700kPa)	-70mH_2O (-700kPa)	-10mH_2O (-100kPa)	-70mH_2O (-700KPa)	-70m H_2O (-100kPa)	-70m H_2O (-700kPa)	-10mH_2O (-100kPa)
7	2.1mH_2O (21kPa)	210mH_2O (2.1MPa)	-210mH_2O (-2.1MPa)	-10mH_2O (-100kPa)	-210mH_2O (-2.1MPa)	-210mH_2O (-100KPa)	-210mH_2O (-2.1MPa)	-10mH_2O (-100kPa)
8	7.0m H_2O (70kPa)	700mH_2O (7MPa)	-700mH_2O (-7MPa)	-10mH_2O (-100kPa)	NA	NA	-700mH_2O (-7MPa)	-10mH_2O (-100kPa)
9	21mH_2O (210kPa)	2100mH_2O (21MPa)	-2100mH_2O (-21MPa)	-10mH_2O (-100kPa)	NA	NA	-2100mH_2O (-21MPa)	-10mH_2O (-100kPa)

表2. 3051C-T型量程与传感器极限值

Table 2 Limit value of 3051C-T range and sensor

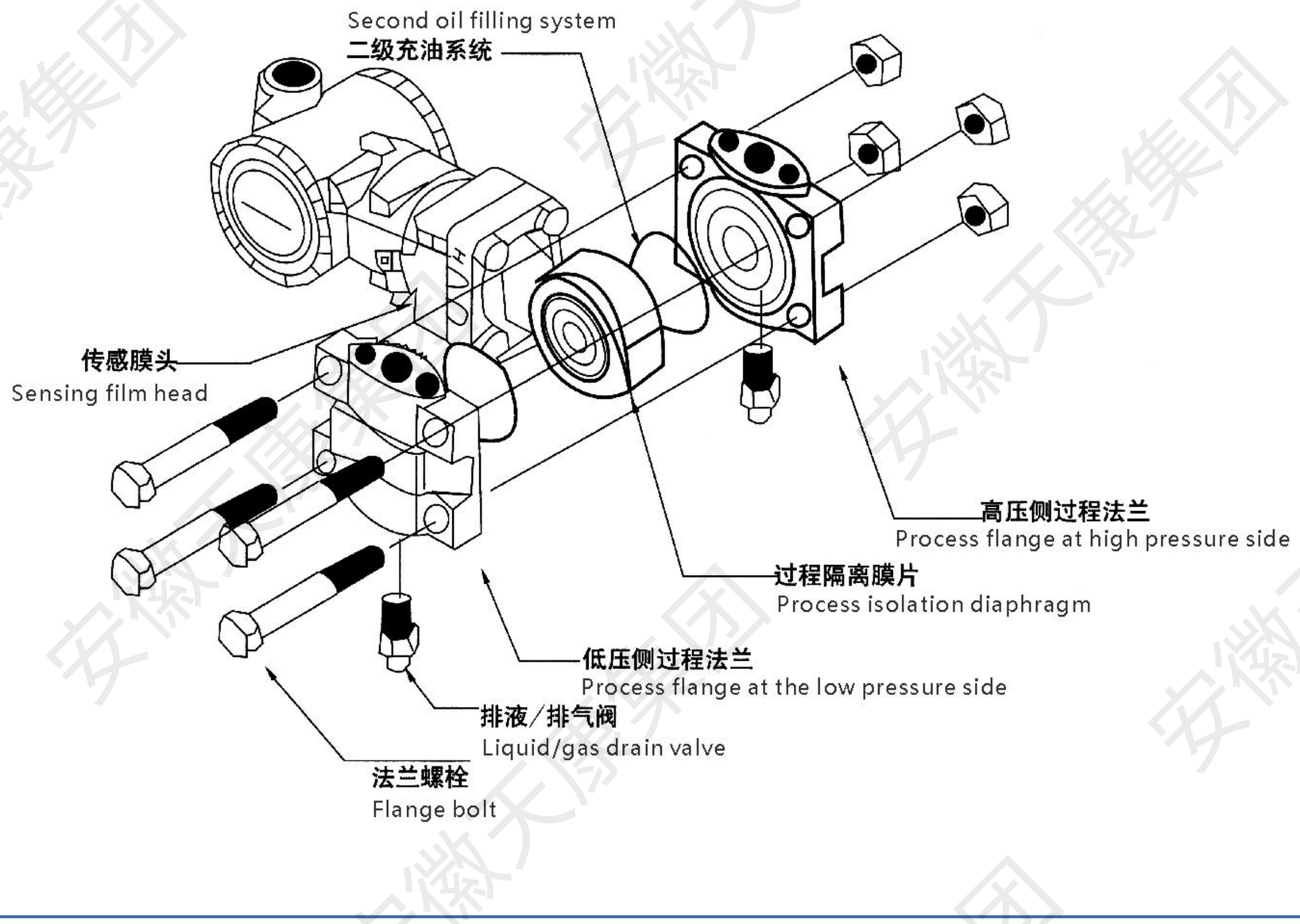
量程 Range	最小量程 Min. Range	量程与传感器极限值 Limit Value of Range and Senor		
		量程上限 Upper range limit	量程下限绝压 Lower range limit Absolute pressure	量程下限表压 Lower range limit Gauge pressure
3	12mmH_2O (0.12kPa)	750mmH_2O (7.5kPa)	0mmH_2O (0kPa)	-750mmH_2O (-7.5kPa)
4	40mmH_2O (0.4kPa)	4mH_2O (40kPa)	0mmH_2O (0kPa)	-4mH_2O (-40kPa)
5	200mmH_2O (2.00kPa)	20mH_2O (200kPa)	0mmH_2O (0kPa)	-10mH_2O (-100kPa)
6	700mmH_2O (7kPa)	70mH_2O (700kPa)	0mmH_2O (0kPa)	-10mH_2O (-100kPa)
7	2.1mH_2O (21kPa)	210mH_2O (2.1MPa)	0mmH_2O (0kPa)	-10mH_2O (-100kPa)
8	10mH_2O (100kPa)	1000mH_2O (10MPa)	0mmH_2O (0kPa)	-10mH_2O (-100kPa)
9	40mH_2O (400kPa)	4000mH_2O (40MPa)	0mmH_2O (0kPa)	-10mH_2O (-100kPa)
10	100mH_2O (1.0MPa)	10kmH_2O (100MPa)	0mmH_2O (0kPa)	-10mH_2O (-100kPa)

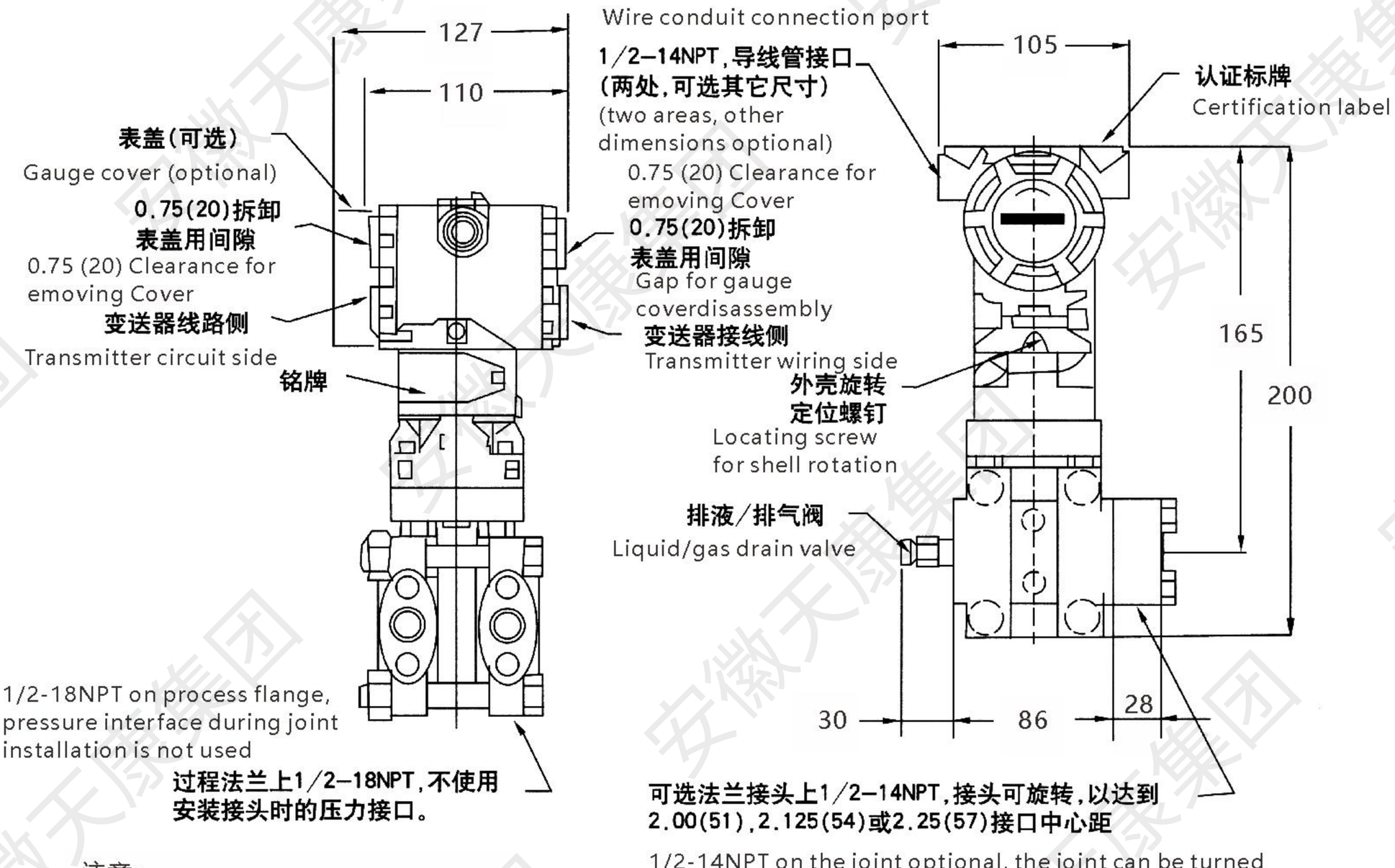
设大气压为14psi

Set the barometric pressure to be 14psi

TK3051C型压力变送器部件分解图与尺寸图

Exploded View and Dimensions of TK3051C Type Pressure Transmitter





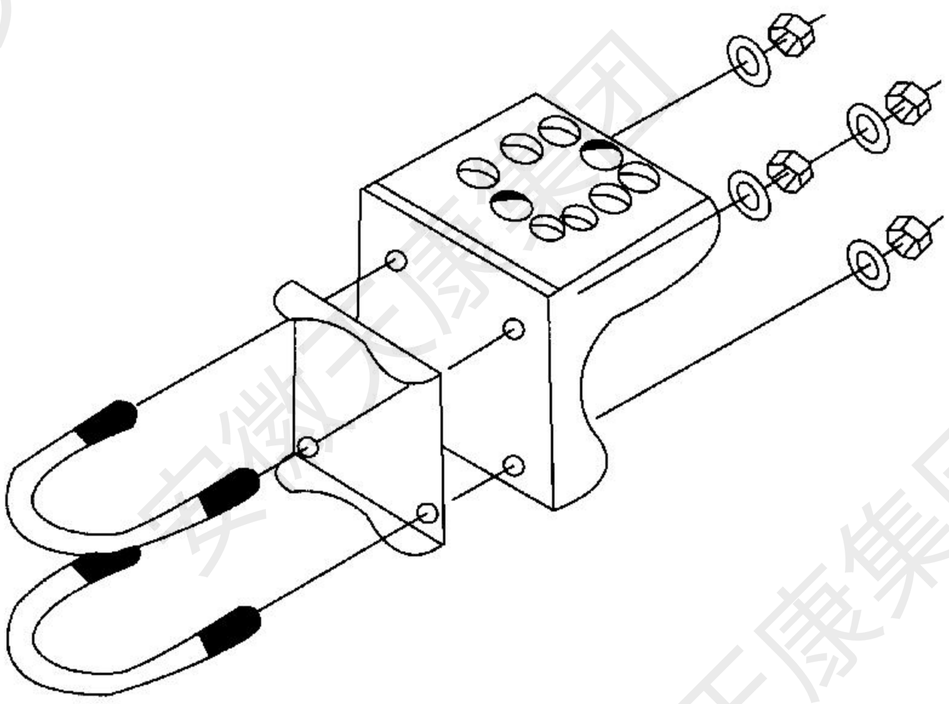
注意:
尺寸单位为毫米
Note: the dimension unit is (mm).

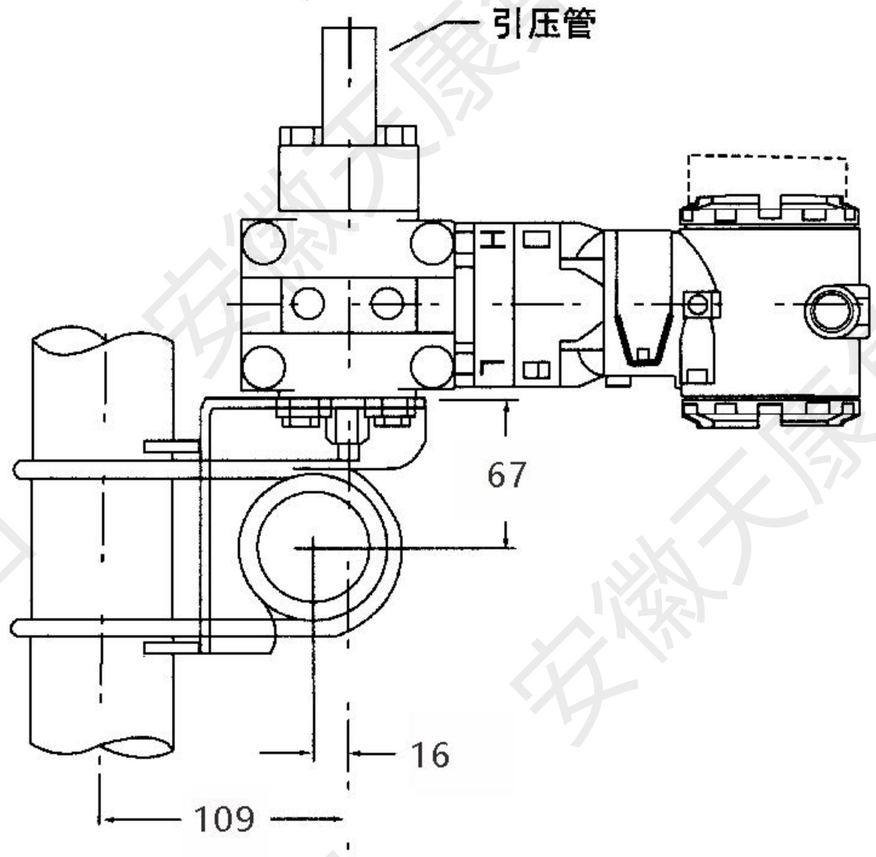
TK3051C型安装支架，用于2英寸管道安装和面板的安装

TK3051C Type Installation Frame, for 2 Inch Pipeline Installation and Panel Installation

管道安装结构图

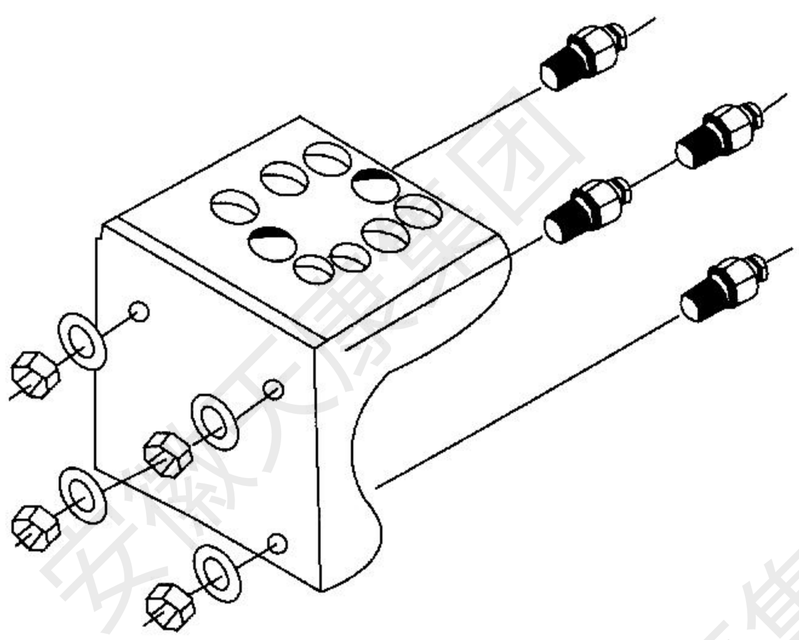
Structure diagram of pipeline installation

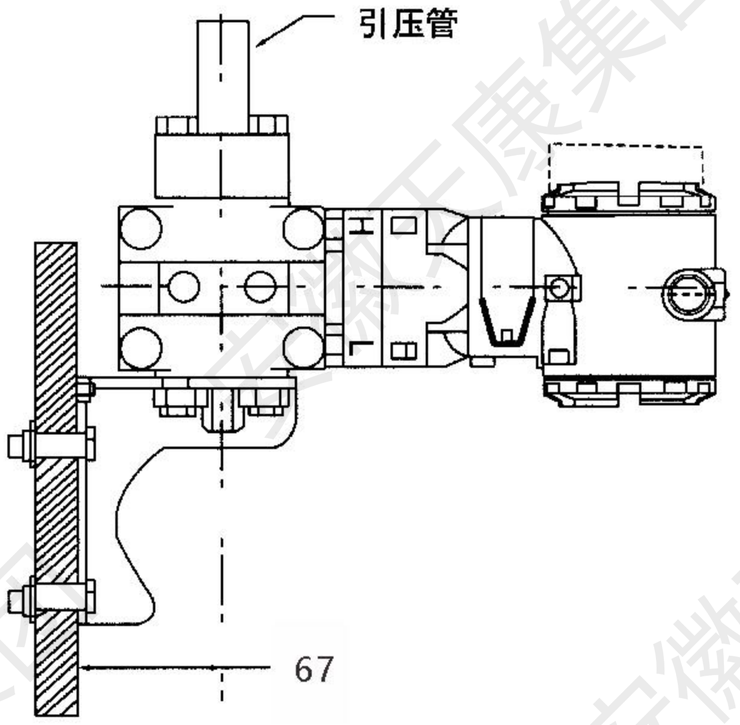




面板安装结构图提供（M20×1.5×16）螺栓用于支架与变送器相连

Diagram of Panel installation structure（M20×1.5×16）bolt is provided for connection





注意：尺寸单位为毫米

Note: The dimension unit is mm.

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TK3051C型差压、表压与绝压变送器选型

TK3051C type differential pressure,meter pressure and absolute pressure transmitter selection

TK3051C型差压、表压与绝压变送器选型（A型为高精度）
TK3051C type differential pressure,meter pressure and absolute pressure transmitter selection

型号 Model	变送器类型（选其一） Transmitter type (select one)	CD	CG	CA
TK3051CD	差压变送器 Differential pressure transmitter			
TK3051CG	表压变送器 Gauge pressure transmitter			
TK3051CA	绝压变送器 Absolute pressure transmitter			

代码 Code	压力范围（量程/最小量程） Pressure range (range/minimum range)			CD	CG	CA
	3051CD型 3051CD type	3051CG型 3051CG type	3051CA型 3051CA type			
2	-150至150mmH_2O/10mmH_2O (-1500至1500Pa/100Pa)	不提供 Not	不提供 Not	●	●	●
3	-750至750mmH_2O/12mmH_2O (-7500至7500Pa/120Pa)	-750至750mmH_2O/12mmH_2O (-7500至7500Pa/120Pa)	-750至750mmH_2O/12mmH_2O (-7500至7500Pa/120Pa)	●	●	●
4	-4.0至4.0mH_2O/40mmH_2O (-40至40kPa/400Pa)	-4.0至4.0mH_2O/40mmH_2O (-40至40kPa/400Pa)	-4.0至4.0mH_2O/40mmH_2O (-40至40kPa/400Pa)	●	●	●
5	-20至20mH_2O/0.2mH_2O (-200至200kPa/2.0kPa)	-10至20mH_2O/0.2mH_2O (-100至200kPa/2.0kPa)	-10至20mH_2O/0.2mH_2O (-100至200kPa/2.0kPa)	●	●	●
6	-70至70mH_2O/0.7mH_2O (-700至700kPa/7.0kPa)	-10至70mH_2O/0.7mH_2O (-100至700kPa/7.0kPa)	-10至70mH_2O/0.7mH_2O (-100至700kPa/7.0kPa)	●	●	●
7	-210至210mH_2O/2.1mH_2O (-2.1至2.1MPa/21kPa)	-10至210mH_2O/2.1mH_2O (-0.1至2.1MPa/21kPa)	-10至210mH_2O/2.1mH_2O (-0.1至2.1MPa/21kPa)	●	●	●
8	-700至700mH_2O/7.0mH_2O (-7.0至7.0MPa/70kPa)	-10至700mH_2O/7.0mH_2O (-0.1至7.0MPa/70KPa)	-10至700mH_2O/7.0mH_2O (-0.1至7.0MPa/70kPa)	●	●	●
9	-2100至2100mH_2O/21mH_2O (-21至21MPa/210kPa)	-10至2100mH_2O/21mH_2O (-0.1至21MPa/210kPa)	-10至2100mH_2O/21mH_2O (-0.1至21MPa/210kPa)	●	●	●

注：3051CD静压：16MPa，高静压：40MPa Note: change with the change of barometric pressure under 3051 type

代码 Code	输出 Output	CD	CG	CA
A	4-20mA，带有基于HART协议的数字信号 4-20mA，with digital signal based on HART protocol	●	●	●
B	PROFIBUS-PA总线 Bus	●	●	●
C	RS485	●	●	●

代码 Code	结构材料 Material of structural part			CD	CG	CA
	法兰材料 Flange material	排液/排气阀 Liquid/gas drain valve	法兰接头材料 Flange joint material			
2	不锈钢 Stainless	不锈钢 Stainless	不锈钢 Stainless	●	●	●
3	不锈钢 Stainless	哈氏合金C	哈氏合金C HastelloyC	●	●	●
7	不锈钢 Stainless	哈氏合金C HastelloyC	不锈钢 Stainless			

代码 Code	隔离膜片材料 Isolated membrane material	CD	CG	CA
2	316L不锈钢 316L Stainless	●	●	●
3	哈氏合金C-276 HastelloyC-276	●	●	●
4	蒙乃尔 Monel	●	●	●
5	钽（仅适用于3051CD与CG型，量程4-9，不适用于3051CA型） Tantalum (only applicable to 3051CD and CG, range 4-9. Not applicable to 3051CA type)	●	●	●
6	镀金 Gold-plating	●	●	●

代码 Code	O型环 O-ring	CD	CG	CA
A	氟橡胶 Fluoride rubber	●	●	●
B	聚四氟乙烯 PTFE	●	●	●

代码 Code	灌充液 Filling liquid	CD	CG	CA
1	硅油 Silicon oil	●	●	●
2	惰性液（卤代烃） Inertia oil (halogenated hydrocarbon)	●	●	●

代码 Code	外壳材料 Shell material	导线管入口尺寸 Entry size of wire conduit	CD	CG	CA
B	铝，覆聚氨酯涂层 Aluminum, covered with PU coating	M20×1.5（M20）	●	●	●
S	不锈钢 Stainless steel	M20×1.5（M20）	●	●	●
C	铝，覆聚氨酯涂层 Aluminum, covered with PU coating	1/2NPT	●	●	●
T	不锈钢 Stainless steel	1/2NPT	●	●	●

注意：特殊选项请与销售代表联系。 Attention: For special options, please contact your sales representative.

续选型号：TK3051C型差压、表压与绝压变送器

Continuation model: TK3051C differential pressure, gauge pressure, and absolute pressure transmitter

代码 Code	阀组一体化安装选型 Valve integration installation option	CD	CG	CA
S5	一体化安装型阀组 Integrated installation valve block	●	●	●
代码 Code	**远传（可远）注：-1199远传法兰装置 Remote transmission (remote) Note: -1199 Remote transmission flange device**	CD	CG	CA
S1	一体化一个远传选项 Integrated remote transmission option	●	●	●
S2	两个远传（直接安装式或毛细管式） Two remote transmitting (directly installed or capillary type)	●	●	●
代码 Code	**可选全焊接远传（用于高真空场合） 注：标准法兰和接头螺栓是不锈钢 Optional fully-welded remote transmitting (applicable to the high vacuum situation) Note: standard flange and joint bolt are made from stainless steel**	CD	CG	CA
S7	一个远传，全焊接系统（毛细管式） One remote transmitting, fully welded system (capillary type)	●	●	●
S8	两个远传（直接安装式或毛细管式） Two remote transmitting (directly installed or capillary type)	●	●	●
S0	一个远传，全焊接系统（直接安装式） One remote transmitting, fully welded system (directly installed type)	●	●	●
S9	两个远传，全焊接系统（一个直接安装式，一个毛细管式） Two remote transmitting, fully welded system (one directly installed type, one capillary type)	●	●	●
代码 Code	**支架安装选项 Bracket installation options**	CD	CG	CA
B1	传统法兰支架，用于2英寸管道安装，碳钢螺栓 Two remote transmitting, fully welded system (one directly installed type, one capillary type)	●	●	●
B2	碳钢镀锌支架 Carbon steel galvanized bracket	●	●	●
B3	碳钢支架 Carbon steel bracket	●	●	●
B8	304L不锈钢支架 304L stainless steel bracket	●	●	●
B9	304平支架 304 flat bracket	●	●	●
代码 Code	**螺栓选项 Bolt option**	CD	CG	CA
L4	304不锈钢螺栓 304 stainless bolt	●	●	●
L5	碳钢镀锌螺栓 Carbon steel galvanized bolt	●	●	●
代码 Code	**表头可选 Meter optional**	CD	CG	CA
M5	液晶表头，用于铝制外壳 Liquid crystal meter, used for aluminum shell	●	●	●
代码 Code	**其他选项 Other options**	CD	CG	CA
Q4	校验证书 Inspection certificate	●	●	●
Q16	卫生型远传膜片表面光洁认证 Surface finish certification for hygiene remote transmitting diaphragm	●	●	●
Q3	安全型仪表系统的质量认证 Quality certification of safe instrument system	●	●	●
J1	有本机零点或量程调整 Zero point or range adjustment with native machine	●	●	●
J3	有本机零点或量程调整 Zero point or range adjustment with native machine	●	●	●
T1	耐瞬变电压保护端子块 Protection terminal block resistant to transient voltage	●	●	●
C1	定制软件组态 Customized software configuration	●	●	●
P1	静压测试 Static pressure test	●	●	●
P2	清洗，用于特殊应用场合 Cleaning, for special application site	●	●	●
DF	1/2-14NPT过程接口（法兰按头）——材料与法兰材料相同 1/2-14NPT Process interface (flange joint) - the material is the same as the flange material	●	●	●
P9	40MPa静压极限（仅限3051 CD型，量程3-9） 30.1MPa static pressure limit (only for 3051 CD, range 3-9)	●	●	●
V5	外部接地螺钉组件 Screw assembly of external grounding	●	●	●
V6	防真空处理 Anti vacuum treatment	●	●	●
代码 Code	**危险场所认证 Certification of dangerous site**	CD	CG	CA
E5	本安iaⅡCT4/CT6 Intrinsic safety iaⅡCT4/CT6	●	●	●
K5	隔爆dⅡCT4/CT6 Explosion suppression dⅡCT4/CT6	●	●	●

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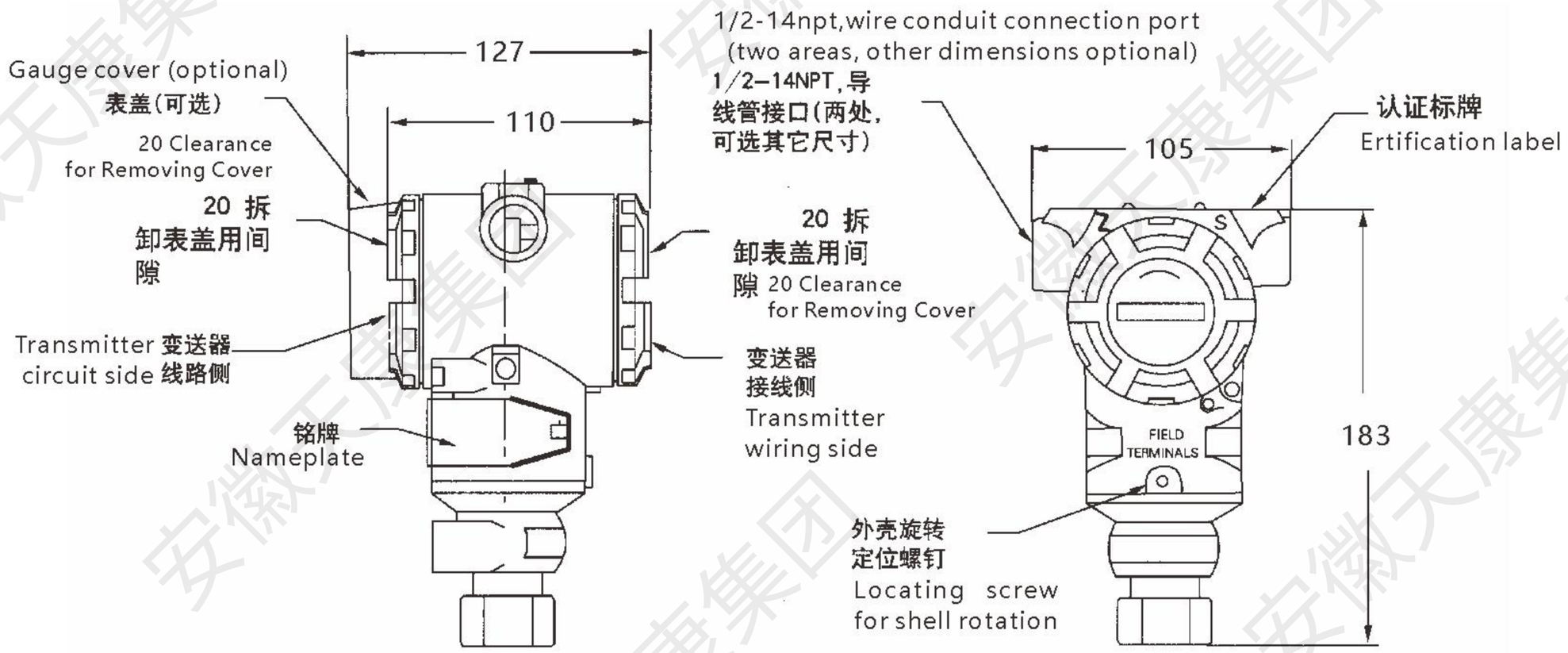
TK3051C-M型风微差压、风微压力

TK3051C-M type wind micro differential pressure, wind micro pressure

型号 Model	变送器类型 Transmitter type			CDM	CGM
3051CDM	微风差压变送器 Breeze differential pressure transmitter			•	•
3051CGM	微风压力变送器 Breeze pressure transmitter			•	•
代码 Code	**压力范围（量程/最小量程） Pressure range (range/minimum range)**			**CDM**	**CGM**
3051CDM	2	-25Pa至25Pa		•	•
	3	-100Pa至100Pa		•	•
	4	-500Pa至500Pa		•	•
	5	-2500Pa至2500Pa		•	•
	6	-5000Pa至5000Pa		•	•
3051CGM	2	0～10～25Pa		•	•
	3	0～25～100Pa		•	•
	4	0～100～500Pa		•	•
	5	0～500～2500Pa		•	•
	6	0～1000～5000Pa		•	•
代码 Code	**输出信号 Output signal**			**CDM**	**CGM**
A	4-20mADC/HART，可选择线性或者开方输出 Selectable for linear or square output			•	•
代码 Code	**过压极限 Overvoltage limit**			**CDM**	**CGM**
A	≤500kPa			•	•
代码 Code	**法兰材料 Flange Material**	**排液/排气阀 Drain/exhaust valve**	**法兰接头材料 Flange joint material**	**CDM**	**CGM**
2	不锈钢 Stainless steel	不锈钢 Stainless steel	不锈钢 Stainless steel	•	•
代码 Code	**量程比 Range ratio**			**CDM**	**CGM**
21	20：1			•	•
代码 Code	**长期稳定性 Long term stability**			**CDM**	**CGM**
1	±25Pa为0.025Pa/年 Year			•	•
2	±5000Pa为1Pa/年 Year			•	•
代码 Code	**允许温度 Permissive temperature**			**CDM**	**CGM**
11	环境温度 -40℃～85℃ Ambient temperature			•	•
12	存储温度 -40℃～100℃ Storage temperature			•	•
13	测量介质温度 -40℃～100℃ Measuring medium temperature			•	•
代码 Code	**过程连接 Process connection**			**CDM**	**CGM**
	外壳材料 Shell material		**导线管入口尺寸 Entry size of wire conduit**		
B	铝，覆聚氨酯涂层 Aluminum, covered with PU coating		M20×1.5（M20）	•	•
S	不锈钢 Stainless steel		M20×1.5（M20）	•	•
C	铝，覆聚氨酯涂层 Aluminum, covered with PU coating		1/2NPT	•	•
T	不锈钢 Stainless steel		1/2NPT	•	•
代码 Code	**位置影响 Position effect**			**CDM**	**CGM**
0	位置安装无影响 No impact on position installation			•	•
代码 Code	**阻尼时间 Damping time**			**CDM**	**CGM**
0	0.1～16秒内，可按0.001秒间隔设定 0.1-16 seconds, can be set at 0.001 second intervals			•	•
代码 Code	**危险场所认证 Dangerous site certification**			**CDM**	**CGM**
E5	本安ia II CT4/CT6 Inteinsic safety ia II CT4/CT6			•	•
K5	防爆dIICT4/CT6 Explosion suppression dIICT4/CT6			•	•

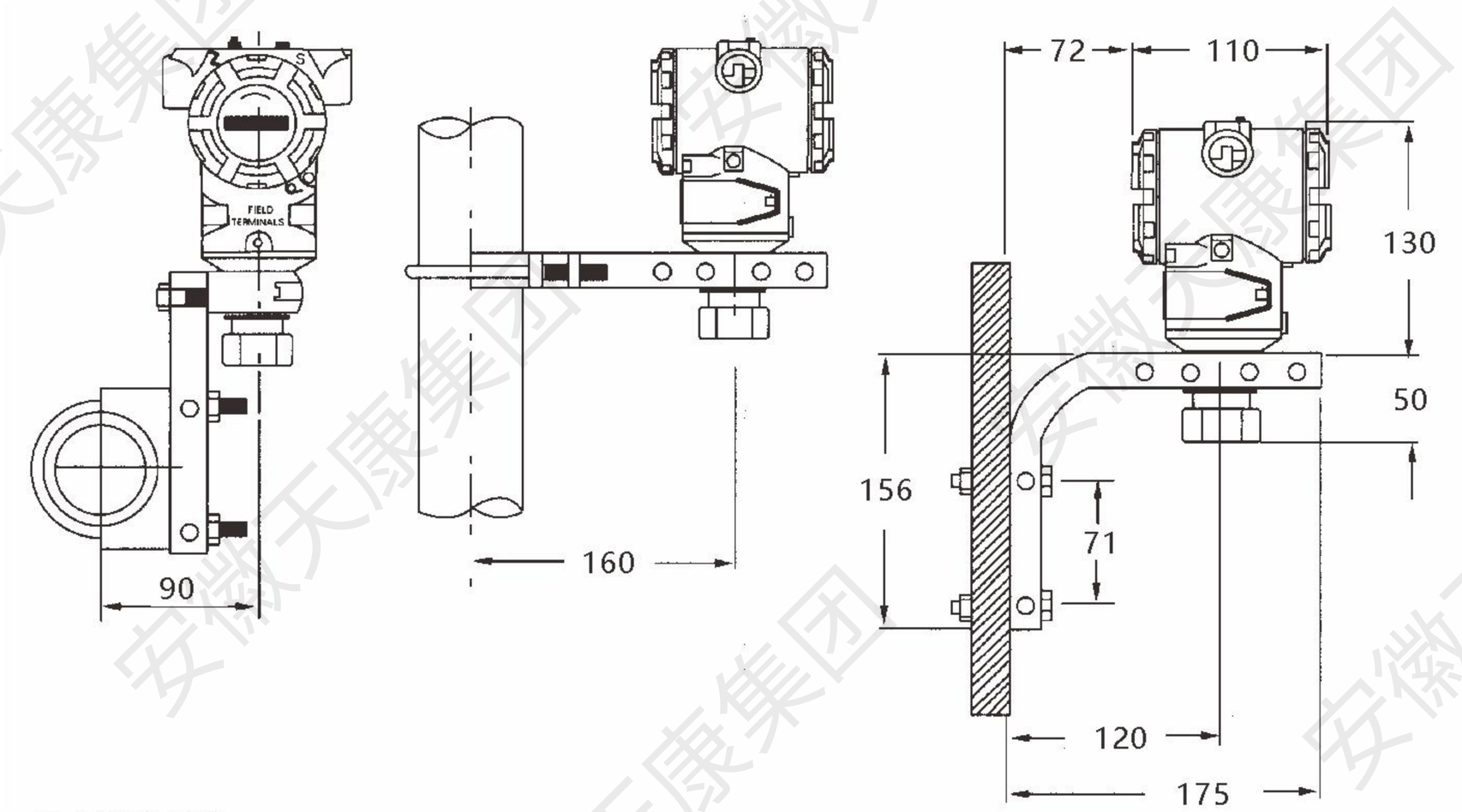
TK3051C-T型典型安装结构，带有可选安装支架

TK3051C-T typical installation structure, with optional installation frame



TK3051C-T型尺寸图

TK3051C-T Dimensions



注意：尺寸单位为毫米
Note: The dimension unit is mm.

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TK3051C-T型表压与绝压变送器选型

Selection of TK3051C-T gauge and absolute pressure transmitter

型号 Model	变送器类型 Transmitter type
TK3051C-T	压力变送器 Pressure transmitter

代码 Code	压力类型 Pressure type
G	表压 Gauge pressure
A	绝压 Absolute pressure

代码 Code	压力范围（量程/最小量程） Pressure scope (range/minimum range)	
	3051C-TG	3051C-TA
3	-600至600mmH_2O/12mmH_2O（-6000至6000Pa/1000Pa）	0至1000mmH_2O/12mmH_2O（0至10000Pa/120Pa）
4	-4.0至4.0mH_2O/40mmH_2O（-40至40kPa/0.4kPa）	0至4.0mH_2O/40mmH_2O（0至40kPa/0.4kPa）
5	-10至20mH_2O/0.2mH_2O（-100至200kPa/2.0kPa）	0至20mH_2O/0.2mH_2O（0至200kPa/2.0kPa）
6	-10至70mH_2O/0.7mH_2O（-100至700kPa/7.0kPa）	0至70mH_2O/0.7mH_2O（0至700kPa/7.0kPa）
7	-10至210mH_2O/2.1mH_2O（-0.1至2.1MPa/21kPa）	0至210mH_2O/2.1mH_2O（0至2.1MPa/21kPa）
8	-10至1000mH_2O/10mH_2O（-0.1至10MPa/100kPa）	0至1000mH_2O/10mH_2O（0至10MPa/100kPa）
9	0至4000mH_2O/40mH_2O（0至40MPa/400kPa）	0至4000mH_2O/40mH_2O（0至40MPa/400kPa）
10	0至12000mH_2O/120mH_2O（0至120MPa/1200kPa）	0至12000mH_2O/120mH_2O（0至120MPa/1200kPa）

注：3051TG型的量程下限随大气压的变化而改变。 Note: Alter with the change of barometric pressure under 3051TG type range.

代码 Code	输出 Output
A	4-20mA，带有基于HART协议的数字信号 4-20mA，with digital signal based on HART protocol
B	PROFIBUS-PA总线 Bus
C	RS485

代码 Code	过程连接型式 Process connection type
2B	1/2-14NPT阴螺纹 1/2-14NPT Female screw
2C	G1/2A阳螺纹 G1/2A Male screw
2G	M20×1.5阳螺纹 M20×1.5 Male screw
2F	锥形和螺纹方式，适用于F-250-C型压力反应罐（包括压盖与箍，仅限不锈钢，量程5） Conical and thread method, applicable to F-250-C pressure reaction tank (including gland hoop, only for stainless steel, range 5)

代码 Code	膜片材料 Diaphragm material
2	316LSST
3	哈氏合金C-276 Hastelloy C-276
4	钽膜片 Tantalum diaphragm
6	镀金 Gold-plating

注：符合NACE MR01-75要求。 Note: meeting the requirements of NACE MR01-75.

代码 Code	灌充液 Filling liquid
1	硅油 Silicon oil
2	惰性液 Inertial liquid

代码 Code	外壳材料 Shell material	导线管入口尺寸 Entry size of wire conduit
B	铝，覆聚氨酯涂层 Aluminum, covered with PU coating	M20×1.5（M20）
S	不锈钢 Stainless steel	M20×1.5（M20）
C	铝，覆聚氨酯涂层 Aluminum, covered with PU coating	1/2 NPT
T	不锈钢 Stainless steel	1/2 NPT

续选型号：TK3051C-T型表压与绝压变送器

Continuation model: TK3051C-T gauge and absolute pressure transmitter

代码 Code	表头可选 Optional header	TG	TA
M5	液晶表头 LCD meter head	●	●
代码 Code	1199远传（可选） 注：标准法兰和接头螺栓是304不锈钢 1199 remote transmission (optional) Note: Standard flanges and joint bolts are 304 stainless steel	TG	TA
A	一个远传（直接安装式或毛细管式） One remote transmission (direct installation or capillary type)	●	●
代码 Code	安装支架选项 Installation bracket options	TG	TA
B4	通用碳钢支架 Universal carbon steel bracket	●	●
B5	通用不锈钢支架 Universal stainless steel bracket	●	●
代码 Code	其他选项 Other options	TG	TA
Q4	检验证书 Testing certificate	●	●
Q3	安全型仪表系统的质量认证 Quality certification of safety instrument systems	●	●
V6	防真空处理（需选用S1、S2、S7、S8、S9、S0） Anti vacuum treatment (S1, S2, S7, S8, S9, S0 required)	●	●
J1	有本机零点或量程调整 With local zero or range adjustment	●	●
J3	无本机零点或量程调整 No local zero or range adjustment	●	●
T1	耐瞬间电压保护端子模块 Terminal module for transient voltage protection	●	●
C1	定制软件组态 Customized software configuration	●	●
P1	过压测试 over voltage	●	●
P2	清洗，用于特殊应用场合，禁油处理 Cleaning, for special applications, oil free treatment	●	●
代码 Code	危险场所认证 Hazardous Location Certification	TG	TA
E5	本安iaⅡCT4/CT6	●	●
K5	隔爆dⅡCT4/CT6	●	●

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TK3051C-L型液位变送器选型

TK3051C-L liquid level transmitter selection

型号 Model	变送器类型 Transmitter Type		
TK3051C-L	法兰安装液位变送器 Flange installed liquid level transmitter		
代码 Code	**压力范围（量程/最小量程） Pressure scope (range/minimum range)**		
3	-60至60mmH_2O/40mH_2O（-6000至6000Pa/4000Pa）		
4	-4至4.0mH_2O/40mH_2O（-40至40kPa/6kPa）		
5	-20至20mH_2O/40mH_2O（-200至200kPa/20kPa）		
6	-70至70mH_2O/0.7mH_2O（-700至700kPa/70kPa）		
7	-210至210mH_2O/210mH_2O（-2.1至2.1MPa/21kPa）		
代码 Code	**输出 Output**		
A	4-20mA 带有基于HART协议的数字信号 4-20mA with the digital signal based on HART		
B	PROF1BUS-PA总线 Bus		
C	RS485		
代码 Code	**高压侧 High pressure side** **法兰尺寸 Flange size**	**膜片材料 Diaphragm material**	**伸出长度 Protruding length**
G0	2英寸/DN50	316L不锈钢 Stainless steel	平膜片式 Flat film type
H0	2英寸/DN50	哈氏合金 Hastelloy alloy	平膜片式 Flat film type
J0	2英寸/DN50	钽 Tantalum	平膜片式 Flat film type
A0	3英寸/DN80	316L不锈钢 Stainless steel	平膜片式 Flat film type
A2	3英寸/DN80	316L不锈钢 Stainless steel	2英寸/50mm
A4	3英寸/DN80	316L不锈钢 Stainless steel	4英寸/100mm
A6	3英寸/DN80	316L不锈钢 Stainless steel	6英寸/150mm
B0	4英寸/DN100	316L不锈钢 Stainless steel	平膜片式 Flat film type
B2	4英寸/DN100	316L不锈钢 Stainless steel	2英寸/50mm
B4	4英寸/DN100	316L不锈钢 Stainless steel	4英寸/100mm
B6	4英寸/DN100	316L不锈钢 Stainless steel	6英寸/150mm
C0	3英寸/DN80	哈氏合金 Hastelloy alloy	平膜片式 Flat film type
C2	3英寸/DN80	哈氏合金 Hastelloy alloy	2英寸/50mm
C4	3英寸/DN80	哈氏合金 Hastelloy alloy	4英寸/100mm
C6	3英寸/DN80	哈氏合金 Hastelloy alloy	6英寸/150mm
D0	4英寸/DN100	哈氏合金 Hastelloy alloy	平膜片式 Flat film type
D2	4英寸/DN100	哈氏合金 Hastelloy alloy	2英寸/50mm
D4	4英寸/DN100	哈氏合金 Hastelloy alloy	4英寸/100mm
D6	4英寸/DN100	哈氏合金 Hastelloy alloy	6英寸/150mm
E0	3英寸/DN80	钽 Tantalum	平膜片式 Flat film type
F0	4英寸/DN100	钽 Tantalum	平膜片式 Flat film type
代码 Code	**安装法兰 Installation flange** **尺寸 Dimensions**	**ANSI或DIN** **法兰等级 Flange grade**	**材料 Material**
X	2英寸	150lb	不锈钢 Stainless steel
F	3英寸	150lb	不锈钢 Stainless steel
G	4英寸	150lb	不锈钢 Stainless steel
Y	2英寸	300lb	不锈钢 Stainless steel
H	3英寸	300lb	不锈钢 Stainless steel
J	4英寸	300lb	不锈钢 Stainless steel
Z	2英寸	600lb	不锈钢 Stainless steel
L	3英寸	600lb	不锈钢 Stainless steel
K	DN50	PN10/40	不锈钢 Stainless steel
T	DN80	PN40	不锈钢 Stainless steel
U	DN100	PN40	不锈钢 Stainless steel
W	DN100	PN10/16	不锈钢 Stainless steel
代码 Code	**过程充液体-高压侧 Process Liquid Filling - High Pressure Side**		
A	Syltherm XLT	-100至300℉（-73至135℃）	
C	Syltherm硅油704 Syltherm silicon oil 704	60至572℉（15至300℃）	
D	D.C.硅油200 D.C. Silicon oil 200	-40至400℉（-40至205℃）	

续选型号：TK3051C-L型液位变送器

Continued model: TK3051C-L liquid level transmitter

代码 Code	低压侧结构 Structure at Low Pressure Side	法兰接头 Flange Joint	膜片材料 Diaphragm Material	传感器接充液 Liquid Filling of Sensor
11	表压 Gauge pressure	不锈钢 Stainless steel	316L SST	硅油 Silicon oil
21	差压 Differential pressure	不锈钢 Stainless steel	316L SST	硅油 Silicon oil
22	差压 Differential pressure	不锈钢 Stainless steel	哈氏合金C-275 Hastelloy C-275	硅油 Silicon oil
23	差压 Differential pressure	不锈钢 Stainless steel	316L SST	硅油 Silicon oil
2A	差压 Differential pressure	不锈钢 Stainless steel	钽 Tantalun	惰性液（卤代烃） Inertia liquid(Halogenated hydrocarbon)
2B	差压 Differential pressure	不锈钢 Stainless steel	316L SST	惰性液（卤代烃） Inertia liquid(Halogenated hydrocarbon)
2C	差压 Differential pressure	不锈钢 Stainless steel	哈氏合金C-275 Hastelloy C-275	惰性液（卤代烃） Inertia liquid(Halogenated hydrocarbon)
31	远传 Remote transmission	不锈钢 Stainless steel	316L SST	硅油（要求选代码S1） Silicon oil(It is required to select code S1)

代码 Code	O形环材料 O-ring material
A	氟橡胶 Florine rubber

代码 Code	外壳材料 Material of external shell	导线入口尺寸 Entry size of the conduit
B	铝，覆聚氨酯涂层 Aluminum, covered with PU	M20×1.5(M20)
S	不锈钢 Stainless steel	M20×1.5(M20)
C	铝，覆聚氨酯涂层 Aluminum, covered with PU	1/2 NPT
T	不锈钢 Stainless steel	1/2 NPT

代码 Code	远传（可选） 注：-1199选项 Remote transmitting(Optional)
S1	一个远传（低压侧代码应为31，采用毛细管式远传） One remote transmitting(The code at the low pressure side should be 31, with capillary type of remote transmitting)

代码 Code	法兰与接头用螺栓（可选） Flange and joint bolts(Optional)
L5	碳钢镀锌螺栓 Carbon steel galvanized bolt

代码 Code	表头（可选） Meter(Optional)
M5	液晶表头，用于铝制外壳 Liquid crystal meter, for aluminum shell

代码 Code	其他选项 Other options	
Q4	检验数据单	Check the data sheet
Q8	材料可跟踪性证书	Material tracebility certificate
C1	定制软件组态	Customized software configuration
CN	外部接地螺钉组件	External grounding bolt assembly
V5	下套冲洗连接选项	Lower sleeve fiushing connection option
V6	防真空处理	Anti vacuum treatment

代码 Code	冲洗连接环材料 Flushing Connection Ring Material	冲洗连接 Flushing Connection		膜片尺寸 Diaphragm Size		
		数量 Qty.	尺寸 Size	2英寸 2-inch	3英寸 3-inch	4英寸 4-inch
F1	不锈钢 Stainless steel	1	1/4	•	•	•
F2	不锈钢 Stainless steel	2	1/4	•	•	•
F3	哈氏合金 Hastelloy	1	1/4	•	•	•
F4 (1)	哈氏合金 Hastelloy	2	1/4	•	•	•
F7	不锈钢 Stainless steel	1	1/4	•	•	•
F8	不锈钢 Stainless steel	2	1/4	•	•	•
F9	哈氏合金 Hastelloy	1	1/4	•	•	•
F0	哈氏合金 Hastelloy	2	1/4	•	•	•

注：F3，F4不适用于选项代码A0、B0、G0。 Note:F3 and F4 are not applicable to option code A0,B0,G0

典型型号：TK3051C-L 2 A A0 A D 21 A A M5 Typical model:305L 2 A A0 A D 21 A A M5
Typical model

代码 Code	危险场所认证 Dangerous site certification
E5	本安iaⅡCT4/CT6 Intrinsic safety iaⅡCT4/CT6
K5	隔爆dⅡCT4/CT6 Explosion suppression dⅡCT4/CT6

天康集团

TK3051C-F卫生型压力变送器

TK3051C-F Hygiene Pressure Transmitter

产品概述

Product Overview

绝压和表压测量范围：0-21至0-5512kPa0.2%参学精度，包括线性、迟滞性和重复性影响量程比20:1；

稳定性0.1%URL/年；

用于CIP/SIP应用场合，温度上限248°F（140℃）；

采用HART通讯协议通讯；

基于微处理器的电子线路板；

双室结构外壳（水密性电性电子外壳）；

模块化没计，令维修快速且经济；

抗射频干扰能力；

变送器逐台特性化和数字化补偿，可优化变送器在整个工作范围内的性能；

外部零点和量程调整。

Absolute pressure and gauge pressure measurement range: 0-21 to 0-5512k Pa 0.2% parameter accuracy, including linearity, hysteresis and repeatability influence Range ratio 20:1.

Stability 0.1%URL/year.

Applied in CIP/SIP, upper limit of temperature 248°F(140℃).

Adopt HART communication protocol.

Electronic circuit board based on micro processor

Modular design, rapid and economical maintenance .

Ability to withstand radio frequency interference .

Characterization of the transmitters one by one and digital compensation, able to optimize the performance within the whole operation range.

External zero point and range adjustment

专业卫生型应用场合设计

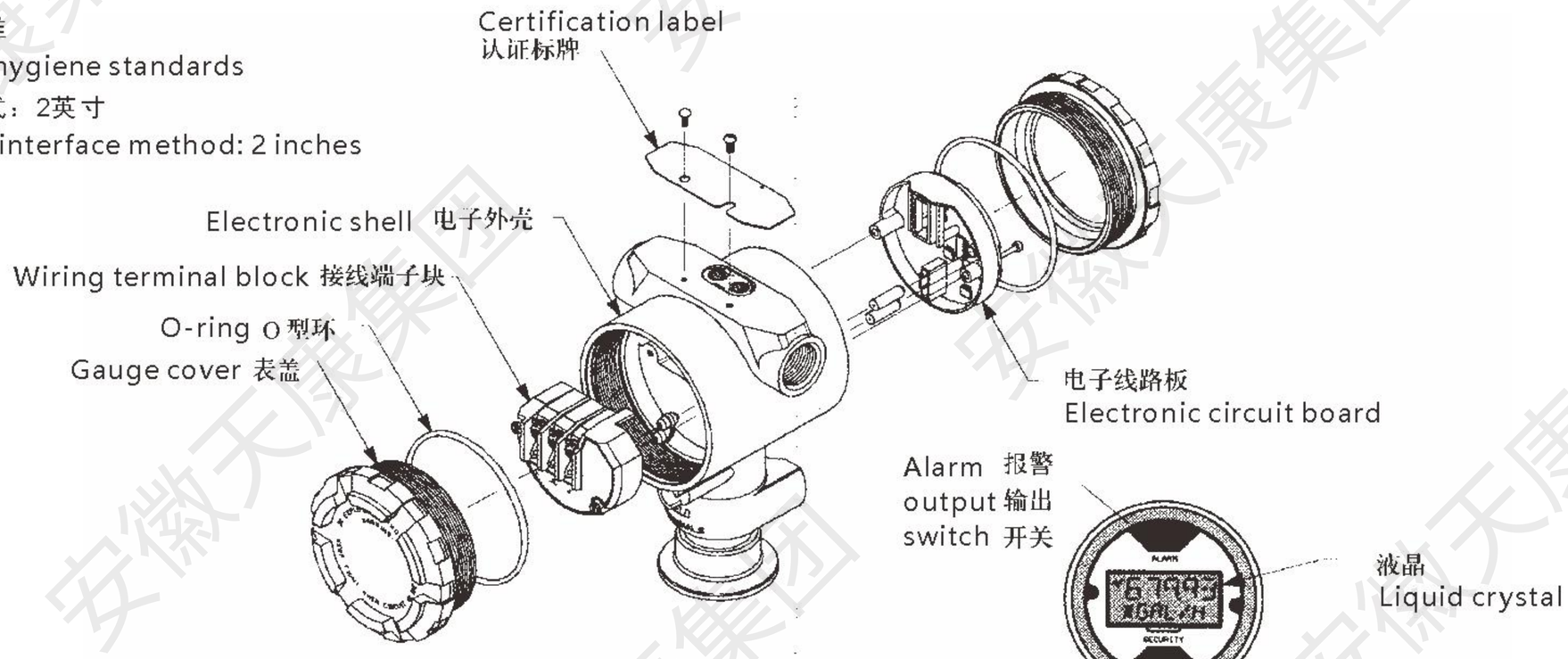
Design for professional hygiene application

符合卫生标准

In line with hygiene standards

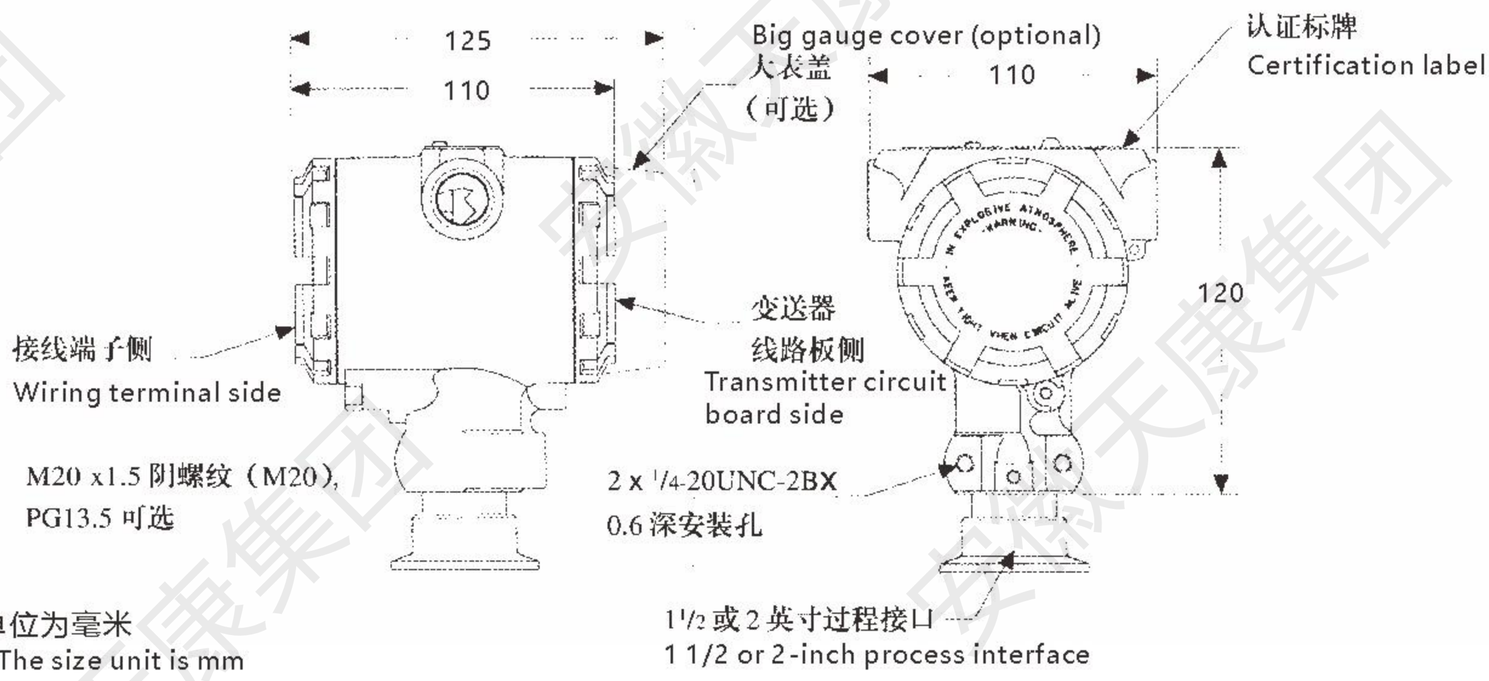
安装接口方式：2英寸

Installation interface method: 2 inches



可选的液晶表头

Optional liquid crystal meter



简介

3051C-F卫生型压力变送器符合卫生标准，产品接触表面为CIP清洗而设计，结构件材料符合卫生要求。

Introduction

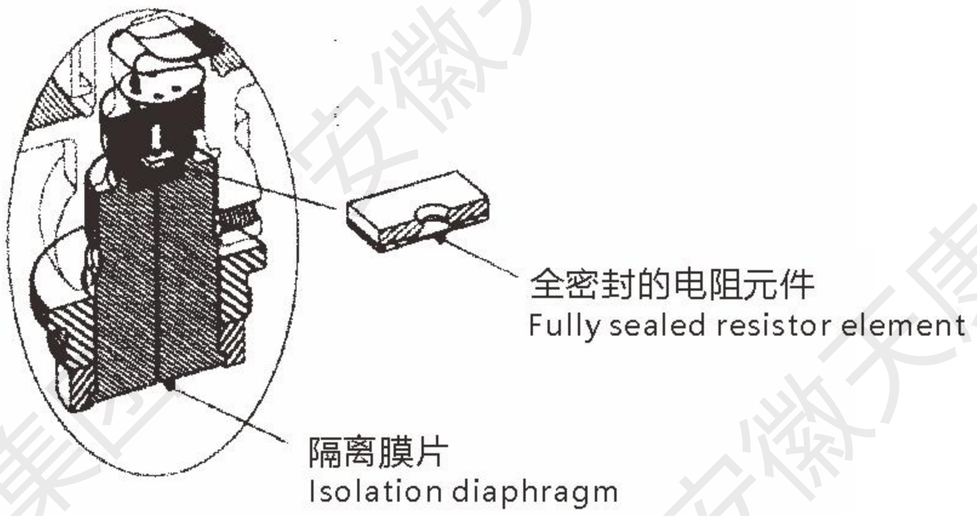
3051C-F hygiene pressure transmitter meets the hygiene standards. The product contact face is the designed for CIP cleaning and the material of structural part meets the hygiene standards.

应用

3051C-F型小巧、稳定、可靠，是食品和制药行业的理想产品，可直接安装在过程管线或罐上，无需支架。过程温度上限为140℃，令3051C-F型变送器适用于有高温蒸汽清洗的场合。

Application

The 3051C-F model is compact, stable, and reliable, making it an ideal product for the food and pharmaceutical industry. It can be directly installed on process pipelines or tanks without the need for brackets. The upper limit of the process temperature is 140 ℃, making the 3051C-F transmitter suitable for occasions with high-temperature steam cleaning.



应用场合

液体、气体、蒸汽和高粘度应用场合。

Applications

Liquid, gas, steal and high viscosity application.

量程

Range

量程 Range	量小量程（智能） Min.Range (Intelligent)	UPL/最大量程/传感器上限 UPL/MAX.Range/Upper Limit of Sensor
1	10.3kPa(103mbar)	200kPa(2.00bar)
2	51.7kPa(517mbar)	1034kPa(10.34bar)
3	276kPa(2.76bar)	2068kPa(20.68bar)

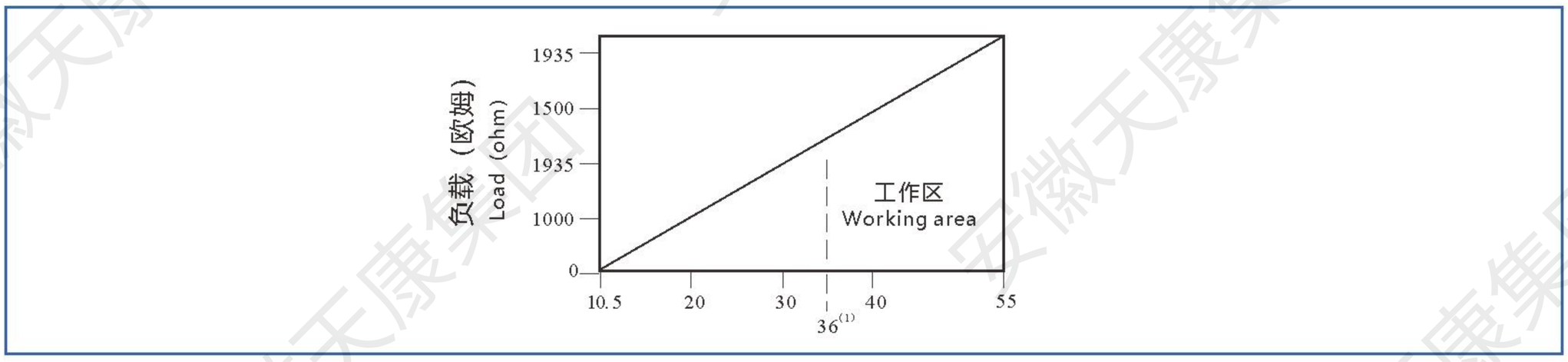
输出

4-20mAdc/HART数字通讯。

量程比

20：1负载限制。

最大回路负裁=43.5（电源电压-10.5）。



电源

要求外部电源供电，无负载时变送器工作电压10.5-36V，反向保护是标准的。

环境温度影响（每100°F(56℃)影响）

±（0.3%URL+0.3%量程），-40至185°F（-40至85℃）。

稳定性

±0.10%URL，12个月。

时间相应

时间响应时间常数小于200毫秒（阶跃压力变化输出达到63.2%的响应时间）。

振动响应

小于±0.10%URL，振动测试条件：峰-峰值4mm(5-15Hz)加速度2g(15-150Hz)，及1g(150~2000Hz)。

电源影响

小于±0.01%校验量程/伏。

安装位置影响

零点最多漂移0.3kPa，可修正掉。无量程影响。

射频干扰(RFI)影响

<±0.25%URL，在20~100MHz，30伏/米场强下，引线在导线管内；<±0.25%URL，10伏/米场强下，使用不带屏蔽的双绞线（无导线管）。

Output

4-20mA dc/HART digital communication.

Range ratio

20:1 load limit.

Maximum circuit load = 43.5 (power supply voltage -10.5)

Power supply

External power supply is required. The operation voltage for the transmitter without load is 10.5-36V. Reverse protection is standard.

Environmental temperature influence (influence of each 100°F(56℃)

±(0.3%URL+0.3% range), -40 to 185°F(-40 to 85℃).

Stability

±0.10%URL, 12months.

Time response

Time constant smaller than 200 milliseconds (the response time for the step pressure change output to reach 63.2%)

Vibration influence

Smaller than ±0.10%URL, vibration test conditions: peak-peak value 4mm(5-15Hz).Acceleration 2g(15-150Hz) and 1g(150~2000Hz).

Power supply influence

Less than ± 0.01% of calibrated range/volt.

Installation position influence

Maximum drift of zero point is 0.3kPa and it can be corrected. No range influence.

Radio frequency interference (RFI) influence

<± 0.25%URL, under 20~100MHz, 30 volts/meter field strength, the leading wire is in the wire conduit; under <±0.25%URL, 10 volts/meter field strength, use non-shielded twisted pair (without wire conduit).

性能指标

Performance Index

电气接口

1/2-14NPT，M20×1.5（M20）或PG13.5导线管入口。

Electrical interface

1/2-14NPT, M20×1.5(M20) or PG13.5 wire conduit entry.

过程接液件

隔离膜片：316L不锈钢；
过程接头：316L不锈钢。

Process liquid connection part

Isolation diaphragm: 316L stainless steel.
Process joint: 316L stainless steel.

非接液件

电子外壳：低铜铝，NEMA 4X，IP65，IP67；
喷涂：聚氨酯；
表盖O型环：丁腈橡胶；
重量：约1.24公斤。

Non liquid connected part

Electronic shell: low copper aluminum, NEMA 4X,IP65,Ip67.
Spray: PU.
Gauge cover O-ring: nitrile butadiene rubber.
Weight: about 1.24 kilograms .

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TK3051C-F型选型表

TK3051C-F Type Order Information

型号 Model	产品描述 Product Description	
3051C-FA	卫生型绝压变送器 Hygiene absolute pressure transmitter	
3051C-FG	卫生型表压变送器 Hygiene gauge pressure transmitter	
代码 Code	**量程 Range**	
1	-40~40kPa（-0.4~0.4bar）	
2	-100~200kPa（-1~2bar）	
3	-100~1030kPa（-1~10.3bar）	
4	-100~5515kPa（-1~55.15bar）	
代码 Code	**输出 Output**	
S	4-20mAdc/HART数字通讯 4-20mAdc/HART digital communication	
代码 Code	**结构件材料 Material of structure part** **过程接口 Process interface**	**隔离膜片 Isolation diaphragm**
2D	316SST	316SST
代码 Code	**过程接口 Process interface**	
F	2英寸Tri-clamp接口 2-inch Tri-clamp interface	
G	3英寸Tri-clamp接口 3-inch Tri-clamp interface	
代码 Code	**外壳材料 Material of external shell**	**导线入口尺寸 Entry size of the conduit**
B	铝，覆聚氨酯涂层 Aluminum, covered with PU coating	M20×1.5（M20）
S	不锈钢 Stainless steel	20×1.5
C	铝，覆聚氨酯涂层 Aluminum, covered with PU coating	1/2NPT
T	不锈钢 Stainless steel	1/2NPT
代码 Code	**表头（选项） Meter (optional)**	
M5	液晶表头 Liquid crystal meter	
代码 Code	**产品描述 Product Description**	
E5	本安 Intrinsic safety iaⅡCT4/CT6	
K5	隔爆 Explosion suppression dⅡCT4/CT6	
典型型号：TK-3051C-FG 2 S 2D F B M5 E5 **Typical model**		

校验

变送器由工厂按用户指定量程校验。如果不指定校验范围，则按变送器所选量程的最大测量范围校验。校验在环境温度和常压下进行。

Calibration

The transmitter shall be calibrated by the plant according to the amount designated by the user. When the calibration range is not specified, it shall be calibrated according to the maximum measurement range of the selected range. The calibration is conducted with ambient temperature and normal pressure.

1199远传膜片密封件系统

1199 Remote Transmitting Diaphragm Sealing System

TK3051CD/TK3051C-T变送器带远传密封装置后，就成为TK3051CD/TK3051C-T远传差压/压力变送器

TK3051CD/TK3051C-T远传差压/压力变送器，可避免被测介质直接和变送器的隔离膜片接触的可靠测量方法，它适用于下面几种情况：

1、被测介质对变送器接头和敏感元件有腐蚀作用时；

2、需要将高温被测介质与变送器隔离时；

3、被测介质中有固体悬浮物或高粘度易堵塞变送器接头和压力容室时；

4、被测介质用引压管引出易固化或结晶时；

5、更换被测介质需要冲洗而不容交混时；

6、必须保持卫生条件，防止污染时。

TK3051CD/TK3051C-T型带远传密封装置的远传差压/压力变送器，仍具有TK3051CD/TK3051C-T型差压/压力变送器的各种特点：

提供多种结构材料，远传装置组件焊接结构，可靠性强。充液腔低容积设计，减少温度影响，根据温度要求使用相应的灌充液。

When TK3051CD/TK3051C-T transmitter has remote sealing device, it becomes TK3051CD/TK3051C-T remote differential pressure/pressure transmitter.

TK3051CD/TK3051C-T remote transmitting differential pressure/pressure transmitter is a reliable measurement approach which can prevent the medium being measured from directly contacting the isolation diaphragm of the transmitter and it is applicable to the following conditions:

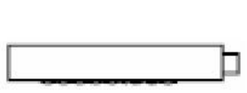
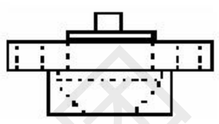
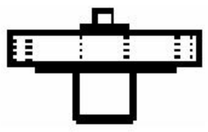
1. When the medium being measures is corrosive to the transmitter joint and sensitive elements;
2. When the high temperature medium being measured has to be isolated from the transmitter;
3. When there are solid suspended matters in the medium or when the medium is highly viscous which is easy to block the transmitter joint and pressure chamber;
4. When the leading-out medium with the pressure-leading tube is easy to solidify or crystallize.
5. When medium replacement requires flushing and it is not easy to mix.
6. When hygiene conditions must be kept to prevent the pollution.

TK3051CD/TK3051C-T remote transmitting differential pressure/pressure transmitter with sealing device still has various characteristics of TK3051CD/TK3051C-T differential pressure/pressure transmitter.

Various structure materials are provided. The assembly welding structure for remote transmitting device is highly reliable. The liquid filling chamber is designed with low volume to reduce the temperature influence. Relevant filing liquid shall be used depending on the temperature requirements.

膜片密封件选择指南

Guide for Selecting Diaphragm Seals

密封件示意图 Schematic diagram of sealing components						
密封件类型 Seal type	1199PFW 扁平式远传装置 1199PFW Flat type Remote transmission device	1199RFW 法兰安装式远传装置 1199RFW Flange mounted Remote transmission device	1199EFW 插入筒式远传装置 1199EFW Insert barrel type Remote transmission device	1199RTW 螺纹安装式远传装置 1199RTW Thread mounted Remote transmission device	1199SCW 卡箍卫生型远传装置 1199SCW Clamp sanitary type Remote transmission device	1199FFW 平齐式法兰 1199FFW Flush flange
通常的应用与服务类型 Typical Applications and service type	一般的应用 General applications	一般的应用较小的过程连接 General applications Smaller process connections	保温的工艺过程 Thermal insulation process	高温应用场合螺纹式连接 High temperature applications Threaded connection	食品卫生要求场合 Food hygiene requirements occasions	一般应用较大管道尺寸 General applications Large pipeline size

过程连接尺寸 Process connection size	2英寸/DN50 3英寸/DN80 4英寸/DN100 2 inches/DN50 3 inches/DN80 4 inches/DN100	1英寸 DN25 2英寸 DN50 3英寸 DN80 1 inch DN25 2 inch DN50 3-inch DN80	2英寸/DN50 3英寸/DN80 4英寸/DN100 2 inches/DN50 3 inches/DN80 4 inches/DN100	NPT1/2锥管螺纹 NPT1/2 Taper pipe thread	1.5英寸、2英寸 2.5英寸、3英寸 4英寸 1.5 inches, 2 inches 2.5 inches, 3 inches 4 inches	2英寸/DN50 3英寸/DN80 4英寸/DN100 2 inches/DN50 3 inches/DN80 4 inches/DN100
法兰压力额定值或最大极限工作压力 Flange pressure rating or maximum working pressure limit	Class 150 Class 300 Class 600	Class 150 Class 300 Class 600	Class 150 Class 300 Class 600	1500 PSI 2000 PSI 5000 PSI 10000 PSI	800 PSI 1000 PSI 1200 PSI 1500 PSI	Class 150 Class 300 Class 600

RTW型螺纹安装远传法兰

RTW type bolt installation remote transmitting flange

型号 Model	法兰过程连接型式 Flange process connection type
1199RTW	螺纹安装远传法兰 Thread installation remote transmitting flange
代码 Code	**清洗连接孔 Cleaning connection hole**
11	无 None
21	有 Yes
代码 Code	**远传装置膜片材料 Diaphragm material for remote transmission device**
A	316LSST
B	哈氏合金C-276 Hastelloy C-276
C	钽 Tantalum
代码 Code	**结构件材料 Material of structure part**
11	上套为316LSST，安装环为碳钢 316LSST for upper sleeve Carbon steel for installation ring
代码 Code	**下套材料 Material for lower sleeve**
A	316LSST
B	哈氏合金C-276 Hastelloy C-276
C	碳钢(电镀) Hastelloy C Carbon steel (electroplating)
代码 Code	**引压连接孔 Pressure-leading connection hole**
11	1/4"NPT（锥管螺纹） (Conical pipe tread)
12	3/8"NPT（锥管螺纹） (Conical pipe tread)
13	1/2"NPT（锥管螺纹） (Conical pipe tread)
15	1"NPT（锥管螺纹） (Conical pipe tread)
17	1-1/2"NPT（锥管螺纹）（不带清洗备用孔） (Conical pipe thread) (Without cleaning standby hole)
典型型号（Typical model）：1199RTW 11 A 11 A 17	

PFW扁平式远传法兰

PFW flat remote transmitting flange

型号 Model	法兰过程连接型式 Flange process connection type
1199PFW	扁平式远传法兰 Flat type remote transmitting flange
代码 Code	**型式 Type**
11	标准3"-150和300 lb Standard 3"-150 and 300 lb

代码 Code	远传装置膜片材料 Diaphragm material for remote transmitting device
A	316LSST
B	哈氏合金C-276 Hastelloy C-276
C	钽 Tantalum
代码 Code	**结构件材料 Material of structure part**
11	上套为316LSST，安装环为碳钢 316LSST for upper sleeve Carbon steel for installation ring
代码 Code	**外壳材料 Shell material**
11	316LSST
典型型号（Typical model）：1199PFW 11 A 11 A 17	

RFW型法兰安装远传法兰

RFW type flange installation remote transmission flange

型号 Model	安装法兰类型 Installed flange type		
1199RFW	法兰安装远传法兰 Flange installation remote transmitting flange		
代码 Code	**冲洗备用孔 Standby hole for flushing**		
11	无 None		
21	有 Yes		
代码 Code	**远传装置膜片材料 Diaphragm material for remote transmitting device**		
A	316LSST		
B	哈氏合金C Hastelloy C-276		
C	钽 Tantalum		
D	蒙乃尔 Monel		
E	316表面镀金 316 surface gold plated		
F	指定膜片表面PFA Specify membrane surface PFA		
G	指定膜片表面涂红宝石 Specified diaphragm surface is coated with Ruby		
代码 Code	**结构件材料 Material of structure part**		
11	上套为不锈钢 The upper cover is made of stainless steel		
代码 Code	**下套尺寸和材料 Lower sleeve size and materia**		
A21	1"	150lb	316LSS
B21	1"	150lb	哈氏合金C Hastelloy C
A41	1-1/2"	150lb	316LSS
B41	1-1/2"	150lb	哈氏合金C Hastelloy C
A51	2"	150lb	316LSS
B51	2"	150lb	哈氏合金C Hastelloy C
A71	3"	150lb	316LSS
B71	3"	150lb	哈氏合金C Hastelloy C
A22	1"	300lb	316LSS
B22	1"	300lb	哈氏合金C Hastelloy C
A42	1-1/2"	300lb	316LSS
B42	1-1/2"	300lb	哈氏合金C Hastelloy C
A52	2"	300lb	316LSS
B52	2"	300lb	哈氏合金C Hastelloy C
A72	3"	300lb	316LSS
B72	3"	300lb	哈氏合金C Hastelloy C
A24	1"	600lb	316LSS
B24	1"	600lb	哈氏合金C Hastelloy C
A44	1-1/2"	600lb	316LSS
B44	1-1/2"	600lb	哈氏合金C Hastelloy C
A54	2"	600lb	316LSS

B54	2"	600lb	哈氏合金C Hastelloy C
A74	3"	600lb	316LSS
B74	3"	600lb	哈氏合金C Hastelloy C
典型型号（Typical model）：1199RFW 11 A 11 A 71			

EFW型插入筒式远传法兰

EFW type plug-in barrel type remote transmission flange

型号 Model	法兰过程连接型式 Flange process connection type
1199EFW	插入远传法兰 Inserted remote transmitting flange
代码 Code	**插入筒和接液部材料 Insertion tube and liquid receiving part material**
11	3#316SST 不锈钢 Stainless steel
12	3#哈氏合金C 不锈钢 Stainless steel
13	4#316SST 不锈钢 Stainless steel
14	4#哈氏合金C 不锈钢 Stainless steel
代码 Code	**远传装置膜片材料 Diaphragm material for remote transmitting device**
A	316LSST
B	哈氏合金C-276 Hastelloy C-276
C	钽 Tantalum
代码 Code	**插入筒长度 Insertion cylinder length**
20	50mm
40	100mm
60	150mm
代码 Code	**法兰规格和材料 Flange specification and material**
A11	50#有镀层碳钢，最大工作压力=1.97MPa，在38℃时 50# with coated carbon steel, maximum working pressure=1.97MPa,At 38℃
A12	300#有镀层碳钢，最大工作压力=5.1MPa，在38℃时 300# with coated carbon steel, maximum working pressure=5.1MPa,At 38℃
C13	600#有镀层碳钢，最大工作压力=9.9MPa，在38℃时600# with coated carbon steel, maximum working pressure=9.9MPa,At 38℃
典型型号（Typical Model）：1199EFW 11 A 20 A11	

注：法兰规格、材料和工作压力，如有特殊需求可另行定制。

Note: The flange specification, material and working pressure can be customized if you have special requirements

1199毛细管型号规格表

1199 Capillary Model Specification Table

型号 Model	名称 Name
199CAP	毛细管 Capillary
代码 Code	**毛细管材料和尺寸 Material and size of capillary**
11	316SST，内径为c0.71mm 316SST, the inner diameter is c0.71mm
13	316SST，内径为c1.09mm 316SST, the inner diameter is c1.09mm
代码 Code	**变送器端配件 Accessory parts at the transmitter end**
D	1/2-20UNF-2A螺纹 1/2-20UNF-2A thread
代码 Code	**结构件材料 Material for structure part**
11	上套为316SST，安装环为碳钢 316SST for upper part, carbon steel for installation ring

Pressure Transmitter Catalogue **压力变送器选型样本**

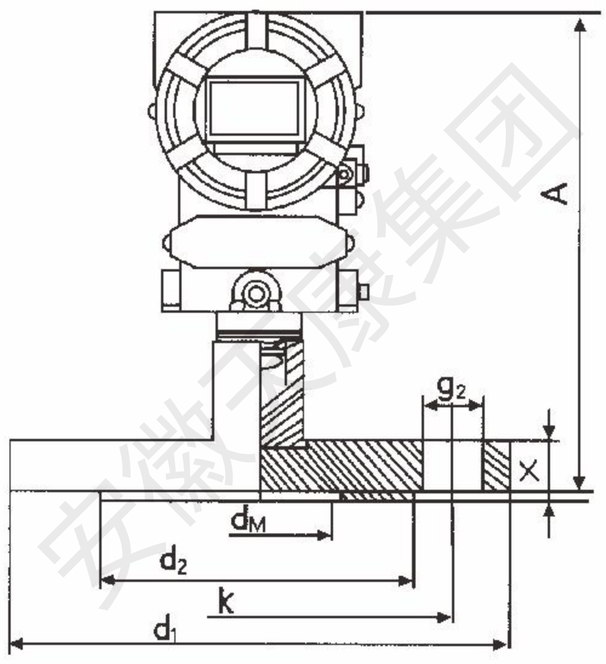
代码 Code	插入筒长度 Insertion cylinder length
5	1.5米 1.5m
10	3.0米 3.0m
15	4.5米 4.5m
20	6.0米 6.0m
25	7.5米 7.5m
30	10米 10m
代码 Code	**远传法兰端配件 Accessory parts for remote transmitting flange end**
A	1/2-20UNF-2A螺纹 1/2-20UNF-2A thread
C	1/2-20UNF-2A螺纹 1/2-20UNF-2A thread
代码 Code	**保护套管 Protection sleeve**
11	铠装300SST系列不锈钢 Armored 300SST series stainless steel
12	PVC护套，铠装300SST系列不锈钢 PVC jacket, armored 300SST series stainless steel
典型型号（Typical model）：1199EFW 11 A 20 A11	

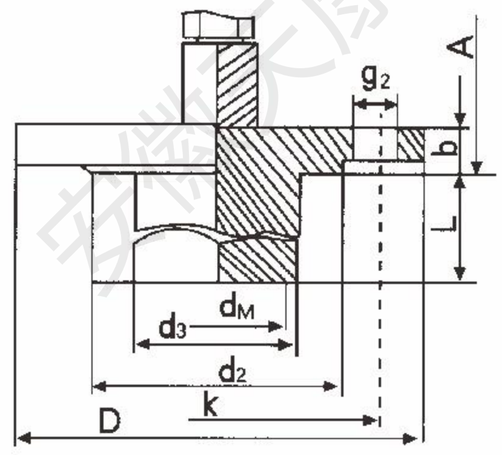
远传法兰灌充液

Remote transmission flange filling liquid

代码 Code	远传法兰的灌充液 Filling liquid for remote transmitting flange
C10485-0007	DC-200硅油-稳定范围-40~+149℃（比重0.934） DC-200 silicon oil- stability range -40~+149℃ (specific weight 0.934)
01199-0032-0004	Slyatherm704硅油 稳定范围-15~+300℃（比重0.934） Slyatherm704 silicon oil stability range -15~+300℃ (specific weight 0.934)
01199-0032-0012	丙油 稳定范围-45~205℃（比重1.85） Propylene oil stability range -45~205℃ (specific weight 1.85)
典型型号（Typical model）：C10485-0007	

外型结构
Outer structure





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TFW型直接安装法兰选型

TFW type direct installation flange selection

型号 Model	安装法兰类型 Installation flange type	
1199TFW	直接安装法兰 Direct installation flange	
代码 Code	**冲洗备用孔 Flushing spare holes**	
11	无 Non	
21	有 With	
代码 Code	**远传装置膜片材料 Diaphragm material for remote transmission device**	
A	316L SST	
B	哈氏合金C Hastelloy C	
C	钽 Tantalum	
D	蒙乃尔 Monel	
E	钛 Titanium	
代码 Code	**结构件材料 Structural component materials**	
11	上套为不锈钢 The upper cover is made of stainless steel	
代码 Code	**下套尺寸和材料 Lower set size and material**	
A21	150lb	316SS
B21	150lb	哈氏合金C Hastelloy C
A41	150lb	316SS
B41	150lb	哈氏合金C Hastelloy C
A51	150lb	316SS
B51	150lb	哈氏合金C Hastelloy C
A71	150lb	316SS
B71	150lb	哈氏合金C Hastelloy C
A22	300lb	316SS
B22	300lb	哈氏合金C Hastelloy C
A42	300lb	316SS
B42	300lb	哈氏合金C Hastelloy C
A52	300lb	316SS
B52	300lb	哈氏合金C Hastelloy C
A72	300lb	316SS
B72	600lb	哈氏合金C Hastelloy C
A24	600lb	316SS
B24	600lb	哈氏合金C Hastelloy C
A44	600lb	316SS
B44	600lb	哈氏合金C Hastelloy C
A54	600lb	316SS
B54	600lb	哈氏合金C Hastelloy C
A74	600lb	316SS
典型型号（Typical model）：1199RFW 11 A 11 A71		

安徽天康集团

1199SCW卡箍卫生型远传装置

1199SCW Clamp Sanitary Remote Transmission Device

卡箍密封尺寸
Clamp Sealing Size

选型代码 Selection code	膜片尺寸 Diaphragm size	A	B	C
12	2.0-in.(51mm)	2.5-in.(64mm)	2.22-in.(56mm)	2.04-in.(52mm)
13	2.5-in.(64mm)	3.05-in.(76mm)	2.78-in.(71mm)	2.04-in.(52mm)
14	3.2-in.(76mm)	3.58-in.(91mm)	3.28-in.(93mm)	2.04-in.(52mm)
15	4.0-in.(102mm)	4.68-in.(119mm)	4.35-in.(111mm)	2.04-in.(52mm)

选型规格表
Selection Specification Table

型号 Model	规格代码 Specification code		说明 Description
119SCW			卡箍卫生型远传装置 Clamp sanitary remote transmission device
过程连接尺寸 Process connection size	11		膜片1.5’ Diaphragm 1.5'
	12		膜片2’ Diaphragm 2'
	13		膜片2.5’ Diaphragm 2.5'
	14		膜片3’ Diaphragm 3'
	15		膜片4’ Diaphragm 4'
膜片及接液部分材料 Materials of diaphragm and liquid receiving part	A		316L 不锈钢 316L stainless steel
	B		哈氏 C-276 Hastelloy C-276
密封垫 Gasket	11		丁腈橡胶 Nitrile rubber
	12		PTFE
安装配件 Installation accessories	N		不带 Without
	K		带安装套及卡箍 With installation sleeve and clamp

天康集团

TK3051C-P高温防腐型压力变送器

TK3051C-P High Temperature Anti-Corrosion Pressure Transmitter

产品概述

Product Introduction

该型号是TK3051C-T型标准智能压力变送器的变形产品，在TK3051C-T的基础上加装密封隔离膜结构。过程连接方式为螺纹旋入式，平型法兰式，延伸凸型法兰式及焊接螺纹式。法兰式隔离膜片可用多种合金材料和塑料涂层合金制作。加装温度隔离器或毛细管，可耐300℃介质。极大扩展了应用范围、适用于高温．强腐蚀和粘度大介质的测量，除温度影响指标与TK3051C-T型有所不同外，其它性能基本一致。

This model is the variant of TK3051C-T standard intelligent pressure transmitter, which has seal isolation diaphragm structure added on TK3051C-T. The process connection type is thread screw-in type, flat flange type, extended convex flange and welded thread type. The flange type isolation diaphragm can be made of multiple kinds of alloy material and plastic coated alloy. With temperature isolator or capillary, it is able to withstand 300℃ medium. It expands greatly the application range and suitable for measurement of medium with high temperature, strong corrosion and large viscosity. Its performance is basically the same as TK3051C-T type except the temperature influence index.

测量范围

Measurement Range

相对压力

最大测量范围0~40MPa;
最小测量范围0~4kPa。

Relative pressure

Maximum measurement range 0~40MPa.
Minimum measurement range 0~4kPa.

绝对压力

最大测量范围0~4MPa;
最小测量范围0~50kPa。

Absolute pressure

Maximum measurement range 0~4MPa.
Minimum measurement range 0~50kPa.

负相对压力

最大测量范围-0.1MPa~39.9MPa;
最小测量范围-50kPa~0kPa。

Negative relative pressure

Maximum measurement rang -0.1MPa~39.9MPa.
Minimum measurement range -50kPa~0kPa.

TK3051C-T高温防腐型连接件数据

Data of TK3051C-T high temperature anti-corrosion connection parts

选型代码 Selection code	连接螺纹 Connecting thread						密封隔离膜片 Sealing isolation diaphragm				
	公称直径 G	公称压力 PN	直径 d1 mm	直径 d mm	直径 d2 mm	螺纹长度X1 mm	外侧平面间距 SW mm	膜片直径 dm mm	推荐最小测量值 mm	高度 A mm	总质量 kg
AF	GI/A	40MPa	29	39	sw41	21	41	27	1	175	1.6
AG	M20×1.5	40MPa	42	54.5	58	30	41	38	0.04	177	2.3
AR	1/2NPT	40MPa	56	68	78	30	60	44	0.01	182	3.3

隔膜材料

过程连接件螺纹部分不锈钢1 Cr 18Ni9Ti;
特殊要求可供不锈钢316L，哈氏合金C276;
波纹膜片不锈钢316L;
哈氏合金C276。

Diaphragm material

Partial stainless steel for threads of process connection parts .
Stainless steel 316L, Hastelloy C276 can be provided for special requirements.
Corrugated diaphragm stainless steel 316L.
Hastelloy C276.

温度影响

隔离膜片G1A +1200Pa/10K;
隔离膜片G11/2A +600Pa/10K;
隔离膜片G2A +300Pa/10K。

Temperature influence

Isolation diaphragm G1A+1200Pa/10K.
Isolation diaphragm G11/2A+600Pa/10K.
Isolation diaphragm G2A+300Pa/10K.

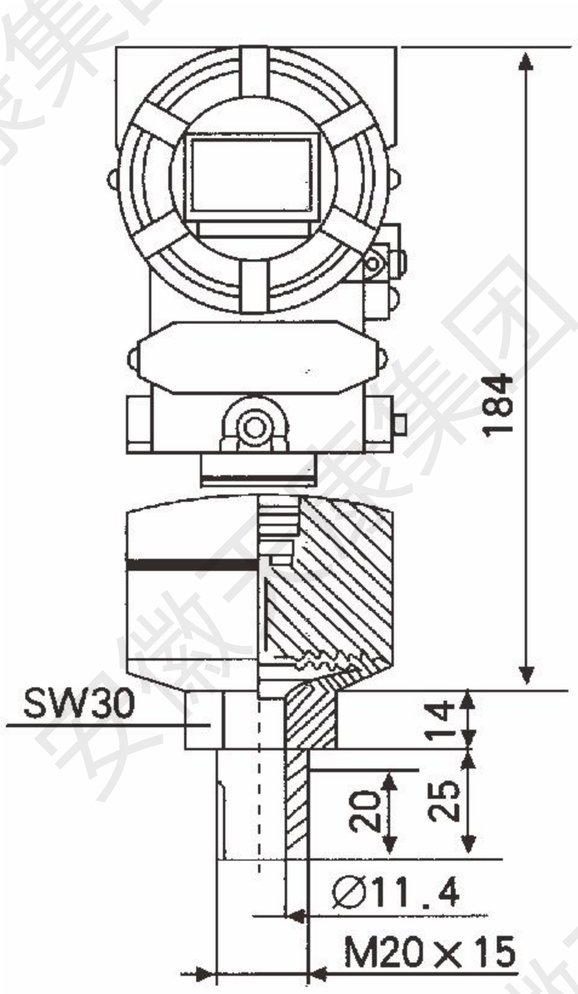
过程连接1

外螺纹旋入式焊接密封隔膜结构连接;
螺纹标准G1A.G11/2A、M20×1.5、1/2NPT。
(特殊要求可供NPT标准)

Process connection 1

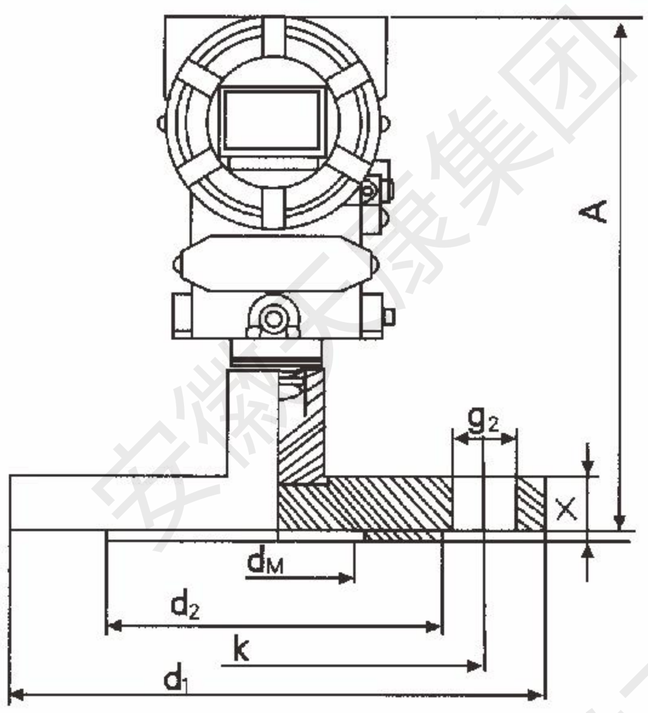
External thread screw-in welded seal diaphragm structure connection.
Thread standard G1A.G11/2A, G2A PN40MPa.
(NPT standards can be provided for special requirements)

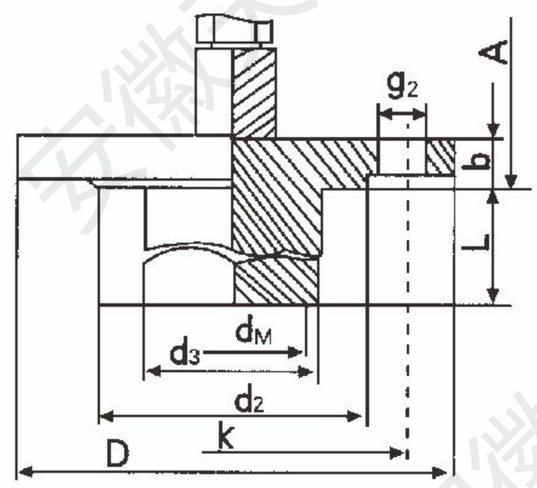
外型结构1
Outer structure 1



图中数据
Date in the drawing
详见“过程”连接(一)栏
See column connection (I) of “process”

外型结构2
Outer structure 2





过程连接2

平法兰或延伸平法兰式焊接密封隔膜结构连接。

法兰标准 GB9123-88。

TK3051P高温防腐型

DN50、DN80、PN1/4MPa、

DN25、DN50、PN6/40MPa。

（结构见上图数据见下表）

(特殊要求可供DIN、ANSI标准)

Process connection2

Flat flange or extended flat flange type welded seal diaphragm structure connection.

Flange standard GB9123-88.

TK3051P high temperature anti-corrosion DN50,DN80, PN1/4MPa,DN25,DN50,PN6/40MPa.

(See the drawing above for structure and see the following table for data.)

(Standards DIN and ANSI can be provided for special requirements)

TK3051C-P高温防腐型连接件数据

Data of TK3051C-P high temperature anti-corrosion connection parts

选型代码 Selection code				DK	AK	BK	CK	SU	NU	NU	PU
法兰 Flange	公称直径 Nominal diameter	DN	/	50	50	50	50	80	80	80	80
	公称压力 Nominal pressure	PN	MPa	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
	压径（D） Pressure diameter	d1	mm	165	165	165	165	200	200	200	200
	厚度（X） Thickness	b	mm	20	20	20	20	24	24	24	24
	延伸膜长度 Length of extended film	l	mm	/	50	100	200	/	50	100	200
	延伸膜直度 Straightness of extended film	d3	mm	/	48.3	48.3	48.3	/	76.5	76.5	76.5
	凸台直径 Diameter of boss	l	mm	99	99	99	99	132	132	132	132
螺孔 Thread	孔数 Number of holes	/	/	4	4	4	4	4	4	4	4
	孔径 Hole diameter	g2	mm	18	18	18	18	18	18	18	18
	孔中心距 Center distance of holes	K	mm	125	125	125	125	160	160	160	160
密封隔离膜片 Sealing isolation diaphragm	膜片直径 Diaphragm diameter	dm	mm	46	46	46	46	70	70	70	70
	高度 Height	A	mm	200	204	204	204	204	204	204	204
	总重量 Total weight	/	kg	3.72	4.48	8.11	3.72	6.23	6.23	4.48	4.48

3051C-P型连接件数

Number of 3051C-P type connection parts

SU	NU	NU	PU
25	25	25	25
5/10	15/25	5/15	15/25
125	150	165	215
17.5	20	20	20
/	/	/	/
/	/	/	/
50.8	50.8	92.1	92.1
4	4	8	8
20	26	20	26
89	101.5	127	165
28	28	46	46
204	204	204	204
2.9	5.45	11.4	16.9

外形结构2

过程连接件：

平法兰，延伸平法兰部分，不锈钢，

1Cr18Ni9Ti（特殊要求可供不锈钢316L）。

Outer structure 2

Process connection parts:

Flat flange, extended flat flange part, stainless steel 1Cr18Ni9Ti(Stainless steel316L can be provided for special requirements)

温度影响2

DN25：2kPa/10K;

DN50: 300Pa/10K;

DN50（包括延伸50mm、100mm、200mm）：300Pa/10K;

DN80（包括延伸50mm、100mm、200mm）：200Pa/10K。

Humidity influence 2

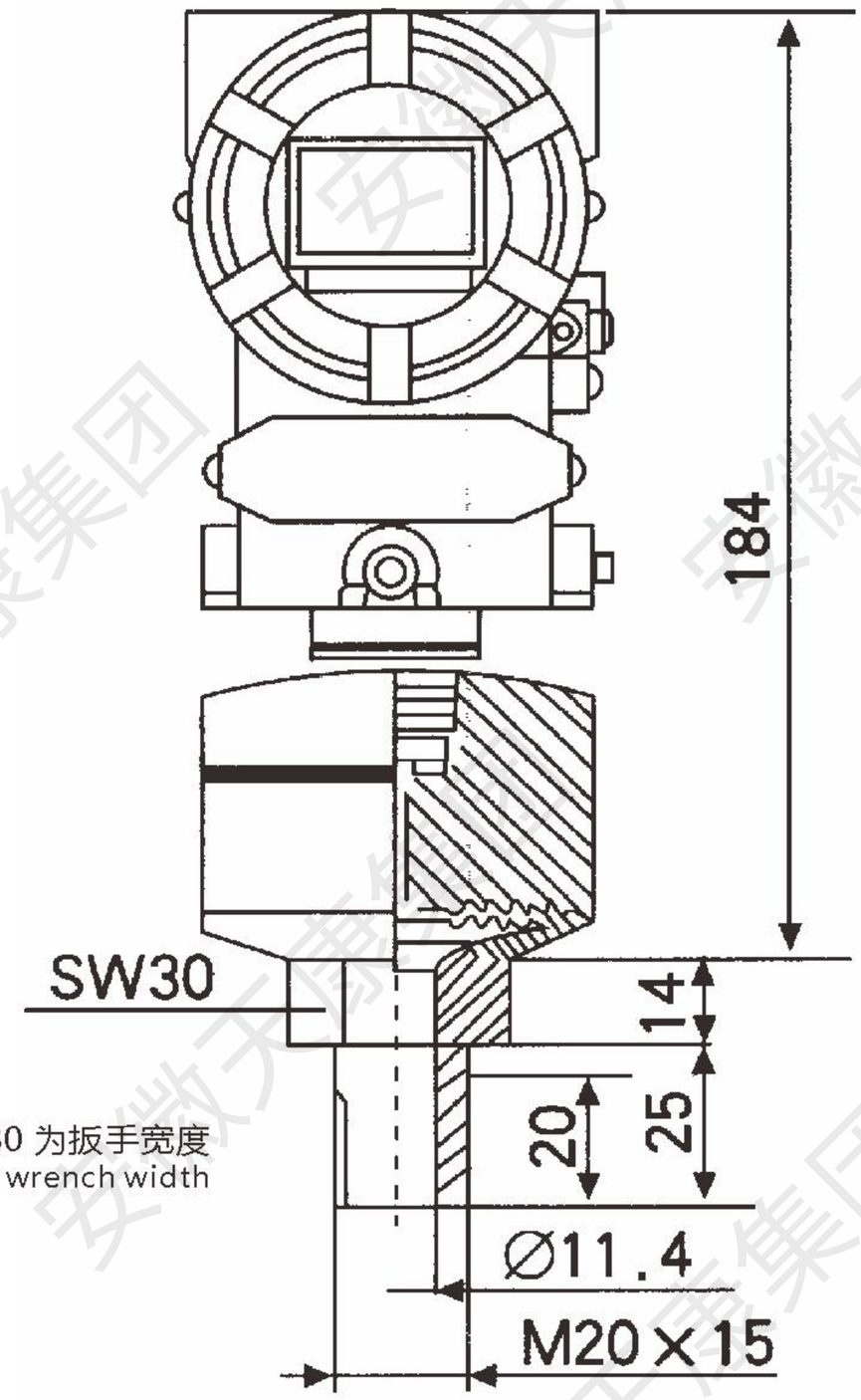
DN25: 2kPa/10K.

DN50: 300Pa/10K.

DN50 (Including extension of 50mm, 100mm, 200mm): 300Pa/10K.

DN80 (Including extension of 50mm, 100mm, 200mm): 200Pa/10K.

外型结构3
Outer structure 3



过程连接3

焊接式外螺纹焊接密封隔膜结构连接。
螺纹标准：外螺纹G1/2A内孔Φ11.4mm。
PN4MPa（特殊要求可供NPT标准）。

Process connection3

Welded external thread welded seal diaphragm structure connection.
Thread standard: external thread G1/2A inner hole Φ11.4mm.
PN4MPa (NPT standard can be provided for special requirements)

隔膜材料3

过程连接件焊接螺纹部分：不锈钢。
1Cr18Ni9Ti（特殊要求可供不锈钢316L、哈氏合金C-276）。
隔离波纹膜片部分：不锈钢316L、哈氏合金C 276、钽、不锈钢316L带PTFE涂层。
隔离波纹膜片部分：不锈钢316L哈氏合金C276、钽及不锈钢316带PTFE涂层。

Diaphragm material 3

Welded thread part of process connection parts: stainless steel
1Cr18Ni9Ti(Stainless steel 316L and hastelloy C-276 can be provided for special requirements)
Isolation corrugated diaphragm part: stainless steel 316L, hastelloy C 276, tantalum, stainless steel 316L with PTFE coating.

温度影响3

200Pa/10K。

Temperature influence 3

200Pa/10K.

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TK3051C-P高温防腐型压力变送器

TK3051C-P High Temperature Anti-Corrosion Pressure Transmitter

型号 Model	变送器型号 Transmitter type	
R	标准型 Standard type	
G	本安型iaⅡCT4/T6 Intrinsic safety type iaIICT4/T6	
I	隔爆型dⅡ CT4/T6 Explosion suppression type dII CT4/T6	
代号 Code	**外壳、显示 Shell, display**	
3	铝外壳，电缆孔 M20×1.5 M20×1.5带数字显示器 Luminum shell, cable hole, M20×1.5 M20×1.5 with digital display	
4	铝外壳，电缆孔 M20×1.5 Aluminum shell, cable hole, M20×1.5	
9	约定的特殊要求 Stipulated special requirements	
代号 Code	**传感器标准量程（量程比10:1） Standard range of sensor(Range rate 10:1)**	**最大过压 Maximum overpressure**
	表压传感器 Gauge pressure sensor	
1F	-40~40kPa	1MPa
1K	-100~200kPa	2MPa
1P	-0.1~1MPa	4MPa
1S	-0.1~4MPa	6MPa
1G	-0.1~7MPa	10MPa
1L	-0.1~10MPa	15MPa
1X	-0.1~20MPa	30MPa
1H	-0.1~40MPa	60MPa
	绝压传感器 Gauge pressure sensor	
2F	0~40kPa	1MPa
2K	0~200kPa	2MPa
2P	0~1MPa	4MPa
2S	0~4MPa	6MPa
代号 Code	**标定、压力单位 Calibration, pressure unit**	
2	标定kPa/MPa Calibration kPa/MPa	
9	约定的特殊要求 Stipulated special requirements	
代号 Code	**电子部件、通讯协议 Electronic part, communication protocol**	
H	输出4~20mA，HART协议 Output 4~20mA, HART protocol	
S	输出4~20mA Output 4~20mA	
Y	约定的特殊要求 Stipulated special requirements	
代号 Code	**隔膜中介液 Diaphragm medium liquid**	
A	硅油 Silicon oil	
G	高温油+温度隔离器 High temperature oil + temperature isolator 100mm	
K	高温油，1m毛细管 High temperature oil, 1m capillary	
L	硅油，1m毛细管 High temperature oil, 1m capillary	
Y	约定的特殊要求 Stipulated special requirements	
代号 Code	**过程连接标准 Process connection standards**	
AF	外螺纹G1A，推荐最小测量值 200KPa Outer thread G1A, recommended minimum measurement value 200KPa	
AG	外螺纹M20×1.5，推荐最小测量值40KPa Outer thread M20×1.5, recommended minimum measurement value 40KPa	
AR	内螺纹1/2NPT，推荐最小测量值10KPa Outer thread 1/2NPT, recommended minimum measurement value 10KPa	
CA	焊接螺纹外螺纹G1/2A内孔φ11.4mm Welded thread outer thread G1/2A inner hole φ11.4mm	
DK	平法兰GB9123-88 DN50，PNlMPa/4MPa Flat flange GB9123-88 DN50, PNlMPa/4MPa	
SU	平法兰GB9123-88 DN80，PNlMPa/4MPa Flat flangeGB9123-88 DN80, PNlMPa/4MPa	
AK	平法兰GB9123-88 DN50，PNlMPa/4MPa，延伸50mm Flat flange GB9123-88 DN50, PNlMPa/4MPa, extend 50mm	
BK	平法兰GB9123-88 DN50，PNlMPa/4MPa，延伸100mm Flat flange GB9123-88 DN50, PNlMPa/4MPa, extend 100mm	
OK	平法兰GB9123-88 DN50，PNlMPa/4MPa，延伸200mm Flat flange GB9123-88 DN50, PNlMPa/4MPa, extend 200mm	
MU	平法兰GB9123-88 DN50，PNlMPa/4MPa，延伸50mm Flat flange GB9123-88 DN50, PNlMPa/4MPa, extend 50mm	
NU	平法兰GB9123-88 DN80，PNlMPa/4MPa，延伸100mm Flat flange GB9123-88 DN80, PNlMPa/4MPa, extend 100mm	
PU	平法兰GB9123-88 DN80，PNlMPa/4MPa，延伸200mm Flat flange GB9123-88 DN80, PNlMPa/4MPa, extend 200mm	
YY	约定的特殊要求 Stipulated special requirements	

代号 Code	波纹膜片材料 Corrugated diaphragm material
1	不锈钢316L Stainless steel 316L
2	哈氏合金C276 Hastelloy C276
5	钽 Tantalum
7	不锈钢316L带PTFE涂层 Stainless steel 316L with PTFE painting
9	约定的特殊要求 Stipulated special requirements
TK3051C-PR 3 1F 2 H A DK 1	

安装附件

安装支架 .....G

标准电缆密封套

外螺纹M20×1.5 .....T

隔爆电缆密封套

外螺纹M20×1.5.....T2

用户选用附件，请在选型代码后的括号内注明所要附件的代码。

Installation accessories

Installation frame.....G

Standard cable seal cartridge

External screw M20×1.5 .....T

Explosion suppression cable seal cartridge

External screw M20×1.5.....T2

When the user chooses accessory, please indicate the code of the required accessory in the bracket after the selection code.

天康集团

TK208、TK316系列扩散硅变送器

Tk208, TK316 Series Diffusion Silicon Transmitter



TK316压力变送器

Tk316 pressure transducer



TK208压力变送器

Tk208 pressure transducer

产品简介

Product Introduction

TK208、TK316系列扩散硅变送器，选取进口高性能隔离式扩散硅传感器，采用国际上的先进制造工艺，具有同类进口变送器的坚固性和可靠性，适用于各种工业领域中腐蚀性介质的表压、绝压和负压的检测。

Tk208 and TK316 series diffusion silicon transmitter uses imported high performance isolation diffusion silicon sensor and internationally advanced manufacturing process. It has the rigidity and reliability of similar imported transmitter and is applicable to detection of gauge pressure, absolute pressure and negative pressure of the corrosive medium in the industrial filed.

产品特点

Product characteristics

- 性能价格比高；
- 过程直接安装；
- 温度特性好；
- 综合精度高。

- High cost performance.
- Direct process installation.
- Good temperature characteristics.
- High overall accuracy.

技术参数

Technical Parameter

电源：24VDC输出4~20mA二线制；

Power supply: 24VDC output, 4~20mA two-wire system

零位可调范围：±50%；
量程调节比：3：1以上；
量程范围：-100kPa~0~100MPa；
负载特性：负载在0~600Ω内（24VDC供电）维持恒流输出；
显示：5位LCD，工程单位%等；
过压极限：2倍于上限压力；
温度范围：过程：-20~60℃；
精度等级：±0.2%，±0.5%；
稳定性：±0.2%F•S；
重量：约1kg。

Adjustable range of zero position: ±50%
Adjustment ration of the range: above 3: 1
Range scope: -100kPa~0~100MPa
Load characteristics: constant current output is maintained when the load in within 0~600 Ω (24VDC power supply)
Display: 5 LCD, engineering unit, etc.
Overpressure limit: twice the upper limit pressure
Temperature range: process: -20~60℃
Accuracy class: ±0.1%, ±0.5%
Stability: ±0.2%F•S
Weight: about 1kg

天康集团

TK型扩散硅压力变送器选型表

TK Diffusion Silicon Pressure Transmitter Selection

型号 Model	变送器型号 Transmitter type
TK208	压力变送器 Pressure transmitter
TK316	压力变送器 Pressure transmitter
代码 Code	**过程连接膜片及材料 Process connection diaphragm and material**
1	不锈钢316L膜片/过程304 Stainless steel 316L diaphragm/process 304
2	钽膜片/过程316L Tantalum diaphragm/process 316L
9	HC膜片/过程316L HC diaphragm/process 316L
代码 Code	**过程连接标准 Process connection standard**
R	外螺纹G1/2A Outer screw GI/2A
B	外螺纹M20×1.5 Outer screw M20×1.5
Y	约定的特殊要求 Specified special requirements
代码 Code	**密封圈材料 Seal ring material**
1F	丁晴橡胶（低温限制-20℃） NBR(Low temperature limitation-20℃)
3F	氟硅橡胶（低温限制-20℃） Fluorinated silicone rubber (Low temperature limitation-20℃)
4F	EPDM（低温限制-40℃） EPDM(Low temperature limitation-40℃)
9Y	约定的特殊要求 Specified special requirements
代码 Code	**信号输出 Signal output**
2	模拟信号4-20mA二线 Analog signal 4-20mA two wire
9	约定的特殊要求 Specified special requirements
代码 Code	**外壳显示 Shell display**
5	铝外壳，电缆孔M20×1.5 Aluminum shell, cable hole M20 * 1.5
9	数字显示31/ LCD现场压力值（BPS316不配） Digital display 31/ LCD, pressure value on site (BPS316 not provided)
N	无显示 No show
代码 Code	**精度等级 Accuracy class**
3	0.20%
6	0.50%
代码 Code	**量程、压力单位 Range, pressure unit**
G1G	表压 Gauge pressure
G2G	绝压 Absolute pressure
Y	负压 Negative pressure
代码 Code	**泵压专用 Special pump pressure**
A	阻尼装置 Damping device
B	散热器 Radiator
TK208 1 B 1F 5 6 G1G	

安装附件
安装支架 ……G
标准电缆密封套
外螺纹M20×1.5 ……T
隔爆电缆密封套
外螺纹M20×1.5……T2
用户选用附件，请在选型代码后的括号内注明所要附件的代码。
例：TK208 1 B 1F 5 6 G1G

Installation accessories
Installation frame ……G
Standard cable seal cartridge
Outer thread M20×1.5 ……T
Explosion proof cable seal cartridge
Outer thread M20×1.5……T2
When the user selects the accessories, please indicate the code of the required accessories in the bracket after the selection code.
E.g.: TK208 1 B 1F 5 6 G1G

安徽天康集团

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TK-YB投入式液位变送器

TK-YB Input Type Liquid Level Transmitter



静压式液位变送器
Static pressure level transmitter



导压式液位变送器
Pressure guided liquid level transmitter

静压式液位变送器

Product Introduction

静压式液位变送器采用德国SENSE压力传感器原装组件生产，主要用于城市给排水、水处理厂、水库、河流、海洋、储油罐、及石油、化工、电力等部门的液位测量，被测介质可以是水、油、碱性液体。仪表输出二线制4~20mADC标准电流信号，具有技术先进、精高度、质量稳定可靠，安装使用方便等优点，是一种过程检测控制系统中理想的液位仪表。

The static pressure liquid level transmitter is produced using the original components of the German SENSE pressure sensor. It is mainly used for liquid level measurement in urban water supply and drainage, water treatment plants, reservoirs, rivers, oceans, oil storage tanks, and departments such as petroleum, chemical, and power. The measured medium can be water, oil, or alkaline liquids. The instrument outputs a two wire 4-20mADC standard current signal, which has the advantages of advanced technology, high precision, stable and reliable quality, and easy installation and use. It is an ideal liquid level instrument in process detection and control systems.

导压式液位变送器

Product Introduction

导压式（静压）液位变送器是一种结构独特、实用性很强的液位仪表。它与传统的投入式液位计的最大不同点在于传感器不直接和介质接触。是通过导压管内空气将液位的高低变化，传到传感器上。这样就避免了传感器的堵塞，损害腐蚀，大大延长了仪表的使用寿命。因其独特的设计，使之特别适用于测量高温、高粘度、混浊、强腐蚀性液体。如重油、渣油、浆料、硫酸、污水等，是传统投入式液位变送器的理

The guided pressure (static pressure) liquid level transmitter is a type of liquid level instrument with unique structure and strong practicality. The biggest difference between it and traditional input level gauges is that the sensor does not directly contact the medium. It is through the air in the pressure pipe that the changes in liquid level are transmitted to the sensor. This avoids sensor blockage, damages corrosion, and greatly extends the service life of the instrument. Due to its unique design, it is particularly suitable for measuring high temperature, high viscosity, turbidity, and strong corrosive liquids. For example, heavy oil, residual oil, slurry, sulfuric acid, sewage, etc., it is an ideal substitute for traditional input level

想替代品，导压式液位变送器广泛应用于石化、钢铁、能源、食品、污水处理、制药、自来水等行业的敞口容器的液位测量。

导压式液位变送器应用：工业现场液位测量与控制、城市供水及污水处理、石油、化工、电厂、水文监测、水库、大坝、水电建设等领域的液位的测量与控制。

transmitters. Pressure guided level transmitters are widely used for liquid level measurement in open containers in industries such as petrochemical, steel, energy, food, sewage treatment, pharmaceuticals, tap water, etc.

Application of pressure guided liquid level transmitter: liquid level measurement and control in industrial sites, urban water supply and sewage treatment, petroleum, chemical industry, power plants, hydrological monitoring, reservoirs, dams, hydropower construction, and other fields.

技术参数
Technical Parameter

- 测量范围：0.3~100m（由用户自选）；
- 精度：0.1级、0.5级；
- 工作温度：-20~80℃；
- 输出信号：二线制4~20mADC；
- 电源电压：24VDC；
- 负载能力：0~600Ω；
- 相对温度：≤85%；
- 防护等级：IP68；
- 防爆标志：ExiaII CT4~6。

- Measurement range: 0.3~100m(selected by user himself).
- Accuracy: 0.1, 0.5.
- Working temperature: -20~80℃.
- Output signal: two-wire system 4~20mADC.
- Power supply voltage:24VDC.
- Load capacity: 0~600Ω.
- Relative temperature: ≤85%.
- Protection class: IP68.
- Explosion proof sign: ExiaII CT4~6.

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TK-YB型投入式液位变送器选型表

Selection Table for TK-YB Type Input Level Transmitter

型号 Model	产品名称 Product name
TK-YB	投入式液位变送器 Input type liquid level transmitter
代码 Code	**产品类型 Product type**
1	静压式 Static pressure type
2	不锈钢导压式 Stainless steel pressure guide type
3	四氟导压式 Tetrafluoro pressure conducting type
代码 Code	**过程连接膜片及材料 Process connection diaphragm and material**
1	316L膜片/过程304 316L diaphragm/process 304
2	钽膜片/过程316L Tantalum diaphragm/process 316L
9	陶瓷膜片/过程316L Ceramic diaphragm/process 316L
代码 Code	**过程连接标准 Process connection standard**
R	支架L型 Frame L type
B	法兰（用户指定） Flange (user specified)
Y	约定的特殊要求 Specified special requirements
代码 Code	**密封材料 Seal material**
1F	导气电缆，标配5米 Air conducting cable, standard configuration of 5 meters
2F	不锈钢缆式，标配5米 Stainless steel cable type, standard configuration of 5 meters
3F	杆式 Rod type
4F	防腐PTFE，标配3米 Anticorrosive PTFE, standard configuration of 3 meters
9Y	约定的特殊要求 Specified special requirements
代码 Code	**信号输出 Signal output**
2	模拟信号4-20mA，二线制 Analog signal 4-20mA two wire
9	智能HART协议 Intelligent HART protocol
代码 Code	**外壳显示 Shell display**
5	铝外壳，电缆孔M20×1.5 Aluminum shell, cable hole M20 * 1.5
9	数字显示31/2 LCD现场压力值 Digital display 31/2LCD, pressure value on site
代码 Code	**精度等级 Accuracy class**
3	0.10%
6	0.50%
1	1.00%
代码 Code	**防爆等级 Explosion proof class**
K5	dⅡCT4隔离爆Ⅱ类C级T4组 dⅡCT4 isolation explosion CategoryⅡ Class C Group T4
E5	iaⅡCT6本安型Ⅱ类C级T4区 iaⅡCT6 intrinsic safety CategoryⅡ Class C Group T4
代码 Code	**量程、压力单位 Range, pressure unit**
A	Kpa
B	mH_2O
Y	其他 Other

安装附件；
安装支架；
标准电缆密封套；
外螺纹M20×1.5；
隔爆电缆密封套；
外螺纹M20×1.5；
用户选用附件，请在选型代码后的挂号内注明所要附件的代码。
订货时请注明：量程L=米；
请注明：缆长或杆长H=米；
法兰安装式：请注明法兰规格。

installation accessories
installation frame
standard cable sealing cartridge
outer threadM20×1.5
Explosion proof cable seal sleeve
outer threadM20×1.5
When the user selects the accessories, please indicate the code of the required accessories in the bracket after the selection code.
Please note during order:
Range L= meter
Please indicate cable length or rod length H= meter
Flange installation type: please indicate the flange specification re
Guiding Liquid Level Transmitter

天康集团

TK3051CC一体化浓度/密度变送器

TK3051CC Integrated Concentration/Density Transmitter



产品简介

Product Introduction

TK3051CC智能浓度/密度变送器是一种用于连续在经理测量液体浓度和密度的仪表，可直接用于工业生产过程。

它的独创设计在于采用一个电容式差压传感器以及与其相连的、插入生产过程的一对压力中继器。在两个压力继器之间有一个温度传感器，用以补偿过程液体的温度变化。一个专用软件利用特定的算法计算密度。

TK3051CC intelligent concentration/density transmitter is one instrument measuring continuously the liquid concentration and density and it can be used directly to the industrial production.

Its original design lies in one capacitance differential pressure sensor and one pressure relay connected with it and inserted into the production. There is one temperature sensor between two pressure relays to compensate for the temperature change of the process liquid. One special software uses particular algorithm to calculate the density.

产品应用

Product Application

制糖和酒精业奶制品业采矿食品加工制浆造纸业酿酒及饮料加工化工，石化，制药。

Sugaring, alcohol industry, dairy industry, mining, food processing, slurrying, paper making, brewing, beverage processing, chemical engineering, petrochemical industry and pharmacy.

技术参数

Technical Parameter

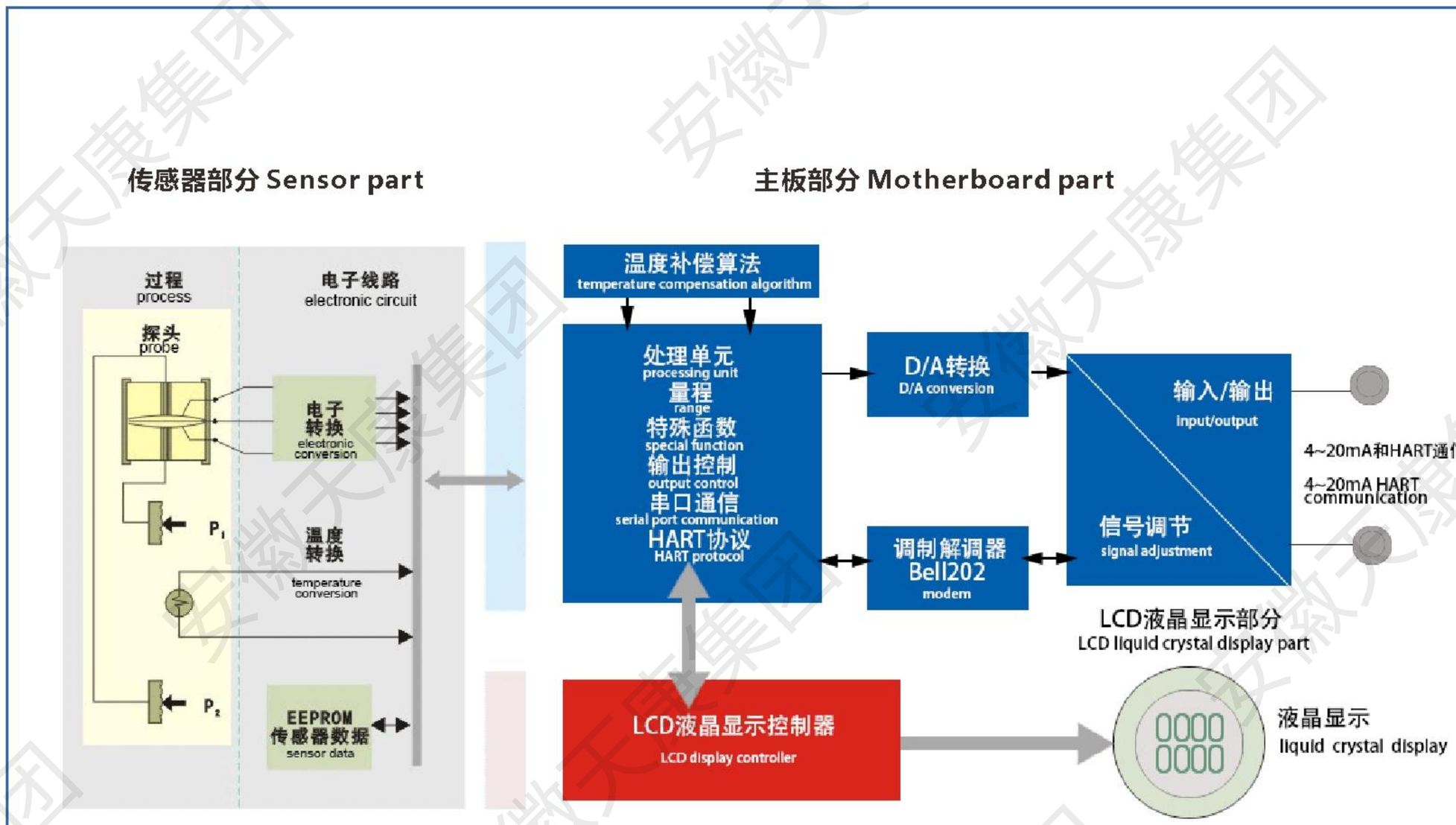
精度：±0.0004g/cm³（±0.10Brix）；

量程：0.5g/cm³~5g/cm³。

Accuracy:±0.0004g/cm³(±0.10Brix).

Range :0.5g/cm³~5g/cm³.

电子线路图示
Electronic Circuit Diagram



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选型代码
Selection code

TK3051CC	工业型密度/浓度变送器 Industrial density/concentration transmitter

代码 Code	产品类型 Product type
A	顶装式差压密度/浓度变送器 Top mounted differential pressure density/concentration transmitter
B	侧装式差压密度/浓度变送器 Side mounted differential pressure density/concentration transmitter
C	双法兰差压密度/浓度变送器 Double flange differential pressure density/concentration transmitter

代码 Code	量程 Range	最小范围 Minimum scope
1	0.5-1.8g/cm³	0-0.025g/cm³
2	1.0-2.5g/cm³	0-0.050g/cm³
3	2.0-5.0g/cm³	0-0.250g/cm³

代码 Code	触液部分材质 Material for part contacting liquid
H	哈氏合金C276 Hastelloy C276
I	316L不锈钢 316L Stainless steel
Z	其他-指定 Others designated

代码 Code	填充液 Filling liquid
N	Neobee-M20 Propylene Glycol（食品级） (Food class)
D	DC-704 硅油 DC-704 silicon oil
S	DC200/20 硅油 DC200/20 silicon oil
G	甘油和水 Glycerin and water

代码 Code	液晶显示 LCD display
0	不带显示 Without display
1	液晶显示 LCD display

代码 Code	外壳材料 Material of external shell	导管入口尺寸 Entry size of the conduit
B	铝，覆聚氨酯涂层 Aluminum, covered with polyurethane coating	M20×1.5 (M20)
S	不锈钢 Stainless steel	20×1.5
C	铝，覆聚氨酯涂层 Aluminum, covered with polyurethane coating	1/2 NPT
T	不锈钢 Stainless steel	1/2 NPT

代码 Code		过程连接持尺寸、耐压等级和标准 Process connection size, withstand voltage class and standard
5	1	3 " 150#ANSIB-16.5
5	2	3 " 150#ANSIB-16.5
5	3	3 " 150#ANSIB-16.5
A	C	DN80PN25/40
Z	Z	其他-指定 Others designated

代码 Code	其他选项 Others designated
Z2	其他-指定 Others designated

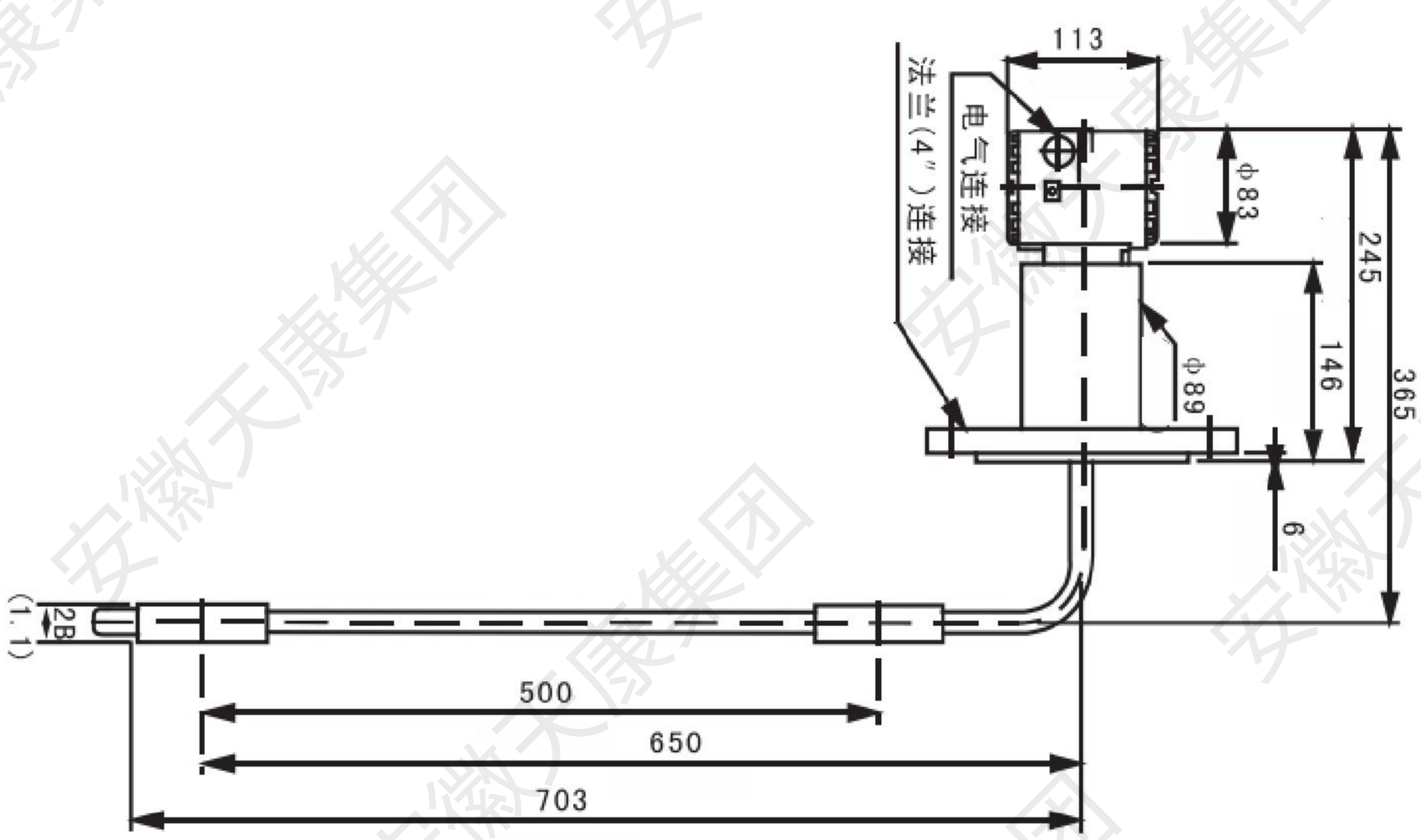
TK3051CC - A 1 H S - 0 B - 5 1 / Z2

若无关选项，此栏不填。 No filling in this column when no relevant option

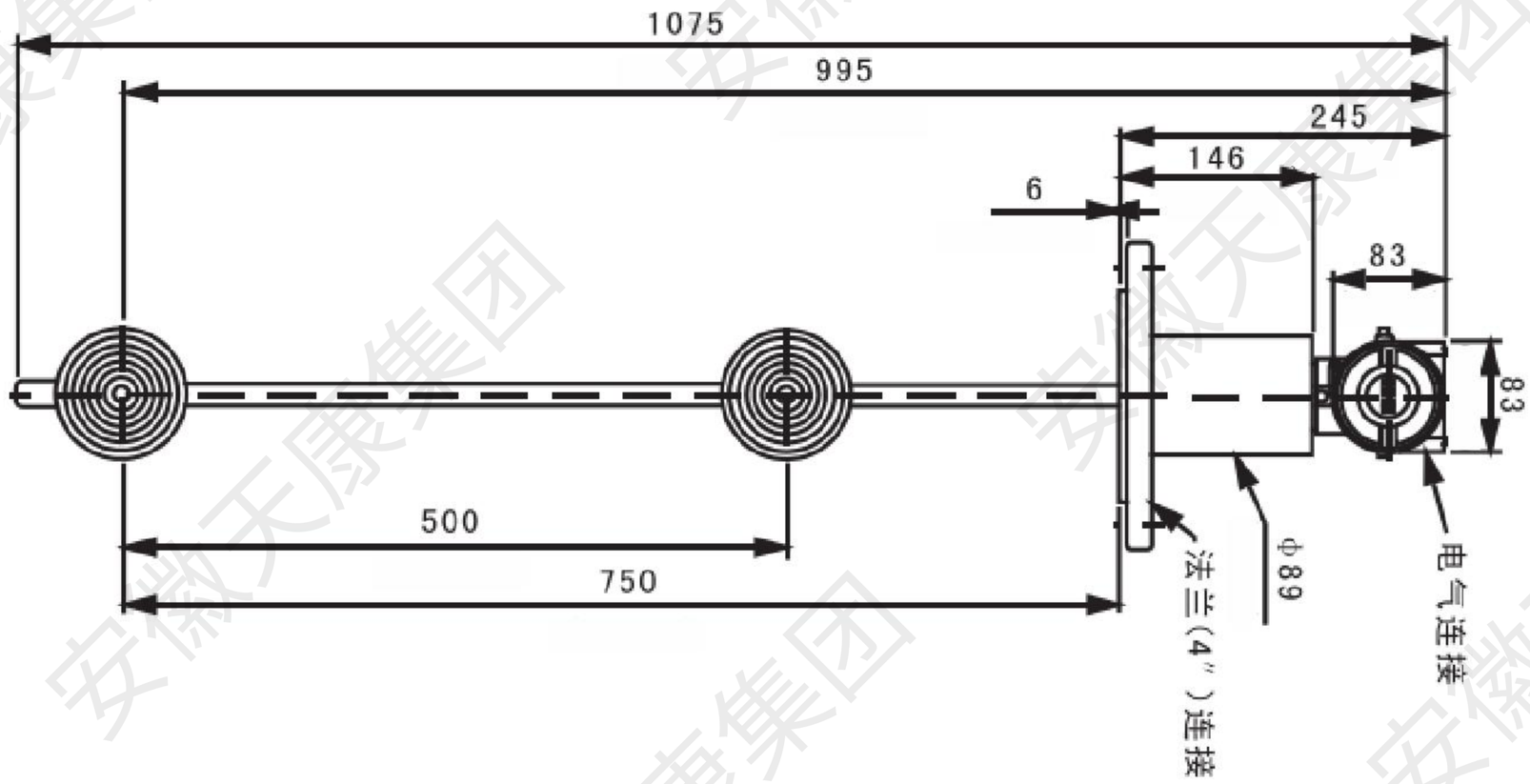
产品尺寸
Product Size

（工业型） Industrial type

单位 mm



侧安装类型
Side installation type



顶安装类型
Top installation type

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