Top Pressure Sensor Core Manufacturer Advances Precision Sensing Solutions

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As industrial automation and process monitoring continue to develop, pressure sensing components have become increasingly important for equipment manufacturers seeking accurate and stable measurement. Shanghai Zhaohui Pressure Apparatus Co., Ltd. has established its business around pressure, temperature, flow, and liquid-level measurement technologies, developing sensor cores, pressure sensors, transmitters, gauges, and related instrumentation for industrial applications. Founded in 1999, the company has built a product portfolio serving industries ranging from plastics and rubber processing to energy, automation, chemical production, and other process-control fields.

Pressure sensor cores represent an important foundation for many pressure measurement products. A sensor core converts changes in physical pressure into a measurable signal that can subsequently be processed by a transmitter, gauge, controller, or monitoring system. The characteristics of the sensing element can therefore influence the measurement performance and application suitability of the finished pressure instrument.

Shanghai Zhaohui Pressure Apparatus Co., Ltd. has developed pressure sensing technologies around different measurement principles and application requirements. Its current product portfolio includes pressure sensors, pressure transmitters, melt pressure transmitters, melt pressure gauges, differential pressure products, OEM pressure sensors, vacuum pressure transmitters, pressure indicators and controllers, and other measurement equipment. The company also lists various sensing elements and sensor-core products within its broader product range.

The company's experience is particularly relevant to melt pressure measurement. Melt pressure monitoring is commonly required in plastics, rubber, chemical fiber, extrusion, and related processing equipment, where pressure and temperature conditions can change significantly during production. Accurate pressure information can help equipment operators and control systems monitor processing conditions and identify changes that may require adjustment.

One of the company's specialized product categories is the Mercury Free Melt Pressure Transmitter. The product family includes standard, capillary, intelligent LCD display, high-accuracy, sanitary, intrinsically safe explosion-proof, flange-type, and other configurations. This

range allows equipment manufacturers to select different transmitter structures according to the installation environment and measurement requirements of their processing equipment.

The mercury-free design is particularly relevant to industries seeking alternatives to traditional mercury-containing melt pressure measurement technologies. A Mercury Free Melt Pressure Transmitter can provide a pressure measurement solution for processing equipment while avoiding mercury as part of the sensing system. This makes the product category relevant to modern manufacturing environments where material selection, environmental considerations, and process monitoring are all taken into account.

Melt pressure transmitters are generally installed at points where pressure within a processing line needs to be measured and converted into an electrical signal. Depending on the specific model, the output can be integrated with industrial controllers, displays, data acquisition systems, or other process-control equipment. This enables pressure information to become part of a broader automated production system.

Shanghai Zhaohui Pressure Apparatus Co., Ltd. also provides the Mercury Free Melt Pressure Gauge, expanding its mercury-free melt pressure measurement portfolio beyond electronic transmitters. The company lists a capillary mercury-free melt pressure gauge with signal output among its melt pressure products. This type of instrument can combine local pressure indication with signal transmission for equipment requiring both on-site observation and integration with a control system.

The distinction between transmitters and gauges is useful for industrial equipment designers. A transmitter is generally selected when pressure information needs to be converted into an electrical signal for remote monitoring or automated control, while a gauge can provide direct local indication. Depending on the equipment architecture, either type or a combination of measurement devices can be incorporated into a process-control system.

Melt pressure measurement also involves demanding environmental conditions. Processing machinery for plastics and rubber can operate at elevated temperatures, while the measured medium may be viscous or otherwise difficult to measure with conventional pressure instruments. For this reason, specialized melt pressure sensors and transmitters often incorporate designs intended to isolate sensitive sensing elements from the processing environment while maintaining pressure transmission.

The company's published technical information demonstrates its experience with melt pressure instrumentation. Its product documentation includes pressure transmitters with ranges extending across different pressure levels and optional electrical outputs such as 0–5 V, 0–10 V, and 4–20 mA. Depending on the model, options can also include different electrical and process connections and temperature measurement configurations.

The availability of different output signals is relevant to industrial automation because different

machines and control systems can use different input standards. The 4–20 mA signal, for example, is widely used in industrial instrumentation, while voltage outputs can be used in particular control and data-acquisition configurations. By providing multiple output options across its product range, a sensor manufacturer can address different equipment architectures.

Temperature measurement is another important consideration in melt processing. Pressure and temperature can both influence the behavior of polymers, rubber compounds, and other processed materials. Shanghai Zhaohui Pressure Apparatus Co., Ltd. offers products that combine or support pressure and temperature measurement, including melt pressure transmitters with optional thermocouple configurations. This allows certain instruments to provide additional process information from a single installation point.

Beyond melt pressure applications, the company provides industrial pressure measurement products for a broader range of sectors. Its product categories include industrial pressure transmitters, differential pressure transmitters, flameproof pressure transmitters, vacuum pressure transmitters, pressure sensors for spraying equipment, and other specialized instruments. These products extend the company's sensing technologies into industrial automation, process control, energy, equipment manufacturing, and other fields.

Pressure sensor cores are also relevant to OEM applications. Equipment manufacturers may require sensing elements that can be integrated into their own pressure measurement products rather than purchasing a complete transmitter or gauge. Shanghai Zhaohui Pressure Apparatus Co., Ltd. lists OEM pressure sensors and multiple types of pressure sensor products, providing options for manufacturers developing customized instrumentation.

The company's product portfolio includes diffused silicon and monocrystalline silicon pressure sensing technologies, as well as other sensor structures. Its current product listings include standard diffused silicon pressure sensors, high-stability monocrystalline silicon pressure sensors, differential pressure sensor products, and micro-melted pressure sensor products. These technologies allow the company to address different measurement ranges and application requirements.

The development of pressure sensor technology requires attention to material selection, mechanical structure, signal stability, temperature effects, calibration, and manufacturing consistency. Small changes in the sensing element or diaphragm structure can affect the behavior of a finished instrument. As a result, manufacturers serving industrial measurement markets need to combine sensor technology with controlled production and testing processes.

Shanghai Zhaohui Pressure Apparatus Co., Ltd. describes itself as a high-tech enterprise integrating research and development, production, and sales. Its company information states that its Shanghai headquarters includes a dedicated R&D center, while its production base in Hunan covers a larger manufacturing area and supports an annual capacity of millions of sensors and related products. The company also reports that its products are distributed

domestically and exported to more than 50 countries and regions.

Quality certification and compliance are also part of the company's development. The company's published information identifies ISO 9001 quality management certification and certifications or approvals including CMC, Ex, MA, CE, and RoHS. Its current company profile also lists ATEX, IECEx, UKCA, and other certifications associated with selected products. These certifications and approvals vary according to the specific product and application and are relevant when customers evaluate instrumentation for regulated industrial environments.

The company's experience in industrial pressure measurement extends beyond a single application. Its official information identifies applications in industrial process control, energy and electricity, hydrology, construction machinery, medical experiments, and other fields. Other company materials also identify plastics, rubber, chemical, textile fiber, petroleum, and food-processing equipment among the industries served by its products.

For plastics and rubber processing equipment, pressure measurement can be integrated into extrusion lines and other machinery to monitor the conditions of the processed material. Melt pressure transmitters can provide data to machine controllers, while local gauges can allow operators to observe pressure directly. The availability of both electronic and visual measurement products gives equipment designers flexibility when developing monitoring systems.

The Mercury Free Melt Pressure Transmitter and Mercury Free Melt Pressure Gauge represent this application-focused approach. Rather than treating pressure measurement as a single standardized product category, Shanghai Zhaohui Pressure Apparatus Co., Ltd. provides different configurations based on requirements such as installation method, display needs, signal output, pressure range, and application environment.

The company's broader product portfolio also includes temperature, flow, liquid-level, torque, and other measurement technologies. This diversification enables it to participate in multi-parameter measurement projects where pressure is only one part of the overall sensing system. Its current product categories include pressure measurement, temperature measurement, flow measurement, liquid-level measurement, oil-quality transmission, torque sensing, and safety protection.

For industrial equipment manufacturers, sourcing multiple measurement components from a specialized sensing supplier can simplify technical communication and product integration. Pressure transmitters, sensor cores, temperature sensors, controllers, indicators, and related instrumentation can be evaluated as parts of a broader measurement architecture. This approach can be particularly relevant to OEM customers developing specialized machines.

Customization is another consideration in industrial sensor procurement. Different machines can require different process connections, electrical interfaces, pressure ranges, output signals,

mounting structures, and environmental protection levels. Shanghai Zhaohui Pressure Apparatus Co., Ltd. provides OEM pressure sensor products and a variety of transmitter configurations, supporting customers that need measurement components adapted to particular equipment designs.

As industrial production becomes increasingly automated, pressure sensing is expected to remain an important part of machine monitoring and process control. Accurate pressure information can provide operators and control systems with data needed to observe process conditions, while specialized sensors can support applications involving high temperature, corrosive media, hazardous environments, or other demanding conditions.

With more than two decades of experience since its establishment in 1999, Shanghai Zhaohui Pressure Apparatus Co., Ltd. continues to develop pressure sensing and instrumentation products for industrial customers. Its portfolio covers sensor cores, pressure sensors, transmitters, gauges, controllers, and related measurement technologies, with the Mercury Free Melt Pressure Transmitter and Mercury Free Melt Pressure Gauge representing specialized solutions for melt-processing applications.

About Shanghai Zhaohui Pressure Apparatus Co., Ltd.

Shanghai Zhaohui Pressure Apparatus Co., Ltd. is a Chinese manufacturer specializing in pressure, temperature, flow, liquid-level, and related intelligent sensing and control products. Established in 1999 and headquartered in Shanghai, the company integrates research and development, manufacturing, and sales. Its product portfolio covers industrial pressure sensors, pressure transmitters, melt pressure transmitters, melt pressure gauges, differential pressure products, OEM pressure sensors, temperature sensors, controllers, indicators, and other industrial measurement equipment.

The company's melt pressure product range includes standard Mercury Free Melt Pressure Transmitter, capillary Mercury Free Melt Pressure Transmitter, intelligent LCD display models, high-accuracy models, sanitary versions, intrinsically safe explosion-proof versions, flange-type versions, and other specialized configurations. Its Mercury Free Melt Pressure Gauge portfolio includes capillary designs with signal output. These products are primarily relevant to melt-processing and industrial equipment where pressure monitoring is required.

Shanghai Zhaohui Pressure Apparatus Co., Ltd. also develops and supplies pressure sensor cores and related sensing elements for OEM and industrial applications. Its published product information includes diffused silicon, monocrystalline silicon, micro-melted, and other pressure sensing technologies. The company states that its products are distributed in China and exported to more than 50 countries and regions.

With its experience in pressure measurement and industrial sensing, Shanghai Zhaohui Pressure Apparatus Co., Ltd. provides components and instruments for applications spanning process

control, plastics and rubber processing, energy, automation, chemical production, machinery, and other industries. More information about the company, its pressure sensor cores, Mercury Free Melt Pressure Transmitter, Mercury Free Melt Pressure Gauge, and other sensing products is available at [www.sinosensor.net].

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