



S1 OEM PRESSURE TRANSDUCER



/ PROUD

Nothing is more powerful than an idea whose time has come. It has the potential to permanently change our way of thinking, our worldview, and its challenges.
The idea? A pressure transducer for almost all OEM applications.

The S1 is the direct answer to numerous requirements of the most diverse applications, both technically and economically. It embodies in a direct way what has been driving us at ASHCROFT ever since: The focus on developing the best possible solution through innovation and engineering.



S1 OEM PRESSURE TRANSDUCER

The S1 is an ASHCROFT original.
It is progress. It is advancement. It is a breakthrough. It is a turning point.

MEASURE US BY THIS!

S1 OEM PRESSURE TRANSDUCER



/ THIS IS ASHCROFT

DEVELOPMENT FROM TRADITION

When Edward Ashcroft founded our company in 1852, his mission was to protect the steam-powered industry and its workers by using more sophisticated and reliable instruments. Times have changed, but not our attitude. With a history of more than 170 years, of which more than 40 years with our own production in Europe, we have experienced and learned a lot. Together with our customers, we have mastered three industrial revolutions, survived global and regional conflicts and crisis's. We look forward to accompanying our customers with our products in the fourth industrial revolution as well.

GLOBAL - REGIONAL - LOCAL

Globally positioned - regionally represented and locally available for you. With local contacts who speak your language and are ready to solve your challenges.

OUR GREATEST STRENGTH

All of Ashcroft's products and services are the result of our exceptional people. We are all passionate about our common goal, the best customer satisfaction. Ashcroft is inspired of a common commitment to our work and to each other. Combining the talents of our diverse workforce makes us more competitive, resilient and better able to respond to the ever-changing needs of our customers and markets.

OUR MOTIVATION

As a customer and partner, you are the focus of our attention. We are passionate about designing and producing the most innovative, high quality pressure and temperature measuring instruments on our planet.

OUR VALUES

Our five corporate values are not abstract, but are lived by us, and every Ashcroft employee bases his or her daily actions on them.



THINK CUSTOMER FIRST

Every measure, every plan and every project is aimed first and foremost at you, our customer. We see the world through your eyes.

NEVER SETTLE / CHALLENGE THE STATUS QUO

What was true yesterday is not necessarily true today. At Ashcroft, we challenge each other to never be indifferent, to keep improving ourselves and the company.

RESPECT EACH OTHER

We celebrate our diversity, share our ideas and intensify our collective thinking. We act and discuss in mutual respect and thus find better solutions.

THINK BEYOND BORDERS

Across geographical borders. Beyond the factory. Beyond your own area of responsibility. Beyond the personal comfort zone.

WIN AS A TEAM

The common goal is more important to us than our own.

/ CONTINUED

MANY REQUIREMENTS, ONE SOLUTION.

PLUG & FORGET

Excellent long-term stability with minimal annual drift ensure an enormous service life.

ALWAYS FITS

Modular system with maximum variability of process and electrical connections.

NOT EXACTLY, BUT QUITE PRECISELY

0.5 and 1.0% accuracy with Ashcroft TruAccuracy™. With Terminal Point Method Non-linearity, hysteresis, repeatability, zero offset and span setting errors are already included.

ALL INCLUSIVE

With 500 V insulation withstand voltage as standard and thus also suitable for use in rail vehicles.

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CLEVER

Reliable availability, short delivery times at a sensational price.

GREATEST POSSIBLE FLEXIBILITY AT THE INSTALLATION SITE

The universal sensor design allows installation in all conceivable positions with negligible loss of accuracy.

ALL INCLUSIVE

With 500 V insulation withstand voltage as standard and thus also suitable for use in rail vehicles.



SMART

Available as a version suitable for battery-powered applications with ratiometric output and significantly reduced power requirements.

MUCH

4 case materials (stainless steel, steel, brass and aluminium) for optimum adaptation to the respective application.

MADE TO LAST

Manufactured for use with at least 50 million load cycles.

DEVELOPED DOWN TO THE SMALLEST DETAIL

For ambient and medium temperatures from -40 °C to 125 °C. No loss of accuracy due to temperature influence at 0 °C to 85 °C (1% version).

UNSHAKEABLE

Extremely vibration-resistant design for use in permanently harsh operating conditions.

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ASHCROFT
Trust the shield.®

THIN AND STRONG

Thin film sensor with metallic connection to the process connection.

ONE FOR ALL

Universal sensor for all common OEM applications in mobile hydraulics, mechanical engineering and refrigeration.

/ S1 PRESSURE TRANSDUCER

THE GENIUS BEHIND IT ALL.

ASHCROFT CHEMICAL VAPOR DEPOSITION (CVD) SENSOR.
The ultimate pressure transducer sensor.



PERMANENTLY RELIABLE PRESSURE MEASUREMENTS WITH A COMPACT, COST-EFFECTIVE TRANSDUCER SPECIALLY DESIGNED FOR OEM APPLICATIONS.

The Ashcroft S1 pressure transducer is designed and developed for use in mobile hydraulics, mechanical engineering, agricultural and forestry machinery and refrigeration. It can be used in harsh environments with high shock and vibration, as well as hot and cold temperature conditions.

The Ashcroft S1 is designed for high volume production with the aim of offering it at low cost and reliable and short delivery times.

/ TECHNICAL DATA

/ Temperature range -40 °C ... 125 °C for process and environment

/ Shock resistance according to IEC 60068-2-27 100 g, 6 ms

/ Vibration resistance according to IEC 60068-64 20 g, 20 ... 2,000 Hz

/ Durability at least 50 million load cycles

/ Maintenance-free, stability $\leq 0.25\%$ per year

/ High overpressure safety

/ High burst pressure

/ Protection class IP65/67

S1 OEM PRESSURE TRANSDUCER

/ MANY DETAILS. IN JUST ONE STATEMENT.

THE ASHCROFT TRUACCURACY™ SPECIFICATION



Ashcroft pressure transducers incorporate the TruAccuracy™ specification. Ashcroft's accuracy specification is exclusively based on terminal point methodology instead of statistically derived schemes. TruAccuracy™ means that Ashcroft pressure transducers include zero offset, non-linearity, hysteresis, repeatability, zero offset and span adjustment error in their accuracy statement. The user thus has a ready-to-install device at his disposal that does not require any initial calibration after installation. This considerably reduces the time and costs involved. Other commercially available measuring devices usually do not include information on zero point deviation and measuring span error in their accuracy specifications, so that these measuring errors (up to $\pm 1\%$) must be added to the accuracy in order to achieve reliable performance characteristics.

MOBILE HYDRAULICS



In mobile hydraulics applications, extraordinary demands are placed on the electronic pressure measurement technology used. Extreme weather conditions with sudden temperature fluctuations, permanent massive effects due to shock and vibration loads, high pressure fluctuations and pressure peaks and electro-magnetic influences must be handled without any problems by the pressure transducer used.

REFRIGERATION



Electronic pressure measurement technology is essential for the function of a refrigeration machine. Special challenges for the sensor and housing material are posed by the refrigerants used. The condensation that occurs due to the low operating temperatures in a refrigeration machine must be able to be tolerated by the pressure transducer used as well as the need for permanent long-term tightness.

MACHINERY



For use in industrial machines, such as compressors, plastics machines, hydraulic units, temperature control units, etc., a high degree of application flexibility and a wide variety of electrical and process connections are required. The extremely compact design of the Ashcroft S1 ensures almost limitless installation possibilities with negligible position error. A large number of variants of all common electrical and process connections offer the user maximum design freedom.

S1 OEM PRESSURE TRANSDUCER



**/ MADE TO FIT.
DISCOVER THE POSSIBILITIES
AND CHALLENGE US!**

S1 PRESSURE TRANSDUCER: AVAILABLE WITH A WIDE RANGE OF PROCESS AND ELECTRICAL CONNECTIONS



/ S1

OEM PRESSURE TRANSDUCER

FEATURES

- Compact and highly configurable
- Large selection of process connections and electrical connections and outputs
- Stainless steel sensor element 17-4PH
- Proven polysilicon thin-film pressure sensor
- Measuring ranges vacuum up to 700 bar



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/ TECHNICAL DATA

MEASUREMENT RANGES	/ -1 ... 0 to 0 ... 700 bar	ACCURACY	/ Terminal point method accuracy $\pm 1.0\%$ (0.5% optional) of the measuring span (includes zero and full scale deviation, linearity, hysteresis and repeatability)
LONG-TERM STABILITY	/ $\leq 0,25\%$ of span / year at reference temperature	REFERENCE TEMPERATURE	/ $21\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$
WARM-UP TIME	/ $\leq 20\text{ ms}$	TEMPERATURE LIMITS	/ Storage: $-50\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$ / Ambient: $-40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$ / Process: $-40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$
SHOCK RESISTANCE	/ 100 g, 6 ms, half-sine cycle	VIBRATION RESISTANCE	/ 20 g effective in all directions with 20-2000 Hz
MATERIALS	/ Material sensor element: stainless steel 17-4PH / Process connection: stainless steel, steel, aluminium or brass / Housing: stainless steel, steel, aluminium or brass	INGRESS PROTECTION	/ Standard IP65 connector according to EN 175301-803; IP67 (M12, plug-in connectors or PVC cable connection)
RESPONSE TIME	/ $\leq 5\text{ ms}$	OUTPUT SIGNAL	/ 4-20 mA (2-wire) / 0,5-4,5 VDC (3-wire) / 0/1-5/10 VDC (3-wire) / Ratiometric: 0,5-4,5 VDC (3-wire) / 1-6 VDC (3-wire)
HUMIDITY	/ rel. humidity 0-100% (non-condensing)	PROCESS CONNECTION	/ G $\frac{1}{4}$ A (DIN 3852 Form E) / many other hydraulic and special connections / $\frac{1}{4}$ NPT male / G $\frac{1}{4}$ B (EN 837-1)
INSULATION VOLTAGE	/ 500 Vac	DURABILITY	/ >50 million load cycles

S1 OEM PRESSURE TRANSDUCER

ASHCROFT

CUSTOM

/ ASHCROFT CES

ENGINEERED

SOLUTION

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/ ASHCROFT CES

CUSTOMISED SOLUTIONS AS CORE COMPETENCE

Every installation is individual, every challenge specific. We know that.

That's why we also know that tackling special problems with off-the-shelf products alone is often not enough - and therefore does not live up to our own standards:

We consider perfect product implementation and the realisation of smooth process flows - for example in the form of stockpiling concepts - to be elementary.

With our Custom Engineered Solutions (CESSM) we offer our customers tailor-made solution concepts.

In close cooperation between you, our product experts and our development engineers, we develop customised product solutions for the most individual applications.

This flexibility distinguishes us and enables us to offer our customers the best possible concepts.

We identify with your result and are aware of our responsibility. That is our understanding of partnership.

MEASURE US BY THIS!

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