Application Note



Angst+Pfister Sensors and Power is a company with a long track record in life science, serving medical device manufacturers across the globe for many decades.

Biological Sample Handlers automate probe management for Immunoassay and Clinical Chemistry (in-vitro) analysis in the laboratory setting.

"Thanks to Angst+Pfister Sensors and Power, we were able to massively improve our process stability and repeatability"



Example Biological Sample Handler (source: Siemens Healthineers)

What are the advantages of APSP pressure sensors for your application?

- High accuracy miniature pressure sensor AG2/ AG4 (±0.5%FS)
- Measurement of positive pressure or vacuum for pipette dispensing or aspiration, no sample or clog detection
- Backward gage sensor resistant towards temporary humidity exposure
- Miniature pressure sensor PBM230
- Suitable for both gas and liquids (water, disinfection agents)
- Manifold mountable for non-intrusive integration in pneumatic/ hydraulic block

How can the digital and factory-calibrated SMT172 improve the analysis efficiency?

- Real-time monitoring of temperature at incubator/ reagent rotor to maintain desired level with accuracy of ±0.04°C
- Very high Signal-to-noise ratio
- Fast response time of t63%=0.6s, to quickly detect temperature changes

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How can the APSP drive solutions improve the long-term performance of sample handlers?

- Electrical drives with customized shafts/ gears/ encoders/ brakes
- Special connectors and wires (harness)
- Tailored winding (voltage/ speed)
- Customized bearings (IP class as requested)
- Robust construction for vibration exposure
- Minimal axial tolerance
- Optical encoders for extremely accurate positioning of cuvette rotor
- Linear actuators
- Multiple stroke lengths, thrusts and lifting speeds

How can you benefit from APSP medical power supplies/ DC-DC converters while increasing user safety?

- Compact form factor for reduced space demand
- High efficiency and low no-load energy consumption
- Extremely low leakage current
- High EMC- class
- BF (body floating) and even CF (cardiac floating) insulation
- Specific safety approval
- Design-in engineering and certification support
- Flexible customization even for smaller quantities

What are the advantages of APSP customized level sensors?

- Level detection in liquid waste containers
- Ultrasound-based, high accuracy
- Possible integration in screw cap

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• Customized output signal, cable, connector



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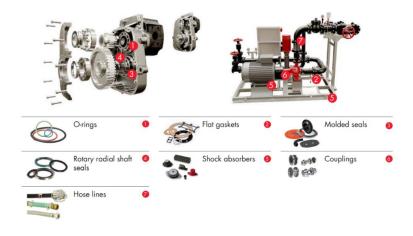






What are the advantages of A+P elastomer components for lab automation?

- With our A+P specialists we realize the most suitable and efficient solutions for demanding Life Science applications in terms of sealing, fluid handling and antivibration
- Comprehensive know-how in high-performance elastomers from choice of raw materials to final testing and serial production
- Extremely high chemical resistance against most liquids and chemicals
- Multiple approvals and conformities



- High-performance belts for linear sample transport and power transmission
- High resistance to pressure, compression and deformation
- High durability and reliable service
- Fully customizable molded specials



Everything from a single source!

Very fast and flexible engineering prototypes for customized solutions.

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Experts on Design-In



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