

# 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 ( $\pm 0.5\%FS$ )
- 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  $\pm 0.04^\circ C$
- Very high Signal-to-noise ratio
- Fast response time of  $t_{63\%}=0.6s$ , to quickly detect temperature changes



Angst+Pfister Sensors and Power AG  
Thurgauerstrasse 66  
CH-8050 Zurich

[sensorsandpower@angst-pfister.com](mailto:sensorsandpower@angst-pfister.com)  
[sensorsandpower.angst-pfister.com](http://sensorsandpower.angst-pfister.com)

# Application Note



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
- Customized output signal, cable, connector



source: Roche Diagnostics

Angst+Pfister Sensors and Power AG  
Thurgauerstrasse 66  
CH-8050 Zurich

[sensorsandpower@angst-pfister.com](mailto:sensorsandpower@angst-pfister.com)  
[sensorsandpower.angst-pfister.com](http://sensorsandpower.angst-pfister.com)

# Application Note



## 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.

Angst+Pfister Sensors and Power AG  
Thurgauerstrasse 66  
CH-8050 Zurich

[sensorsandpower@angst-pfister.com](mailto:sensorsandpower@angst-pfister.com)  
[sensorsandpower.angst-pfister.com](http://sensorsandpower.angst-pfister.com)

## We are here for you. Addresses and Contacts.

---

### Headquarter Switzerland:

Angst+Pfister Sensors and Power AG  
Thurgauerstrasse 66  
CH-8050 Zurich  
Phone +41 44 877 35 00  
[sensorsandpower@angst-pfister.com](mailto:sensorsandpower@angst-pfister.com)

### Office Germany:

Angst+Pfister Sensors and Power Deutschland GmbH  
Edisonstraße 16  
D-85716 Unterschleißheim  
Phone +49 89 374 288 87 00  
[sensorsandpower.de@angst-pfister.com](mailto:sensorsandpower.de@angst-pfister.com)

---

Scan here and get an overview of personal contacts!



[sensorsandpower.angst-pfister.com](https://sensorsandpower.angst-pfister.com)

---