

# 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.**

**Insufflators** enable visualization during endoscopic procedures (e.g. laparoscopy). CO<sub>2</sub> is used because of its fast absorption, non-combustability and high solubility.

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



Example Insufflator (source: Storz)

**Why is the APSP Flow sensor PFLOW9015CL beneficial for Insufflators?**

- Fast response time
- Asymmetrical calibration for backflow detection
- CO<sub>2</sub> real gas calibration (no GCF to be used)
- Individual range calibration for optimization of usable span



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

- High accuracy miniature pressure sensor AG2/ AG4
- Backward gage - sensor resistant towards temporary humidity exposure (e.g. condensation when changing to fresh, cold gas bottle)
- Manifold-mountable for easy integration in pneumatic block
- Individual range calibration for optimization of usable span
- Miniature low pressure sensor AL4
- Real-time monitoring of insufflation pressure at accuracy  $\pm 0.5\%$  FS



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

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

# Application Note



How can the digital and factory-calibrated SMT172 improve monitoring of gas temperature in Insufflators?

- Digital temperature sensor with PWM output for error-free transmission over long distances
- Extremely high accuracy of  $\pm 0.04^{\circ}\text{C}$
- Very high Signal-to-noise ratio
- Fast response time of  $t_{63\%}=0.6\text{s}$ , to quickly detect temperature changes
- High repeatability of  $0.01^{\circ}\text{C}$  to increase process stability
- Extremely high efficiency to eliminate self-heating



How can you benefit from APSP medical power supplies/ DC-DC converters while increasing patient 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



**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)

---