

Measuring Intake and Exhaust Pressures

Gas exchange analysis has become an important part of the ongoing development of modern engines. One of its tools is the use of piezoresistive sensors to analyse low pressures.

The intake pressure can generally be measured with directly mounted sensors that are not actively cooled. However, high exhaust temperatures (> 1000 °C) always necessitate such cooling. Ideal cooling of water-cooled sensors or adapters is achieved with the Kistler temperature conditioning unit Type 2621E... .

A suitable low-pressure analysis system is chosen primarily on the basis of the following criteria:

- Available space
- Required accuracy
- Service stresses
(heat, vibration and soot)

A fundamental distinction can be drawn between two applications:

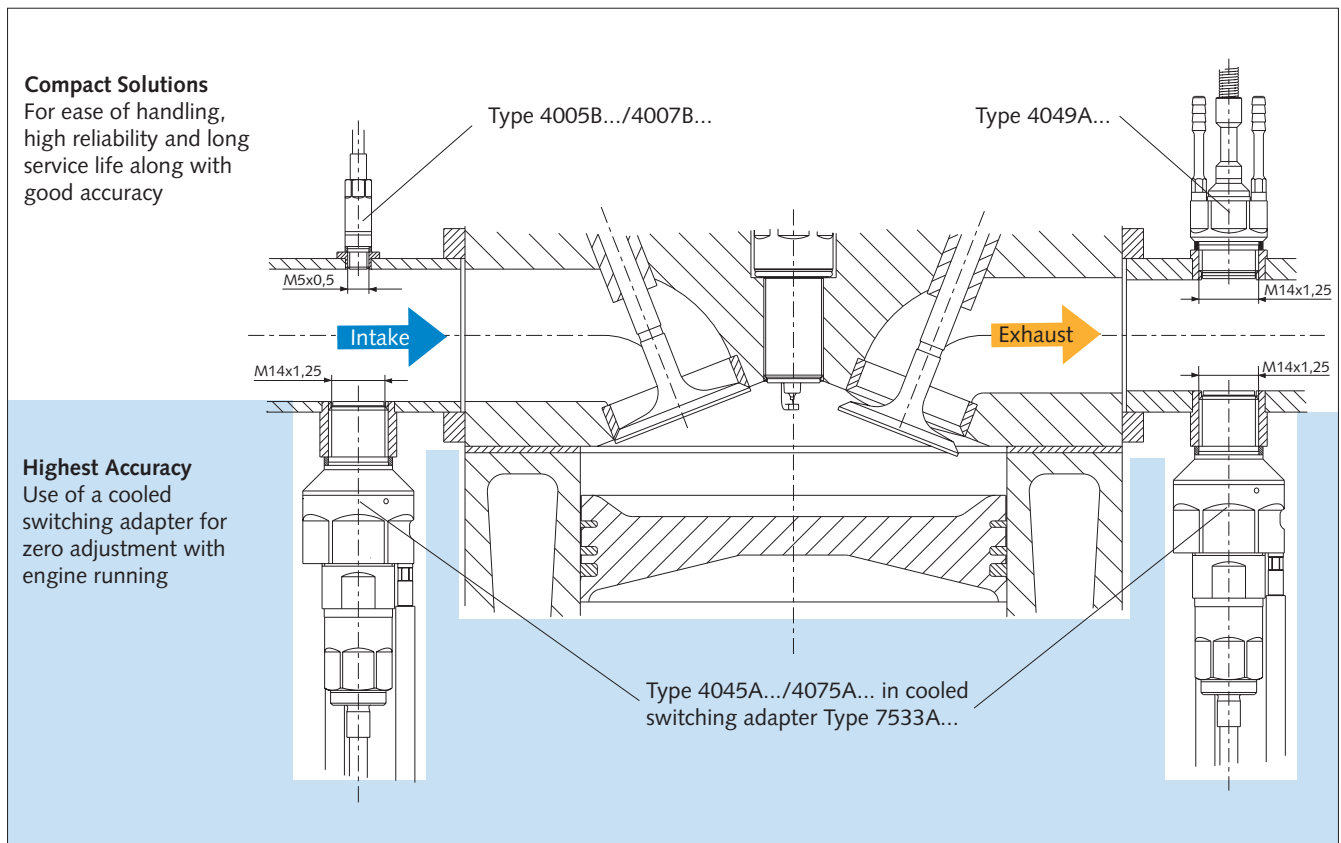
Compact Solutions


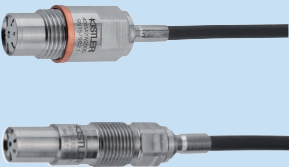
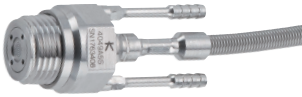

Compact sensors can be positioned perfectly even when space is at a premium. These sensors are directly installed into the measuring bore or by using compact cooled adapters. This ease of handling is enhanced by other advantages such as reliably, longevity and good accuracy.

Highest Accuracy

Maximum accuracy is often essential if the R&D focus is on low pressure analysis. The desired precision can be achieved through the use of cooled switching adapters.

The following mounting situation shows the sensor system recommended by Kistler for both applications. Other sensors and (cooled) adapters are available.



Recommended Sensors		
	4005B.../4007B...	Miniature sensors (M5x0,5), ideal for measuring intake pressures at temperatures up to 200 °C
	4045A.../4075A...	Compact sensors with media separated measuring element, ideal for use in cooled switching adapters
	4049A...	Water-cooled sensor with media separated measuring element, ideal for measuring exhaust pressures
	7533A...	Cooled switching adapter for sensor Types 4045A.../4075A... , for zero adjustment with engine running

For further information:

Austria

Tel. +43 1 867 48 67 0
sales.at@kistler.com

France

Tel. +33 1 69 18 81 81
info.fr@kistler.com

Netherlands

Tel. +31 182 304 444
sales.nl@kistler.com

United Kingdom

Tel. +44 1256 74 15 50
sales.uk@kistler.com

Australia

Tel. +61 3 9560 5055
sales.au@kistler.com

Germany

Tel. +49 711 34 07 0
info.de@kistler.com

Singapore

Tel. +65 6316 7331
sales.sg@kistler.com

USA/Canada/Mexico

Tel. +1 716 691 5100
sales.us@kistler.com

China, People's Republic of

Tel. +852 25 915 930
sales.cn@kistler.com

India

Tel. +91 44 4213 2089
sales.in@kistler.com

Spain

Tel. +34 93 860 33 24
info.es@kistler.com

Other countries

Tel. +41 52 224 11 11
sales.export@kistler.com

Czech Republic/Slovakia

Tel. +420 296 374 878
sales.cz@kistler.com

Italy

Tel. +39 02 481 27 51
sales.it@kistler.com

Switzerland/Liechtenstein

Tel. +41 52 224 12 32
sales.ch@kistler.com

Switzerland (Headquarters)

Tel. +41 52 224 11 11
info@kistler.com

Denmark/Norway/Sweden

Tel. +46 31 871 566
info.se@kistler.com

Japan

Tel. +81 3 3578 0271
sales.jp@kistler.com

Taiwan

Tel. +886 2 7721 2121
sales.tw@kistler.com

Finland

Tel. +358 9 612 15 66
info.fi@kistler.com

Korea, Republic of

Tel. +82 31 465 6013
sales.kr@kistler.com

Thailand

Tel. +66 2678 6779-80
sales.thai@kistler.com