



# INTEGRATED PRESSURE MEASUREMENT

The new sensors RPT 010 and IKT 010/IKT 011. Compact dimensions.  
Direct installation, no additional power supply. No special cable needed.

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**125**  
YEARS  
NOTHING  
IS BETTER

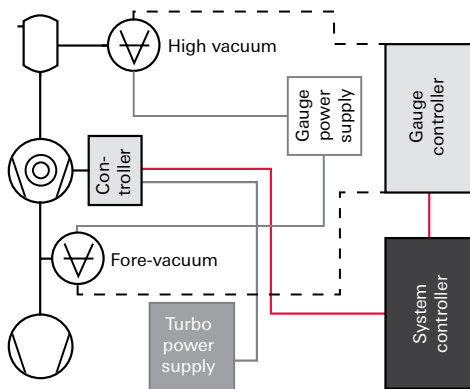
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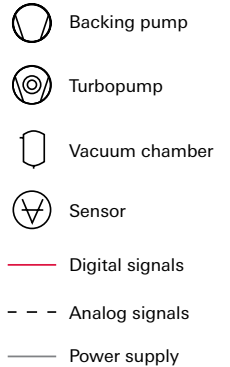
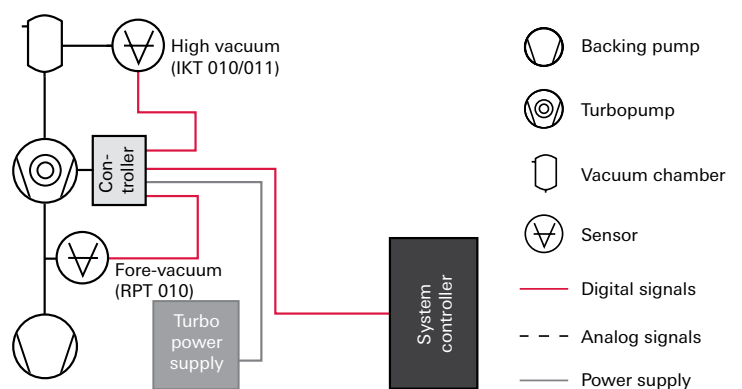
When installing a turbopump and gauge, is separate cabling required? Today it is no longer necessary!

Save time and money with the new integrated RPT 010 and IKT 010/011 vacuum sensors. Neither a separate power supply nor a separate gauge controller is needed.

Conventional pressure measurement



Integrated pressure measurement



## Features

- New state-of-the-art concept
- Piezo/Pirani gauge kombination (RPT 010)
- Cold cathode gauge (IKT 010/011)
- Connection to TC 110/400/1200 and TM 700 via converter TIC 010 on PV.can
- Pressure signal on RS-485 and Profibus
- Up to two sensors per one turbo controller
- Turbo controller can provide additional features:
  - set points
  - analog pressure signal
  - logical functions comprising pressure and turbo status



#### Customer benefit

- Fewer components
- Lower costs
- Smaller and improved sensor technology
- Piezo range gas type independent
- Easy installation
- Reliable digital communication
- Unified protocol for pressure signal and status information of the turbopump
- More stable high pressure reading

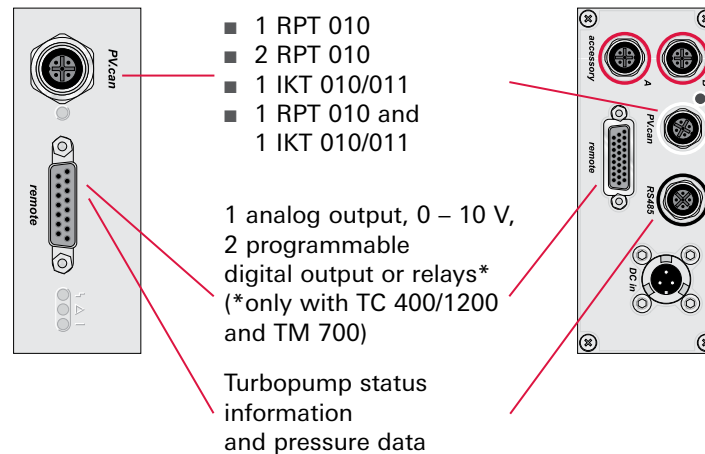
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Simply connect two sensors with a TIC 010 converter directly to the drive electronics of your HiPace turbopump, reducing the number and length of cables. The sensors use digital signals to communicate with the drive electronics making for a more reliable pressure signal rather than the use of analog transmissions.

## Direkte Installation

### Possible configurations



You can read this pressure signal together with status information of your turbopump such as rotational speed, power consumption etc. via RS-485. As an alternative, you can choose from other output possibilities that the HiPace drive electronics provide.

## Durable and easy to maintain



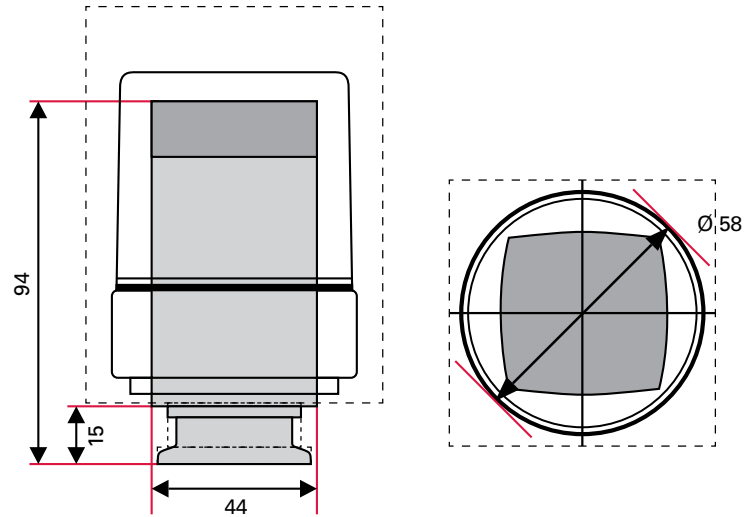
Double chamber with textured surface



Cross section of the IKT sensor

## Compact dimensions

Compared to conventional vacuum gauges the new sensors are significantly smaller. In addition, the IKT sensors are characterized by a minimized magnetic stray field and, thanks to a new dual-chamber design with a textured surface, a longer service life.

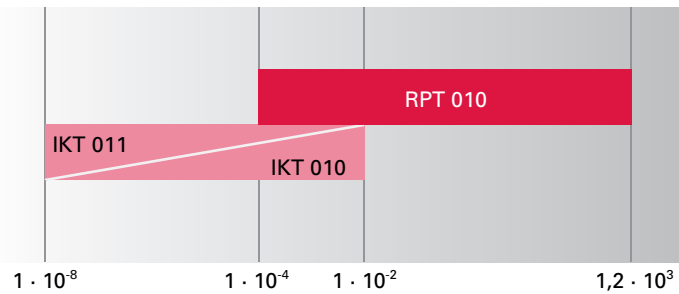


The Piezo sensor offers a stable low vacuum measurement independent of gas types whereas the Pirani sensor covers the pressure range of up to  $1 \cdot 10^{-4}$  hPa.

The cold cathode sensors measure in a pressure range of  $1 \cdot 10^{-2}$  hPa to  $1 \cdot 10^{-8}$  hPa.

For an optimal adjustment to the customer-specific process they are available as a low-current version (IKT 010) and high-current version (IKT 011) .

## Wide measuring range



## Minimized magnetic stray field



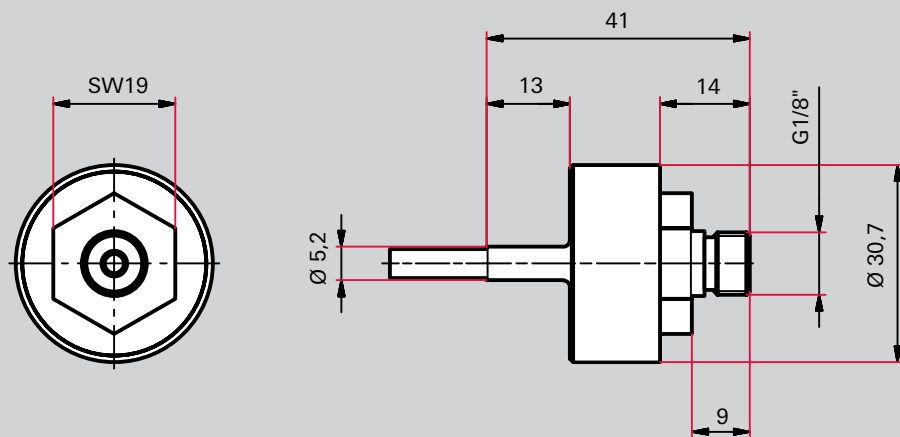
Comparison of conventional gauge and new sensor

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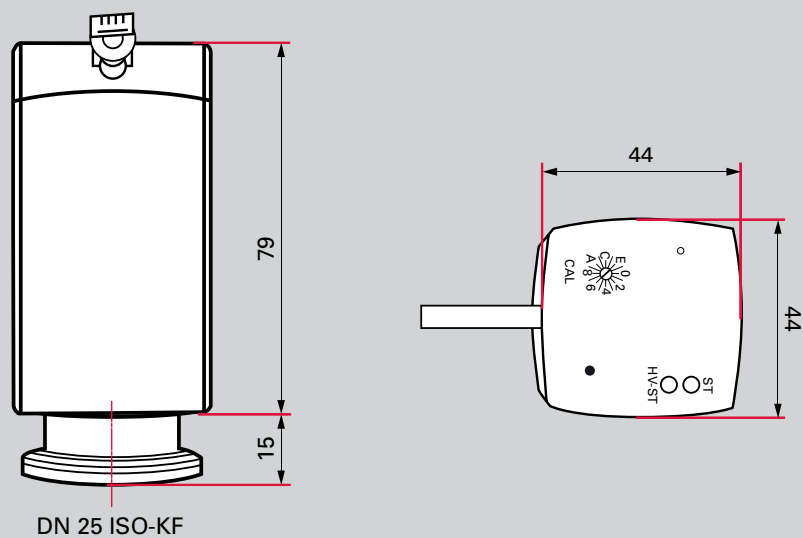
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## Dimensions (mm)

RPT 010



IKT 010 / IKT 011



## Technical data

	RPT 010	IKT 010	IKT 011	TIC 010
Method of measurement	Piezo/Pirani	Cold cathode	Cold cathode	
Flange (in)	G 1/8"	DN 25 ISO-KF	DN 25 ISO-KF	
Measurement range min.	$1 \cdot 10^{-4}$ hPa	$1 \cdot 10^{-8}$ hPa	$1 \cdot 10^{-8}$ hPa	
Measurement range max.	1200 hPa	$1 \cdot 10^{-2}$ hPa	$1 \cdot 10^{-2}$ hPa	
Protection category	IP 54	IP 40	IP 40	IP 40
Pressure max.	2,000 hPa	10,000 hPa	10,000 hPa	
Accuracy (N <sub>2</sub> )	$5 \cdot 10^{-4} - 1 \cdot 10^{-3}$ hPa: $\pm 50$ %; $1 \cdot 10^{-3} - 100$ hPa: $\pm 15$ %; 100 – 1200 hPa: $\pm 15$ hPa	$5 \cdot 10^{-8} - 1 \cdot 10^{-2}$ hPa: $\pm 30$ %	$5 \cdot 10^{-8} - 1 \cdot 10^{-2}$ hPa: $\pm 30$ %	
Repeatability (N <sub>2</sub> ): % of measurement	$1 \cdot 10^{-3} - 100$ hPa: $\pm 3$ %; 100 – 1200 hPa: $\pm 3$ hPa	$5 \cdot 10^{-8} - 1 \cdot 10^{-2}$ hPa: $\pm 5$ %	$5 \cdot 10^{-8} - 1 \cdot 10^{-2}$ hPa: $\pm 5$ %	
Materials in contact with media	Ceramic, nickel, Stainless steel, tungsten, silicon oxide, glass, araldite, solder	Stainless steel, glass, ceramic, nickel alloy	Stainless steel, glass, ceramic, nickel alloy	
Temperature: Operating	+5 – +60 °C	+5 – +55 °C	+5 – +55 °C	
Temperature: Storage	-40 – +65 °C	-40 – +70 °C	-40 – +70 °C	
Weight	< 92 g	< 280 g	< 280 g	24 g

## Order number

Cable length	RPT 010	IKT 010	IKT 011	TIC 010
35 cm	<b>PT R71 035</b>			
50 cm	<b>PT R71 050</b>	<b>PT R72 050</b>	<b>PT R73 050</b>	
100 cm	<b>PT R71 100</b>	<b>PT R72 100</b>	<b>PT R73 100</b>	
150 cm	<b>PT R71 150</b>	<b>PT R72 150</b>	<b>PT R73 150</b>	
Adapter				<b>PT R70 000</b>
Screw-on flange DN 16 ISO-KF to G 1/8"	<b>PM 016 780 -T</b>			

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All data subject to change without prior notice. PK 0111 PEN (Aprils 2015/6)

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