



ActiveLine

A wide range of proven vacuum transmitters to cover all applications



ActiveLine

The ActiveLine series offers a wide range of vacuum gauges that work on a variety of measuring principles and have a classic analog outlet. The series thus covers the technically relevant vacuum range from ultra-high vacuum to overpressure. The outlet voltage of the transmitter, that is proportional to the pressure, can be displayed as pressure on the three controllers or read into controllers through analog inputs for further processing.

The series includes high precision capacitance vacuum gauges in SI units (CMR) for process monitoring and control as well as corresponding Torr types (CCR) for direct use in semiconductor processes without controllers.

Customer benefits

- Covers the entire vacuum range
- Suitable for all requirement profiles
- Space saving installation due to compact design
- Optimum cost-benefit ratio
- Universally usable due to integrated electronic drive unit
- Easy self-diagnosis
- Avoids installation errors through controllers with automatic transmitter recognition
- Easy wiring for all transmitters through uniform standard cables

Typical applications

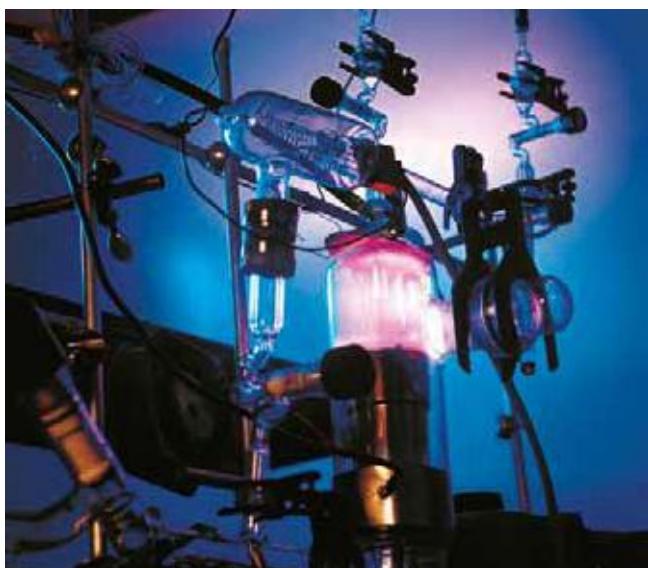
- Research facilities
- Analysis equipment
- Research and production coating facilities
- Leak detection systems
- Semiconductor development and production
- Photovoltaics
- Industrial vacuum process systems



Semiconductor development and production



Coating



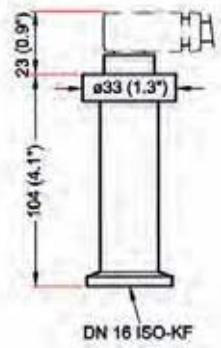
Research facilities

Piezo transmitters APR (1 · 10⁻¹ - 55000 hPa)

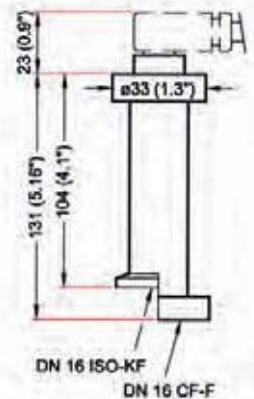


- Measurement range from 0.1 hPa to 1100 hPa
- Pressure measurement independent of type of gas
- Corrosion-resistant
- Maximum pressure applies to inert gases and temperatures of less than 55 °C

Dimensions (in mm)



APR 250, DN 16 ISO-KF



APR 260, DN 16 ISO-KF

3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	APR 250, DN 16 ISO-KF, 2 % F.S.	APR 260, DN 16 ISO-KF, 1 % F.S.	APR 260, DN 16 CF-F, 1 % F.S.
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 CF-F
Output signal: Sensor error below	≤ 0.4 V	≤ 0.4 V	≤ 0.4 V
Output signal: Pressure range	1.0 - 9.8 V	1.0 - 9.8 V	1.0 - 9.8 V
Output signal: Minimum load	10 kΩ	10 kΩ	10 kΩ
Bakeout temperature	80 °C	80 °C	80 °C
Pressure max.	300 kPa	300 kPa	300 kPa
Stability of sensitivity	≤ 0.5 %/year	≤ 0.2 %/year	≤ 0.2 %/year
Accuracy	2 % F.S.	1 % F.S.	1 % F.S.
Weight	120 g	120 g	150 g
Linearity and hysteresis	≤ 0.5 % F.S.	≤ 0.2 % F.S.	≤ 0.2 % F.S.
Measurement range max.	1100 hPa	1100 hPa	1100 hPa
Measurement range min.	1 · 10 ⁻¹ hPa	1 · 10 ⁻¹ hPa	1 · 10 ⁻¹ hPa
Sensor cable length	50 m	50 m	50 m
Zero stability	≤ 0.5 % F.S./year	≤ 0.3 % F.S./year	≤ 0.3 % F.S./year
Protection category	IP 65	IP 65	
Temperature: Operating	10-80 °C	10-80 °C	10-80 °C
Temperature: Storage	-40-+80 °C	-40-+80 °C	-40-+80 °C
Thermal sensitivity drift	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %
Thermal zero drift	≤ 0.5 % F.S.	≤ 0.2 % F.S.	≤ 0.2 % F.S.
Supply: Voltage	13-30 V DC	13-30 V DC	13-30 V DC
Supply: Power consumption max.	≤ 0.2 W	≤ 0.2 W	≤ 0.2 W
Volume	2 cm ³	2 cm ³	6 cm ³
Material	Stainless steel	Stainless steel	Stainless steel

Order number			
Piezo Gauges APR 250/260 (1 · 10 ⁻¹ - 1100 hPa)	P 5215 102 TF	P 5215 112 TF	P 5215 114 TF

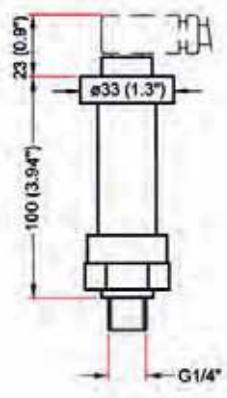
Accessories			
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T	PT 448 250 -T
Mating connector	B 4707 283 MA	B 4707 283 MA	B 4707 283 MA

Piezo transmitters APR (1 · 10⁻¹ - 55000 hPa)



- Pressure measurement independent of type of gas
- Corrosion-resistant
- Maximum pressure applies to inert gases and temperatures of less than 55 °C

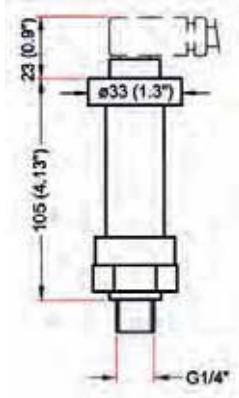
Dimensions (in mm)



APR 262, G1/4"

APR 265, G1/4"

APR 266, G1/4"



APR 267, G1/4"

3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	APR 262, G1/4", 2200 hPa	APR 265, G1/4", 5500 hPa	APR 266, G1/4", 11000 hPa	APR 267, G1/4", 55000 hPa
Flange (in)	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Output signal: Sensor error below	≤ 0.4 V	≤ 0.4 V	≤ 0.4 V	≤ 0.4 V
Output signal: Pressure range	1.0 - 9.8 V	1.0 - 9.8 V	1.0 - 9.8 V	1.0 - 9.8 V
Output signal: Minimum load	10 kΩ	10 kΩ	10 kΩ	10 kΩ
Bakeout temperature	80 °C	80 °C	80 °C	80 °C
Pressure max.	400 kPa	750 kPa	1500 kPa	7500 kPa
Stability of sensitivity	≤ 0.2 %/year	0.2 %/year	0.2 %/year	≤ 0.2 %/year
Accuracy	2 % F.S.	2 % F.S.	2 % F.S.	2 % F.S.
Weight	120 g	120 g	120 g	120 g
Linearity and hysteresis	≤ 0.5 % F.S.	0.5 % F.S.	0.5 % F.S.	≤ 0.5 % F.S.
Measurement range max.	2200 hPa	5500 hPa	11000 hPa	55000 hPa
Measurement range min.	2 · 10 ⁻¹ hPa	0.5 hPa	1 hPa	5 hPa
Sensor cable length	50 m	50 m	50 m	50 m
Zero stability	≤ 0.5 % F.S./year	0.5 % F.S./year	0.5 % F.S./year	≤ 0.5 % F.S./year
Protection category	IP 65	IP 65	IP 65	IP 65
Temperature: Operating	10-80 °C	10-80 °C	10-80 °C	10-80 °C
Temperature: Storage	-40-+80 °C	-40-+70 °C	-40-+80 °C	-40-+80 °C
Thermal sensitivity drift	≤ 0.5 %	0.5 %	0.5 %	≤ 0.5 %
Thermal zero drift	≤ 0.5 % F.S.	0.5 % F.S.	0.5 % F.S.	≤ 0.5 % F.S.
Supply: Voltage	13-30 V DC	13-30 V DC	13-30 V DC	13-30 V DC
Supply: Power consumption max.	≤ 0.2 W	≤ 0.2 W	0.2 W	≤ 0.2 W
Volume	0.5 cm ³	0.5 cm ³	0.5 cm ³	0.5 cm ³
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel

Order number	P 5215 120 TF	P 5215 126 TF	P 5215 132 TF	P 5 215 138 TF
Piezo Gauges APR 262/265/266/267 (2 · 10 ⁻¹ - 55000 hPa)				

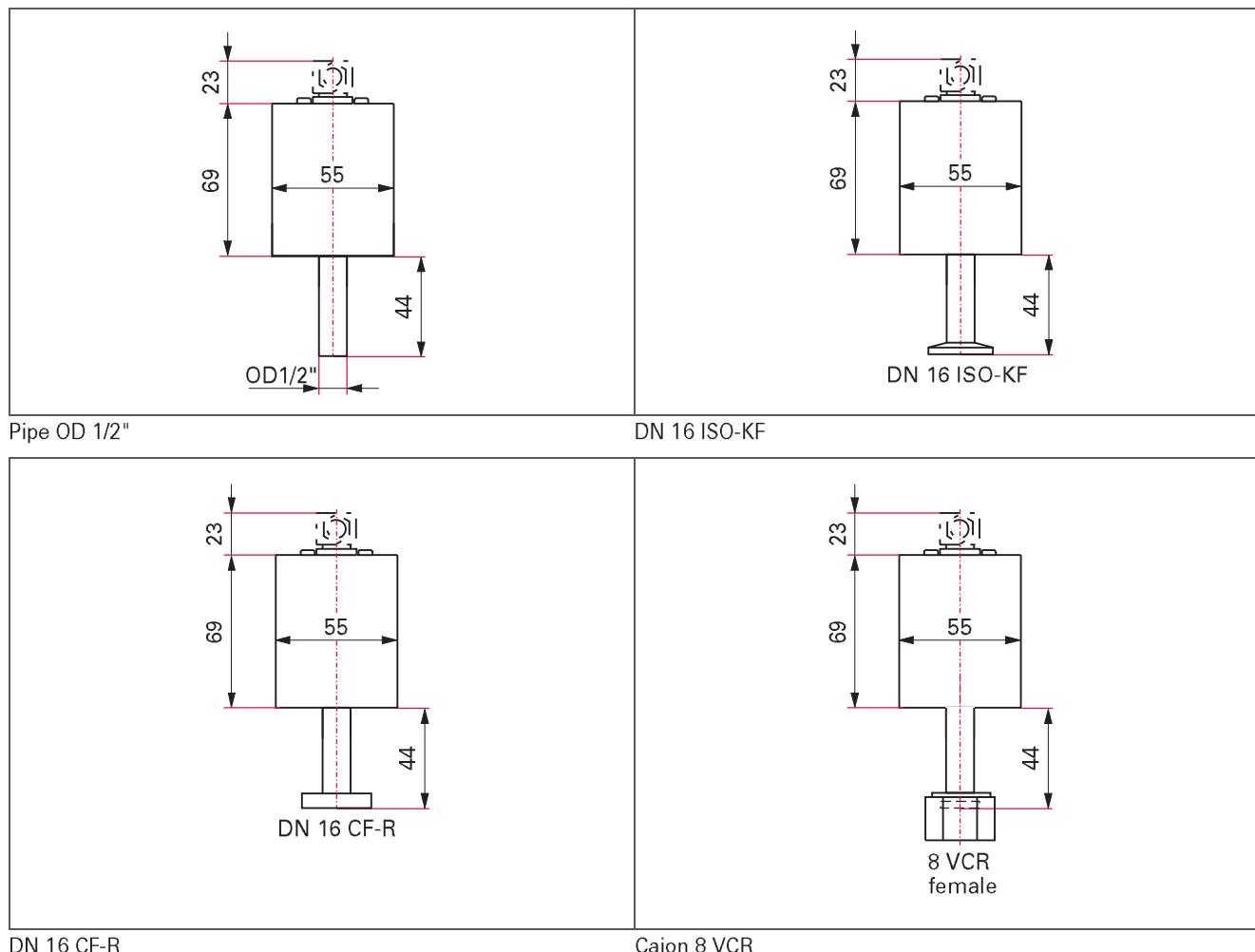
Accessories	PT 448 250 -T			
Sensor cable, 3 m				
Mating connector	B 4707 283 MA			

Capacitance transmitters CMR (1 · 10⁻⁵ - 1100 hPa) temperature compensated



- Sensor in ceramic technology
- No memory effects
- Materials employed have identical temperature coefficients
- Excellent temperature compensation
- Resistant to corrosive gases
- Excellent zero stability

Dimensions (in mm)



3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	CMR 361, 1000 hPa F.S.	CMR 362, 100 hPa F.S.	CMR 363, 10 hPa F.S.	CMR 364, 1 hPa F.S.	CMR 365, 0.1 hPa F.S.
Resolution	0.003 % F.S.				
Output signal: Sensor error above	> 9.8 V				
Output signal: Sensor error below	< 0.4 V				
Output signal: Pressure range	1 - 9.8 V				
Output signal: Minimum load	10 kΩ				
Bakeout temperature max. at the flange	≤ 110 °C				
Pressure max.	3 bar	2 bar	2 bar	2 bar	1.3 bar
Accuracy	0.2 % of reading	0.5 % of reading			
Membrane and measuring chamber	Ceramics (Al ₂ O ₃ ≤ 99,5 %)				
Measurement range max.	1100 hPa	110 hPa	11 hPa	1.1 hPa	0.11 hPa
Measurement range min.	1 · 10 ⁻¹ hPa	1 · 10 ⁻² hPa	1 · 10 ⁻³ hPa	1 · 10 ⁻⁴ hPa	1 · 10 ⁻⁵ hPa
Sensor cable length	≤ 120 m	≤ 120 m	≤ 120 m	≤ 120 m	120 m
Response time	30 ms	30 ms	30 ms	30 ms	130 ms
Pipe and flange	Stainless steel				
Protection category	IP 30				
Temperature: Operating	5-50 °C				
Temperature effect: on span	0.01 % of reading/°C	0.01 % of reading/°C	0.01 % of reading/°C	0.01 % of reading/°C	0.03 % of reading/°C
Temperature effect: on zero	0.005 % F.S./°C	0.005 % F.S./°C	0.005 % F.S./°C	0.015 % F.S./°C	0.02 % F.S./°C
Temperature: Storage	-40-+65 °C				
Supply: Voltage	14-30 V DC				
Supply: Power consumption max.	≤ 1 W	≤ 1 W	≤ 1 W	≤ 1 W	≤ 1 W
Volume	≤ 3.6 cm ³				

	CMR 361, 1000 hPa F.S.	CMR 362, 100 hPa F.S.	CMR 363, 10 hPa F.S.	CMR 364, 1 hPa F.S.	CMR 365, 0.1 hPa F.S.
Flange (in)	Pipe OD 1/2"	Pipe OD 1/2"	Pipe OD 1/2"	Pipe OD 1/2"	Pipe OD 1/2"
Weight	≤ 310 g	≤ 310 g	≤ 310 g	≤ 310 g	≤ 310 g
Order number	PT R24 600	PT R24 610	PT R24 620	PT R24 630	PT R24 640
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Weight	≤ 330 g	≤ 330 g	≤ 330 g	≤ 330 g	≤ 330 g
Order number	PT R24 601	PT R24 611	PT R24 621	PT R24 631	PT R24 641
Flange (in)	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R
Weight	≤ 350 g	≤ 350 g	≤ 350 g	≤ 350 g	≤ 350 g
Order number	PT R24 602	PT R24 612	PT R24 622	PT R24 632	PT R24 642
Flange (in)	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR
Weight	≤ 370 g	≤ 370 g	≤ 370 g	≤ 370 g	≤ 370 g
Order number	PT R24 603	PT R24 613	PT R24 623	PT R24 633	PT R24 643

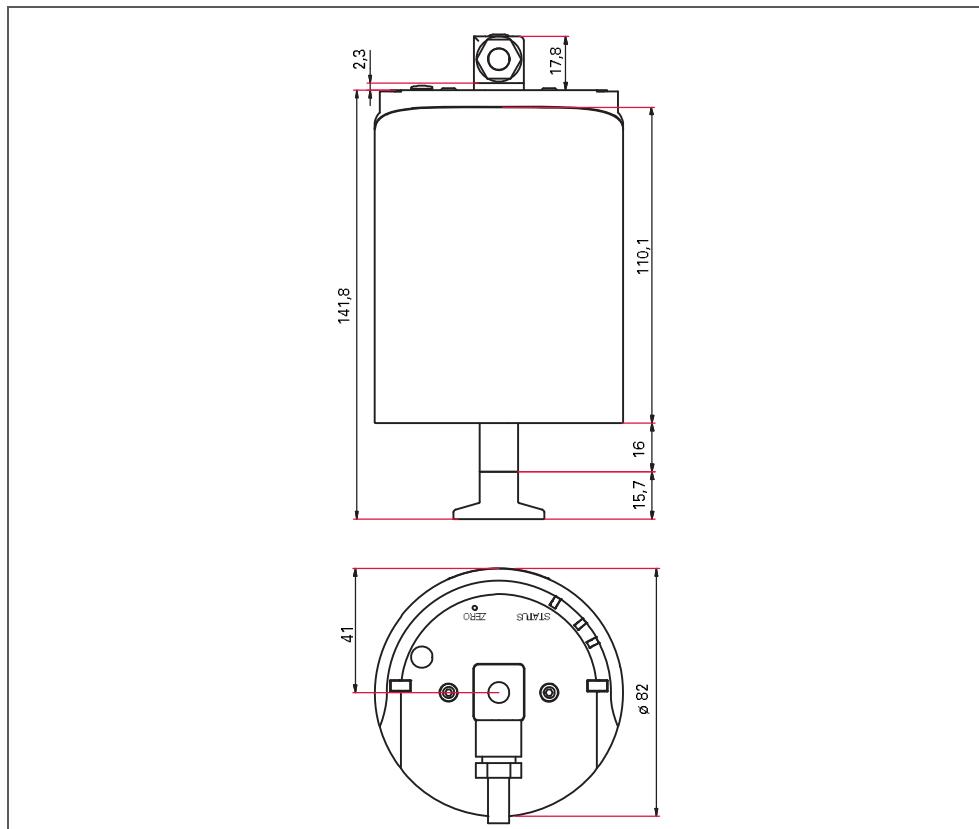
Accessories					
Sensor cable, 3 m	PT 448 250 -T				
Mating connector	B 4707 283 MA				

Capacitance transmitters CMR (1 · 10⁻⁵ - 1100 hPa) temperature regulated



- Sensor in ceramic technology
- No memory effects
- Materials employed have identical temperature coefficients
- Excellent temperature compensation
- Resistant to corrosive gases
- Excellent zero stability
- Additional protection against pollution by sensor shield

Dimensions (in mm)



3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	CMR 371, 1000 hPa F.S.	CMR 372, 100 hPa F.S.	CMR 373, 10 hPa F.S.	CMR 374, 1 hPa F.S.	CMR 375, 0.1 hPa F.S.
Resolution	0.003 % F.S.				
Output signal: Sensor error above	> 9.8 V				
Output signal: Sensor error below	< 0.4 V				
Output signal: Pressure range	1.0 - 9.8 V				
Output signal: Minimum load	> 10 kΩ				
Bakeout temperature max. at the flange	≤ 110 °C				
Pressure max.	300 kPa	2 bar	2 bar	2 bar	1,3 bar
Accuracy: % of measurement	0.15	0.15	0.15	0.15	0.15
Weight	≤ 900 g				
Membrane and measuring chamber	Ceramics (Al ₂ O ₃ ≤ 99,5 %)				
Measurement range max.	1100 hPa	110 hPa	11 hPa	1.1 hPa	0.11 hPa
Measurement range min.	1 · 10 ⁻¹ hPa	1 · 10 ⁻² hPa	1 · 10 ⁻³ hPa	1 · 10 ⁻⁴ hPa	1 · 10 ⁻⁵ hPa
Response time	30 ms	30 ms	30 ms	30 ms	130 ms
Pipe and flange	Stainless steel				
Protection category	IP 40				
Temperature: Operating	10-40 °C				
Temperature effect: on span	0.01 % of reading/°C				
Temperature effect: on zero	0.0025 % F.S./°C	0.0025 % F.S./°C	0.0025 % F.S./°C	0.0025 % F.S./°C	0.005 % F.S./°C
Temperature: Storage	-40-+65 °C				
Temperature stabilization	45 °C				
Supply: Voltage	14-30 V DC				
Supply: Power consumption max.	≤ 12 W				
Volume	≤ 4.2 cm ³				

	CMR 371, 1000 hPa F.S.	CMR 372, 100 hPa F.S.	CMR 373, 10 hPa F.S.	CMR 374, 1 hPa F.S.	CMR 375, 0.1 hPa F.S.
Flange (in)	Tube OD 1/2"	Tube AD 1/2"	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"
Order number	PT R25 100	PT R25 110	PT R25 120	PT R25 130	PT R25 140
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Order number	PT R25 101	PT R25 111	PT R25 121	PT R25 131	PT R25 141
Flange (in)	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R
Order number	PT R25 102	PT R25 112	PT R25 122	PT R25 132	PT R25 142
Flange (in)	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR
Order number	PT R25 103	PT R25 113	PT R25 123	PT R25 133	PT R25 143

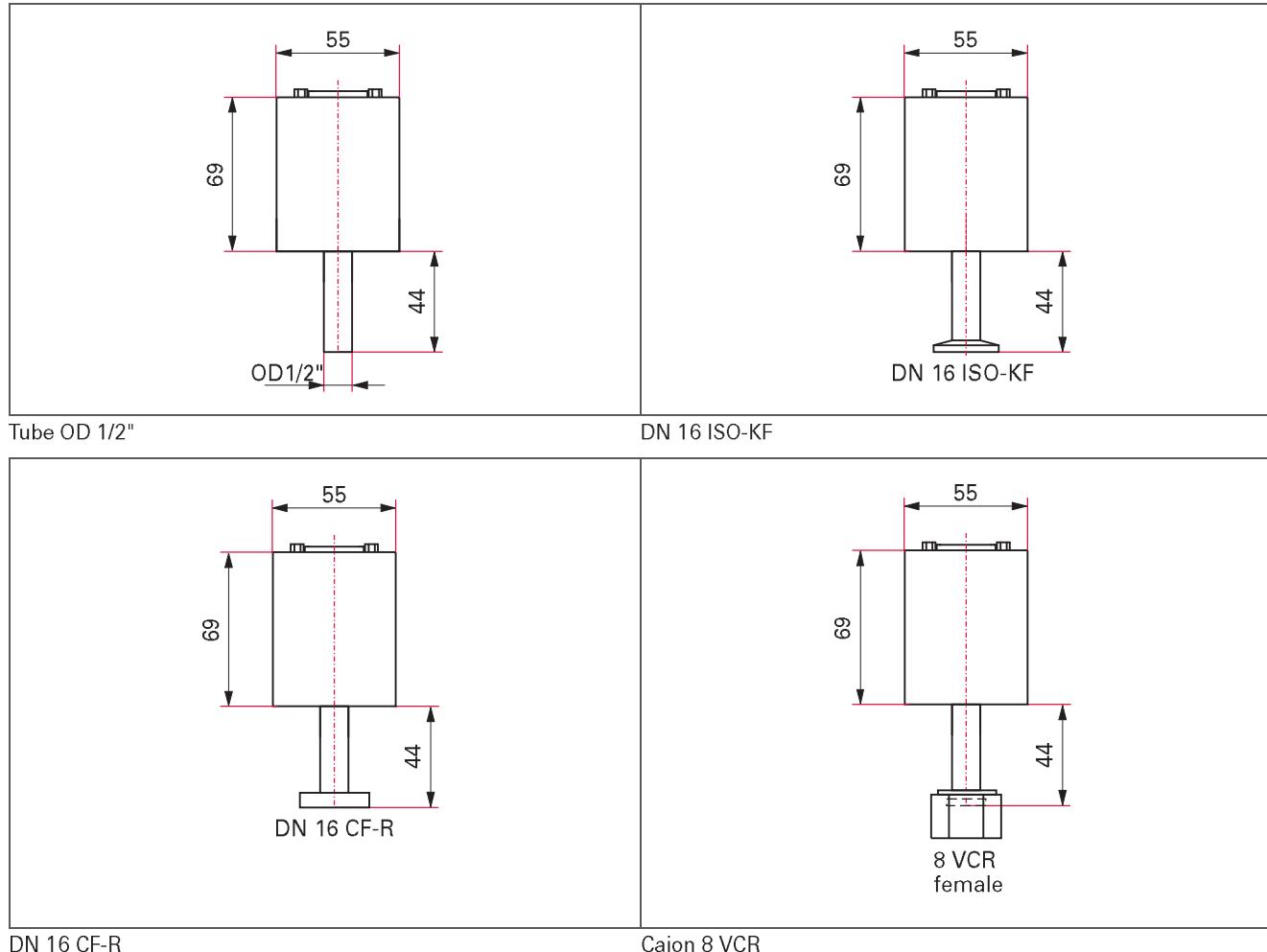
Accessories					
Sensor cable, 3 m	PT 448 250 -T				
Mating connector	B 4707 283 MA				

Capacitance transmitters CCR (1 · 10⁻⁵ - 1000 Torr) temperature compensated



- Accuracy: 0.2 % of measurement
 - Supply voltage: 14-30 V
 - Output signal: 0-10 V
 - Ceramic technology sensor
 - No memory effects
 - Excellent temperature compensation
 - Excellent zero stability
- Output signal and connector compatible with MKS Baratron.

Dimensions (in mm)



3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	CCR 361, 1000 Torr F.S.	CCR 362, 100 Torr F.S.	CCR 363, 10 hPa F.S.	CCR 364, 1 Torr F.S.	CCR 365, 0.1 Torr F.S.
Resolution	0.003 % F.S.				
Output signal: Pressure range	0-10 V				
Output signal: Minimum load	> 10 kΩ				
Bakeout temperature max. at the flange	≤ 110 °C				
Pressure max.	300 kPa	2 bar	2 bar	2 bar	130 kPa
Accuracy	0.20 % of reading	0.5 % of reading			
Weight	≤ 370 g				
Membrane and measuring chamber	Ceramics (Al ₂ O ₃ ≤ 99.5 %)				
Measurement range max.	1333 hPa	133 hPa	13.3 hPa	1.33 hPa	0.13 hPa
Measurement range min.	1.33 · 10 ⁻¹ hPa	1.33 · 10 ⁻² hPa	1.33 · 10 ⁻³ hPa	1.33 · 10 ⁻⁴ hPa	1 · 10 ⁻⁵ hPa
Sensor cable length	≤ 100 m (0.14 mm ² conductor)	100 m (0.14 mm ² conductor)	100 m (0.14 mm ² conductor)	100 m (0.14 mm ² conductor)	100 m (0.14 mm ² conductor)
Response time	30 ms	30 ms	30 ms	30 ms	130 ms
Pipe and flange	Stainless steel				
Protection category	IP 30				
Temperature: Operating	5-50 °C				
Temperature effect: on span	0.01 % of reading/°C	0.01 % of reading/°C	0.01 % of reading/°C	0.01 % of reading/°C	0.03 % of reading/°C
Temperature effect: on zero	0.0050 % F.S./°C	0.005 % F.S./°C	0.0050 % F.S./°C	0.015 % F.S./°C	0.02 % F.S./°C
Temperature: Storage	-40-+65 °C				
Supply: Voltage	14-30 V DC				
Supply: Power consumption max.	≤ 1 W	≤ 1 W	≤ 1 W	≤ 1 W	≤ 1 W
Volume	≤ 3.6 cm ³				

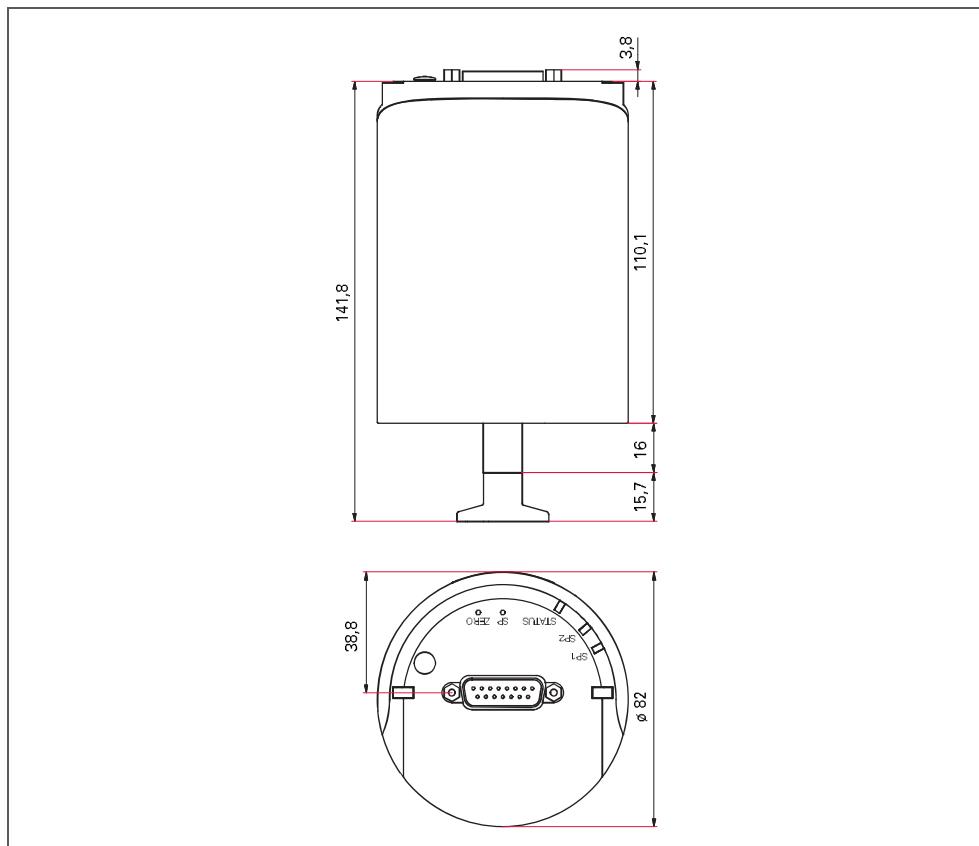
	CCR 361, 1000 Torr F.S.	CCR 362, 100 Torr F.S.	CCR 363, 10 hPa F.S.	CCR 364, 1 Torr F.S.	CCR 365, 0.1 Torr F.S.
Flange (in)	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"
Order number	PT R27 600	PT R27 610	PT R27 620	PT R27 630	PT R27 640
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO KF
Order number	PT R27 601	PT R27 611	PT R27 621	PT R27 631	PT R27 641
Flange (in)			DN 16 CF-R	DN 16 CF-R	DN 16 CF-R
Order number			PT R27 622	PT R27 632	PT R27 642
Flange (in)	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR
Order number	PT R27 603	PT R27 613	PT R27 623	PT R27 633	PT R27 643

Capacitance transmitters CCR (1 · 10⁻⁵ - 1000 Torr) temperature regulated



- Pressure measurement independent of type of gas
- Outstanding long-term and temperature stability
- Only marginal zero drift
- Corrosion-resistant ceramic technology
- Additional protection against pollution by Sensorshield
- Transmitter cannot be connected to controllers TPG 261, TPG 262 and TPG 256 A
Output signal and connector compatible with MKS Baratron.

Dimensions (in mm)



3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	CCR 371, 1000 Torr F.S.	CCR 372, 100 Torr F.S.	CCR 373, 10 Torr F.S.	CCR 374, 1 Torr F.S.	CCR 375, 0.1 Torr F.S.
Resolution	0.003 % F.S.				
Output signal: Pressure range	0-10 V				
Output signal: Minimum load	> 10 kΩ				
Bakeout temperature max. at the flange	≤ 110 °C				
Pressure max.	300 kPa	200 kPa	200 kPa	2 bar	1.3 bar
Accuracy: % of measurement	0.15	0.15	0.15	0.15	0.15
Weight	≤ 900 g				
Membrane and measuring chamber	Ceramics (Al ₂ O ₃ ≤ 99,5 %)				
Measurement range max.	1333 hPa	133 hPa	13.3 hPa	1.3 hPa	0.13 hPa
Measurement range min.	1.33 · 10 ⁻¹ hPa	1.33 · 10 ⁻² hPa	1.33 · 10 ⁻³ hPa	1.33 · 10 ⁻⁴ hPa	1.33 · 10 ⁻⁵ hPa
Response time	30 ms	30 ms	30 ms	30 ms	130 ms
Pipe and flange	Stainless steel				
Protection category	IP 40				
Temperature: Operating	10-40 °C				
Temperature effect: on span	0.01 % of reading/°C				
Temperature effect: on zero	0.0025 % F.S./°C				
Temperature: Storage	-40-+65 °C				
Supply: Voltage	14-30 V DC				
Supply: Power consumption max.	≤ 12 W				
Volume	≤ 4.2 cm ³				

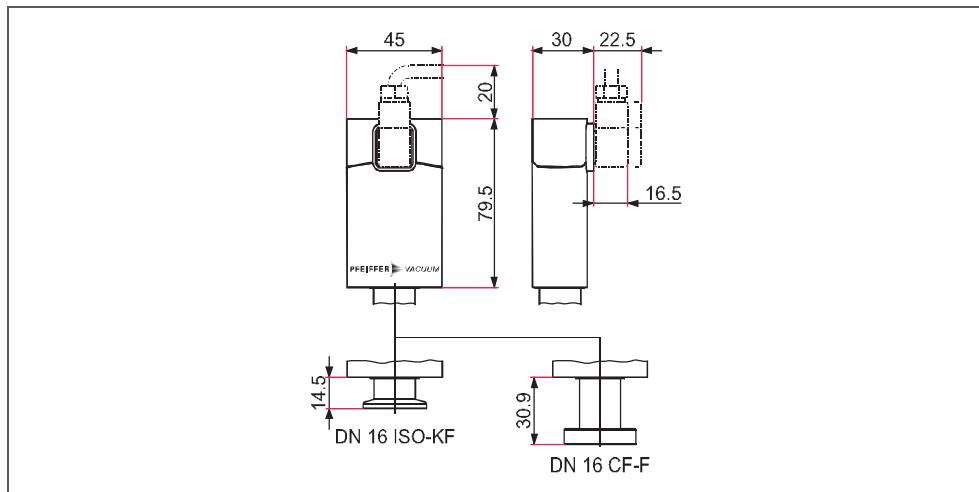
	CCR 371, 1000 Torr F.S.	CCR 372, 100 Torr F.S.	CCR 373, 10 Torr F.S.	CCR 374, 1 Torr F.S.	CCR 375, 0.1 Torr F.S.
Flange (in)	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"	Tube OD 1/2"
Order number	PT R28 100	PT R28 110	PT R28 120	PT R28 130	PT R28 140
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF	DN 16 ISO-KF
Order number	PT R28 101	PT R28 111	PT R28 121	PT R28 131	PT R28 141
Flange (in)	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R	DN 16 CF-R
Order number	PT R28 102	PT R28 112	PT R28 122	PT R28 132	PT R28 142
Flange (in)	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR	Cajon 8 VCR
Order number	PT R28 103	PT R28 113	PT R28 123	PT R28 133	PT R28 143

Pirani/Capacitance transmitters PCR (5 · 10⁻⁵ - 1500 hPa)



- Measurement range: 5 · 10⁻⁵ to 1500 hPa
- Bakeout temperature: 80 °C
- Output signal: 1,2 - 8,68 V logarithm of pressure
- Voltage supply: 15 - 30 V DC
- Metal-sealed, without plug

Dimensions (in mm)



3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	PCR 280, 80 °C, DN 16 ISO-KF	PCR 280, 80 °C, DN 16 CF-F
Flange (in)	DN 16 ISO-KF	DN 16 CF-F
Output signal: Pressure range	1.2 - 8,68 V	1.2 - 8.68 V
Output signal: Minimum load	10 kΩ	10 kΩ
Bakeout temperature	80 °C	80 °C
Seal	Metal	Metal
Pressure max.	5 bar	500 kPa
Feedthrough	Glass	Glass
Feature	Stainless steel, metal sealed	Stainless steel, metal sealed
Flange	Stainless steel	Stainless steel
Accuracy	5 · 10 ⁴ - 1 · 10 ³ hPa: ± 50 % ; 1 · 10 ⁻³ - 100 hPa: ± 15 % ; 100 - 950 hPa: ± 5 % ; 950 - 1100 hPa: ± 2,5 %	5 · 10 ⁴ - 1 · 10 ³ hPa: ± 50 % ; 1 · 10 ⁻³ - 100 hPa: ± 15 % ; 100 - 950 hPa: ± 5 % ; 950 - 1050 hPa: ± 2,5 %
Weight	120 g	120 g
Filament	Tungsten	Tungsten
Measurement range max.	1500 hPa	1500 hPa
Measurement range min.	5 · 10 ⁻⁵ hPa	5 · 10 ⁻⁵ hPa
Sensor cable length	100 m	100 m
Temperature: Operating	10-50 °C	10-50 °C
Temperature: Storage	-20-+65 °C	-20-+65 °C
Supply: Voltage	15-30 V DC	15-30 V DC
Supply: Power consumption max.	2.5 W	2.5 W
Volume	4.7 cm ³	4.7 cm ³
Repeatability: 10 ⁻³ - 1100 hPa	± 2 %	± 2 %

Order number		
Pirani/capacitance gauge PCR 280 (5 · 10 ⁻⁵ - 1500 hPa)	PT R26 855	PT R26 856

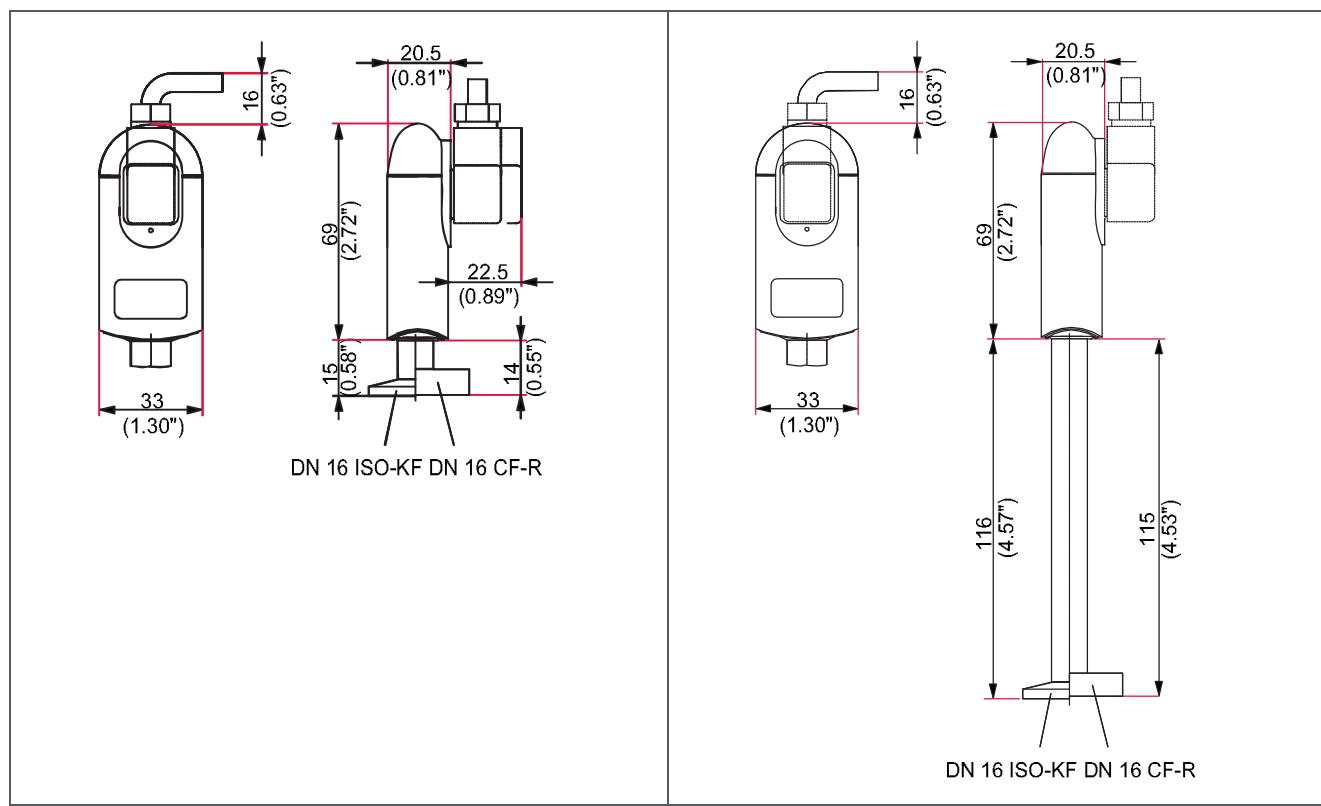
Accessories		
Centering ring with poral filter, Pore size: 20 µm, FPM/stainless steel, DN 16 ISO-KF	PF 117 216 -T	PF 117 216 -T
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T
Mating connector	B 4707 283 MA	B 4707 283 MA

Pirani transmitter TPR (5 · 10⁻⁴ - 1000 hPa)



- Flange size: DN 16 ISO-KF
- Measurement range from 5 · 10⁻⁴ to 1000 hPa
- Compact and rugged
- Fast, stable measurement
- For general vacuum applications
- Maximum pressure refers to inert gases

Dimensions (in mm)



Technical data	TPR 280, 80 °C	TPR 280, 250 °C
Resolution	1 % of reading	1 % of reading
Output signal: Sensor error below	0.5 V	0.5 V
Output signal: Pressure range	2.2 - 8.5 V	2.2 - 8.5 V
Output signal: Minimum load	10 kΩ	10 kΩ
Bakeout temperature	80 °C	250 °C
Seal	Metal	Metal
Pressure max.	1000 kPa	1000 kPa
Feedthrough	Glass	Glass
Feature	Stainless steel, metal sealed	Stainless steel, metal sealed
Flange	Stainless steel	Stainless steel
Accuracy: 10 ⁻³ - 10 ² hPa	± 15 %	± 15 %
Filament	Tungsten	Tungsten
Measurement range max.	1000 hPa	1000 hPa
Measurement range min.	5 · 10 ⁻⁴ hPa	5 · 10 ⁻⁴ hPa
Sensor cable length max.	200 m	200 m
Response time	80 ms	80 ms
Protection category	IP 40	IP40
Temperature: Operating	5-60 °C	5-60 °C
Temperature: Storage	-20-+65 °C	-20-+65 °C
Supply: Voltage	14-30 V DC	14-30 V DC
Supply: Power consumption max.	≤ 1 W	1 W
Repeatability: 10 ⁻³ - 10 ² hPa	± 2 %	± 2 %

	TPR 280, 80 °C	TPR 280, 250 °C
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF
Weight	80 g	130 g
Volume	1.5 cm ³	10 cm ³
Order number	PT R26 950	PT R26 960
Flange (in)	DN 16 CF-R	DN 16 CF-R
Weight	100 g	140 g
Volume	1.5 cm ³	10 cm ³
Order number	PT R26 951	PT R26 961
Flange (in)	1/8" NPT	
Weight	70 g	
Volume	2 cm ³	
Order number	PT R26 952	
Flange (in)	8 VCR	
Weight	130 g	
Volume	2 cm ³	
Order number	PT R26 953	

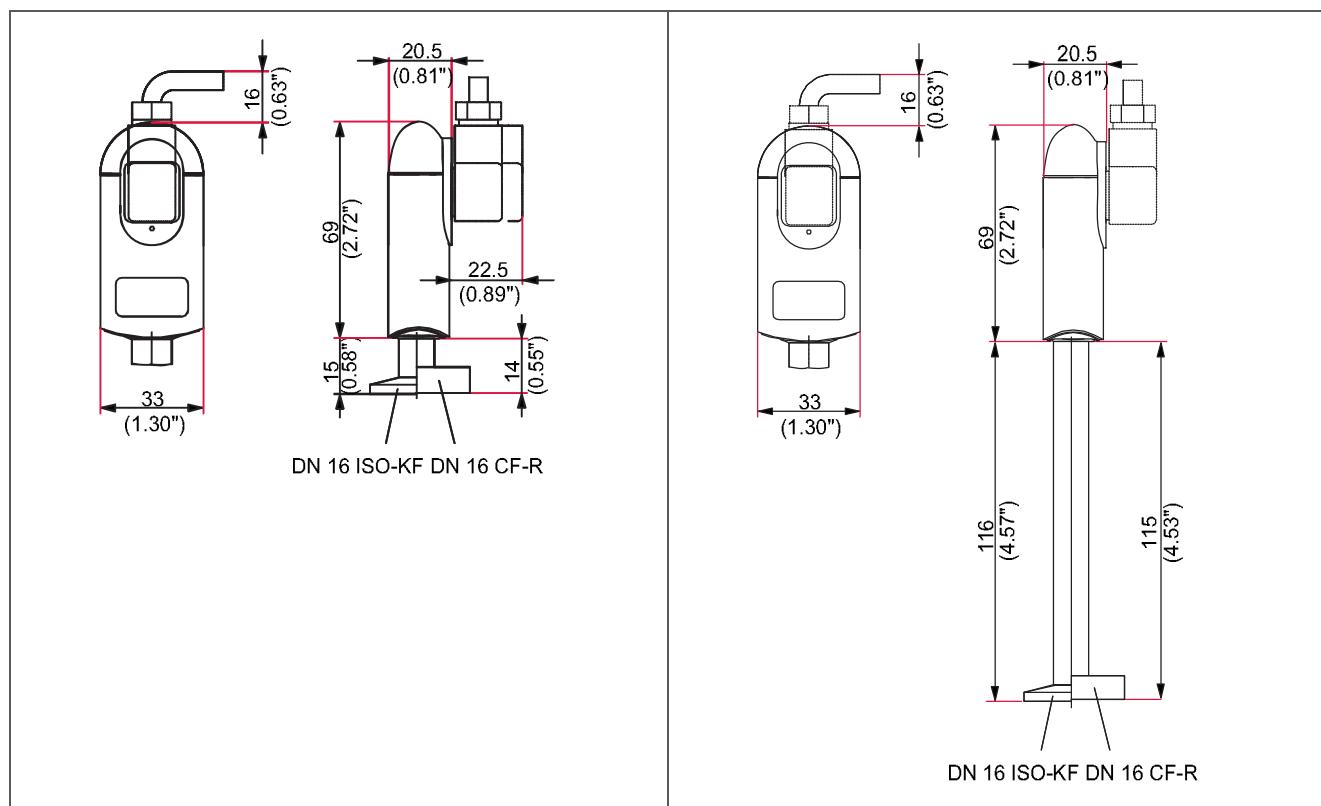
Accessories		
Centering ring with poral filter, Pore size: 20 µm, FPM/stainless steel, DN 16 ISO-KF	PF 117 216 -T	PF 117 216 -T
Mating connector	B 4707 283 MA	B 4707 283 MA
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T
Fine filter, pore size 4 µm, DN 16 ISO-KF	PT 120 132 -T	PT 120 132 -T

Pirani transmitter TPR (5 · 10⁻⁴ - 1000 hPa)



- Flange size: DN 16 ISO-KF
- Measurement range from 5 · 10⁻⁴ to 1000 hPa
- Compact and rugged
- Fast, stable measurement
- For corrosive media
- Maximum pressure refers to inert gases

Dimensions (in mm)



TPR 281, 80 °C

TPR 281, 250 °C

Technical data	TPR 281, 80 °C	TPR 281, 250 °C
Resolution	1 % of reading	1 % of reading
Output signal: Sensor error below	0.5 V	0.5 V
Output signal: Pressure range	2.2 - 8.5 V	2.2 - 8.5 V
Output signal: Minimum load	10 kΩ	10 kΩ
Bakeout temperature	80 °C	250 °C
Seal	Metal	Metal
Pressure max.	1000 kPa	1000 kPa
Feedthrough	Glass	Glass
Feature	For corrosive media	For corrosive media
Flange	Stainless steel	Stainless steel
Accuracy: 10 ⁻³ - 10 ² hPa	± 15 %	± 15 %
Filament	Nickel	Nickel
Measurement range max.	1000 hPa	1000 hPa
Measurement range min.	5 · 10 ⁻⁴ hPa	5 · 10 ⁻⁴ hPa
Sensor cable length max.	200 m	200 m
Response time	80 ms	80 ms
Protection category	IP 40	IP 40
Temperature: Operating	5-60 °C	5-60 °C
Temperature: Storage	-20-+65 °C	-20-+65 °C
Supply: Voltage	14-30 V DC	14-30 V DC
Supply: Power consumption max.	1 W	1 W
Repeatability: 10 ⁻³ - 10 ² hPa	± 2 %	± 2 %

	TPR 281, 80 °C	TPR 281, 250 °C
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF
Weight	80 g	130 g
Volume	1.3 cm ³	10 cm ³
Order number	PT R21 950	PT R21 960
Flange (in)	DN 16 CF-R	DN 16 CF-R
Weight	100 g	140 g
Volume	1.5 cm ³	10 cm ³
Order number	PT R21 951	PT R21 961

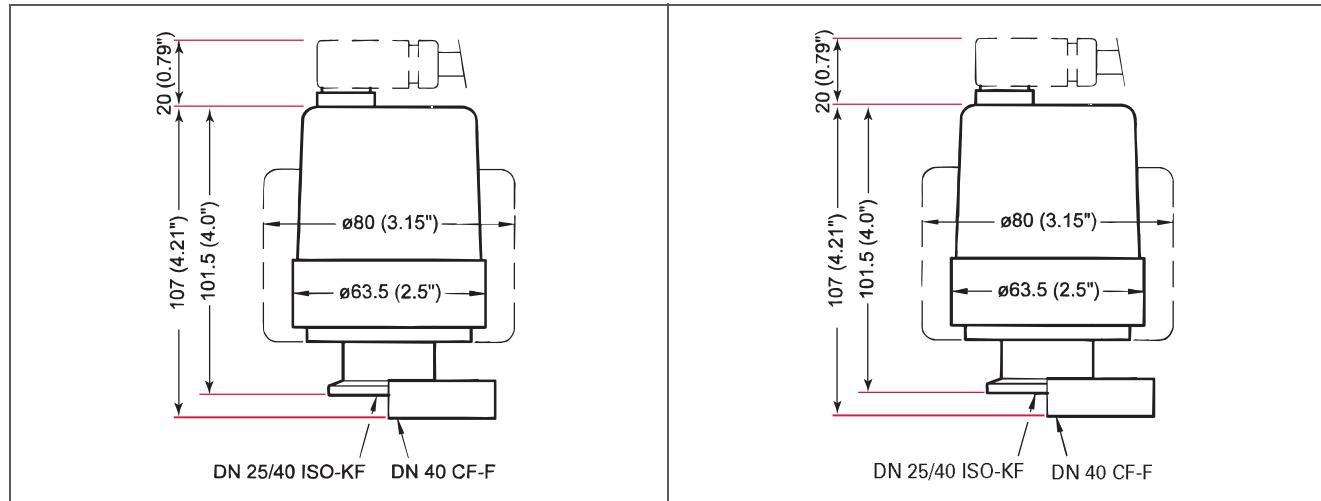
Accessories		
Centering ring with poral filter, Pore size: 20 µm, FPM/stainless steel, DN 16 ISO-KF	PF 117 216 -T	PF 117 216 -T
Mating connector	B 4707 283 MA	B 4707 283 MA
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T
Fine filter, pore size 4 µm, DN 16 ISO-KF	PT 120 132 -T	PT 120 132 -T

Cold Cathode transmitters IKR (5 · 10⁻¹¹ - 0.01 hPa)



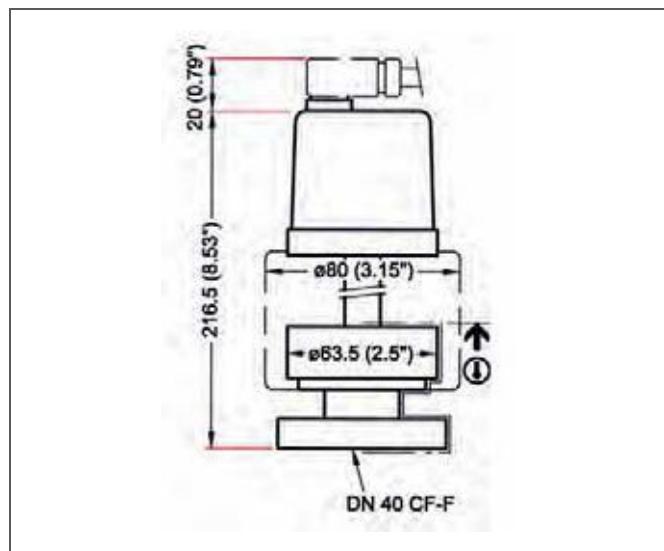
- Flange size: DN 25 ISO-KF
- Measurement range from $2 \cdot 10^{-9}$ to 0.01 hPa
- Cold cathode (inverted magnetron)
- Rugged and dependable
- Insensitive to air ingress
- Corrosion-resistant
- Maximum pressure refers to inert gases and temperatures of less than 55 °C

Dimensions (in mm)



IKR 251, FPM sealed

IKR 261, metal sealed



IKR 261, metal sealed, long case

Technical data	IKR 251, FPM sealed	IKR 261, metal sealed	IKR 261, metal sealed, long case
Anode	Molybdenum	Molybdenum	Molybdenum
Output signal: Sensor error below	0.5 V	0.5 V	0.5 V
Output signal: Pressure range	1.8 - 8.5 V	1.8 - 8.5 V	1.8 - 8.5 V
Output signal: Minimum load	10 kΩ	10 kΩ	10 kΩ
Bakeout temperature	150 °C, electronic removed	250 °C, electronic removed	250 °C
Seal	FPM	Ag	Ag
Pressure max.	1000 kPa	10 bar	10 bar
Feedthrough	Al ₂ O ₃	Al ₂ O ₃	Al ₂ O ₃
Feature	Interior FPM sealed	Metal sealed	Metal sealed
Flange	Stainless steel	Stainless steel	Stainless steel
Accuracy: 10 ⁻⁸ - 10 ⁻³ hPa	± 30 %	± 30 %	± 30 %
Measurement range max.	0.01 hPa	0.01 hPa	0.01 hPa
Measurement range min.	2 · 10 ⁻⁹ hPa	2 · 10 ⁻⁹ hPa	2 · 10 ⁻⁹ hPa
Sensor cable length	500 m	500 m	500 m
Temperature: Operating	5-55 °C	5-55 °C	5-55 °C
Temperature: Storage	-40-+65 °C	-40-+65 °C	-40-+65 °C
Supply: Voltage	15-30 V	15-30 V	15-30 V
Supply: Power consumption max.	2 W	2 W	2 W
Volume	20 cm ³	20 cm ³	20 cm ³
Repeatability: 10 ⁻⁸ - 10 ⁻³ hPa	± 5 %	± 5 %	± 5 %

	IKR 251, FPM sealed	IKR 261, metal sealed	IKR 261, metal sealed, long case
Flange (in)	DN 25 ISO-KF		
Weight	700 g		
Order number	PT R25 500		
Flange (in)	DN 40 ISO-KF	DN 40 ISO-KF	
Weight	700 g	700 g	
Order number	PT R25 501	PT R25 750	
Flange (in)	DN 40 CF-F	DN 40 CF-F	DN 40 CF-F
Weight	950 g	950 g	1200 g
Order number	PT R25 502	PT R25 751	PT R25 761

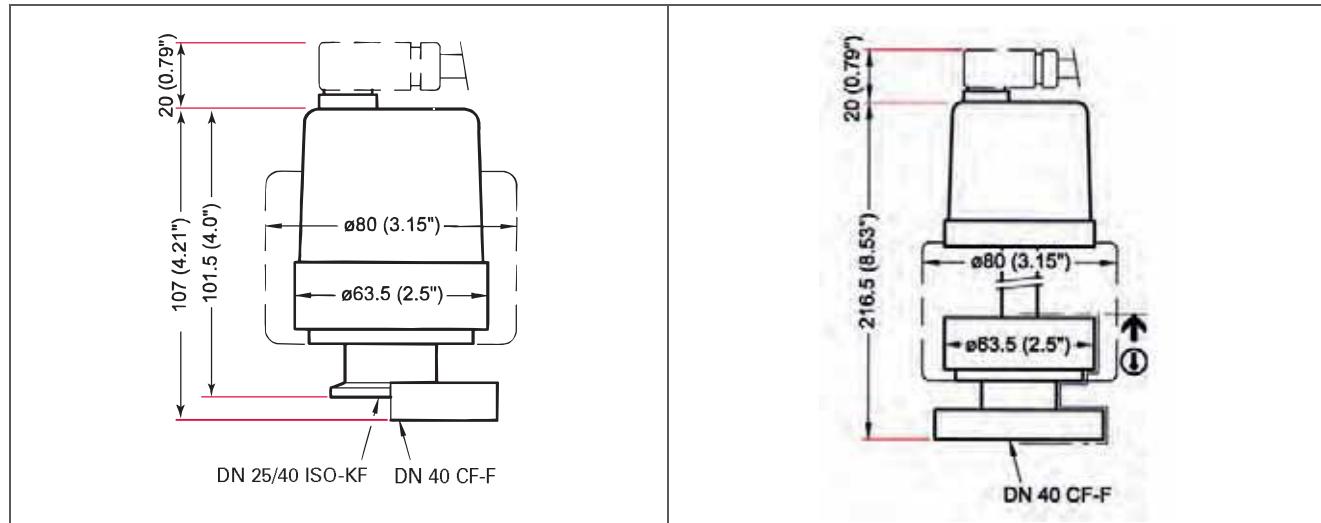
Accessories			
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T	PT 448 250 -T
Mating connector	B 4707 283 MA	B 4707 283 MA	B 4707 283 MA

Cold Cathode transmitters IKR (5 · 10⁻¹¹ - 0.01 hPa)



- Flange size: DN 40 CF-F
- Measurement range from 5 · 10⁻¹¹ to 0.01 hPa
- Cold cathode (inverted magnetron)
- Rugged and dependable
- Insensitive to air ingress
- Corrosion-resistant
- Maximum pressure refers to inert gases and temperatures of less than 55 °C

Dimensions (in mm)



IKR 270, metal sealed

IKR 270, metal sealed, long case

Technical data	IKR 270, metal sealed, DN 40 CF-F	IKR 270, metal sealed, long case, DN 40 CF-F
Anode	Molybdenum	Molybdenum
Flange (in)	DN 40 CF-F	DN 40 CF-F
Output signal: Sensor error below	0.5 V	0.5 V
Output signal: Pressure range	1.8 - 8.5 V	1.8 - 8.5 V
Output signal: Minimum load	10 kΩ	10 kΩ
Bakeout temperature	250 °C, electronic removed	250 °C
Seal	Ag	Ag
Pressure max.	1000 kPa	1000 kPa
Feedthrough	Al ₂ O ₃	Al ₂ O ₃
Feature	Metal sealed	Metal sealed
Flange	Stainless steel	Stainless steel
Accuracy: 10 ⁻⁹ - 10 ⁻³ hPa	± 30 %	± 30 %
Weight	950 g	1200 g
Cable length	500 m	500 m
Measurement range max.	0.01 hPa	0.01 hPa
Measurement range min.	5 · 10 ⁻¹¹ hPa	5 · 10 ⁻¹¹ hPa
Temperature: Operating	5-55 °C	5-55 °C, in the bakeout range
Temperature: Storage	-40-+65 °C	-40-+65 °C
Supply: Voltage	15-30 V	15-30 V
Supply: Power consumption max.	2 W	2 W
Volume	20 cm ³	20 cm ³
Repeatability: 10 ⁻⁹ - 10 ⁻³ hPa	± 5 %	± 5 %

Order number		
Cold Cathode Gauges IKR 270 (5 · 10 ⁻¹¹ - 0,01 hPa)	PT R21 251	PT R21 261

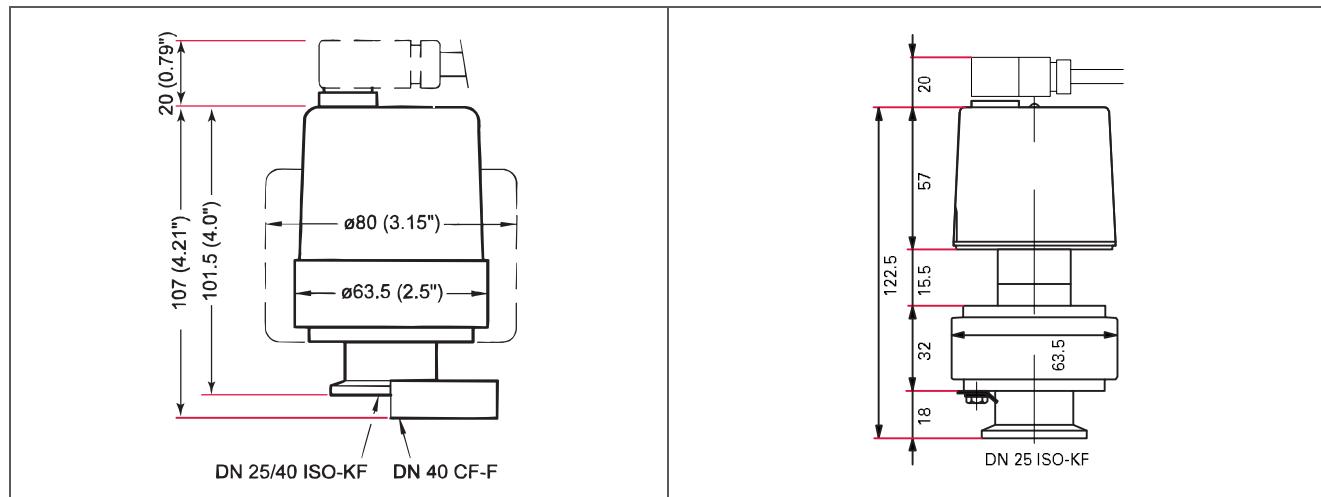
Accessories		
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T
Mating connector	B 4707 283 MA	B 4707 283 MA

Pirani/Cold Cathode transmitters PKR (5 · 10⁻⁹ - 1000 hPa)



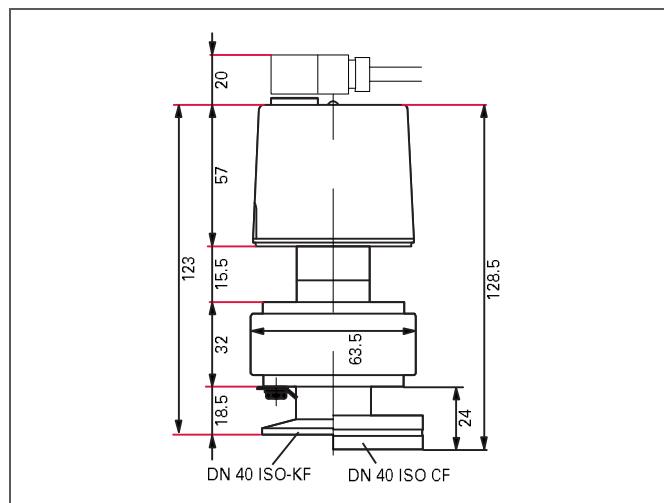
- Measurement range from 5 · 10⁻⁹ to 1000 hPa
- Two gauge heads (Pirani and cold cathode) in a single case (inverted magnetron)
- A single flange from atmospheric pressure to UHV
- Corrosion-resistant
- Maximum pressure refers to inert gases and temperatures of less than 55 °C

Dimensions (in mm)



PKR 251, FPM sealed

PKR 261, metal sealed



PKR 261, metal sealed

3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	PKR 251, FPM sealed	PKR 261, metal sealed
Anode	Molybdenum	Molybdenum
Output signal: Sensor error above	9.5 V	9.5 V
Output signal: Sensor error below	0.5 V	0.5 V
Output signal: Pressure range	1.8 - 8.6 V	1.8 - 8.6 V
Output signal: Minimum load	10 kΩ	10 kΩ
Bakeout temperature	150 °C, electronic removed	150 °C, electronic removed
Seal	FPM	Ag, Cu
Pressure max.	1000 kPa	1000 kPa
Feedthrough	Al ₂ O ₃ , Glass	Al ₂ O ₃ , Glas
Feature	Interior FPM sealed	Metal sealed
Flange	Stainless steel	Stainless steel
Accuracy: 10 ⁻⁸ - 10 ² hPa	± 30 %	± 30 %
Filament	Tungsten	Tungsten
Measurement range max.	1000 hPa	1000 hPa
Measurement range min.	5 · 10 ⁻⁹ hPa	5 · 10 ⁻⁹ hPa
Sensor cable length	300 m	300 m
Temperature: Operating	5-55 °C	5-55 °C, up to 150 °C on flange (horizontal installation)
Temperature: Storage	-40-+65 °C	-40-+65 °C
Supply: Voltage	15-30 V DC	15-30 V DC
Supply: Power consumption max.	2 W	2 W
Volume	20 cm ³	20 cm ³
Repeatability: 10 ⁻⁸ - 10 ² hPa	± 5 %	± 5 %

	PKR 251, FPM sealed	PKR 261, metal sealed
Flange (in)	DN 25 ISO-KF	DN 25 ISO-KF
Weight	700 g	700 g
Order number	PT R26 000	PT R26 250
Flange (in)	DN 40 ISO-KF	DN 40 ISO-KF
Weight	700 g	750 g
Order number	PT R26 001	PT R26 251
Flange (in)	DN 40 CF-F	DN 40 CF-F
Weight	950 g	995 g
Order number	PT R26 002	PT R26 252

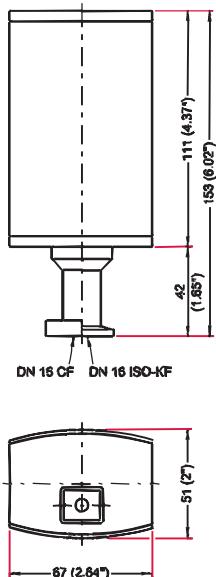
Accessories		
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T
Mating connector	B 4707 283 MA	B 4707 283 MA

Hot Cathode transmitters IMR (2 · 10⁻⁶ - 1000 hPa)

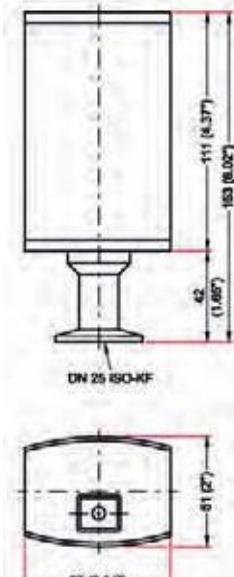


- Measurement range from 2 · 10⁻⁶ to 1000 hPa
- Two gauge heads (Pirani and hot cathode) in a single case
- Highly accurate
- Excellent reproducibility
- Automatic cathode protection
- A single flange from atmosphere to UHV
- Corrosion-resistant
- Maximum pressure refers to inert gases and temperatures of less than 55 °C

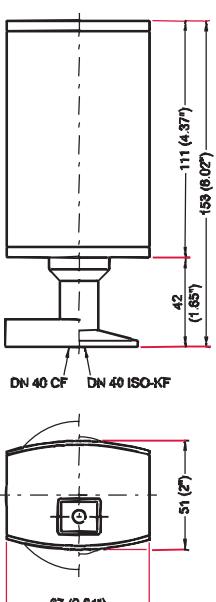
Dimensions (in mm)



IMR 265, DN 16 CF-F



IMR 265, DN 25 ISO-KF



IMR 265, DN 40 CF-F

Technical data	IMR 265, High Pressure Hot Cathode
Output signal: Sensor error	0.5 V
Output signal: Pressure range Ioni	1.5 - 7.5 V
Output signal: Pressure range Pirani	8.5 - 9.75 V
Output signal: Minimum load	10 kΩ
Bakeout temperature	150 °C, electronic removed
Pressure max.	500 kPa
Electron collector	Stainless steel
Flange	Stainless steel
Accuracy: % of measurement	10 ⁻⁵ - 1 hPa: ± 15 %
Filament holder	Molybdenum, Platinum
Ion collector	Stainless steel
Isolator	Glass
Filament	Iridium yttriated
Measurement range max.	1000 hPa
Measurement range min.	2 · 10 ⁻⁶ hPa
Sensor cable length	100 m
Pirani measurement element	Copper, Tungsten
Temperature: Operating	0-50 °C
Temperature: Storage	-20-+70 °C
Supply: Voltage	20-30 V DC
Supply: Power consumption max.	16 W
Volume	20 cm ³
Repeatability: 10 ⁻¹ - 10 ² hPa	30 % reading
Repeatability: 10 ⁻⁵ - 10 ⁻¹ hPa	2 % reading

	IMR 265, High Pressure Hot Cathode
Flange (in)	DN 16 ISO-KF
Weight	270 g
Order number	PT R26 504
Flange (in)	DN 25 ISO-KF
Weight	285 g
Order number	PT R26 500
Flange (in)	DN 40 ISO-KF
Weight	315 g
Order number	PT R26 501
Flange (in)	DN 16 CF-F
Weight	400 g
Order number	PT R26 502
Flange (in)	DN 40 CF-F
Weight	550 g
Order number	PT R26 503

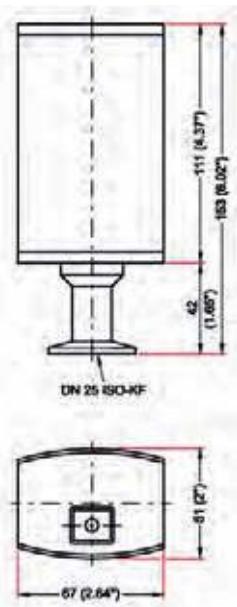
Accessories	
Sensor cable, 3 m	PT 448 250 -T
Mating connector	B 4707 283 MA

Pirani/Bayard-Alpert transmitters PBR (5 · 10⁻¹⁰ - 1000 hPa)

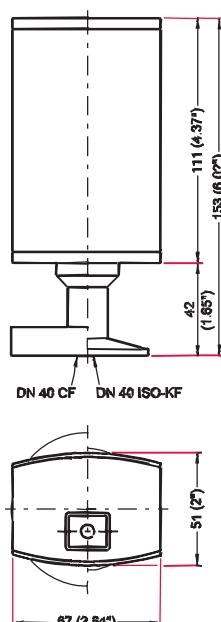


- Measurement range from 5 · 10⁻¹⁰ to 1000 hPa
- Two gauge heads (Pirani and BA hot cathode) in a single case
- Bayard-Alpert sensor ON/OFF automatically controlled by Pirani sensor
- Highly accurate
- A single flange from atmosphere to UHV
- Corrosion-resistant
- Maximum pressure refers to inert gases and temperatures of less than 55 °C

Dimensions (in mm)



PBR 260, DN 25 ISO-KF



PBR 260, DN 40 CF-R

3.2 Vacuum measurement, analysis, leak detection / Measurement / ActiveLine / ActiveLine transmitters

Technical data	PBR 260, Pirani/Bayard- Alpert, DN 25 ISO-KF	PBR 260, Pirani/Bayard- Alpert, DN 40 ISO-KF	PBR 260, Pirani/Bayard- Alpert, DN 40 CF-R
Flange (in)	DN 25 ISO-KF	DN 40 ISO-KF	DN 40 CF-R
Output signal: Sensor error below	0.5 V	0.5 V	0.5 V
Output signal: Pressure range	0.774 - 10 V	0.774 - 10 V	0.774 - 10 V
Output signal: Minimum load	10 kΩ	10 kΩ	10 kΩ
Bakeout temperature	150 °C, electronic removed	150 °C, electronic removed	150 °C, electronic removed
Pressure max.	200 kPa	200 kPa	200 kPa
Flange	Stainless steel	Stainless steel	Stainless steel
Accuracy: 10^{-8} - 10^{-2} hPa	15 % reading	15 % reading	15 % reading
Weight	285 g	315 g	550 g
Filament	Tungsten	Tungsten	Tungsten
Filament	Iridium yttriated	Iridium yttriated	Iridium yttriated
Materials in contact with media	Cu, W, glass, NiFe, Mo, Stainless Steel, NiCr	Cu, W, glass, NiFe, Mo, Stainless steel, NiCr	Cu, W, glass, NiFe, Mo, Stainless steel, NiCr
Measurement range max.	1000 hPa	1000 hPa	1000 hPa
Measurement range min.	$5 \cdot 10^{-10}$ hPa	$5 \cdot 10^{-10}$ hPa	$5 \cdot 10^{-10}$ hPa
Sensor cable length	100 m	100 m	100 m
Temperature: Operating	0-50 °C	0-50 °C	0-50 °C
Temperature: Storage	-20-+70 °C	-20-+70 °C	-20-+70 °C
Supply: Voltage	20-28 V DC	20-28 V DC	20-28 V DC
Supply: Power consumption max.	16 W	16 W	16 W
Volume	24 cm ³	24 cm ³	25 cm ³
Repeatability: 10^{-8} - 10^{-2} hPa	5 % reading	5 % reading	5 % reading

Order number			
Pirani/Bayard-Alpert Gauge PBR 260, ($5 \cdot 10^{-10}$ - 1000 hPa)	PT R27 000	PT R27 001	PT R27 002

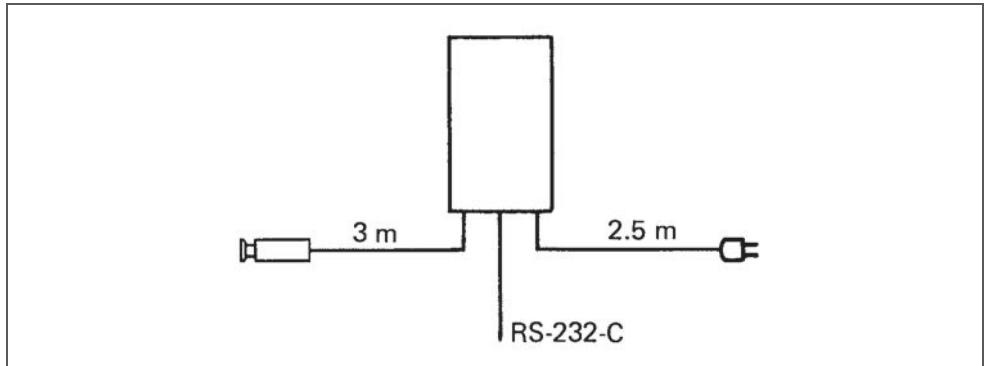
Accessories			
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T	PT 448 250 -T
Mating connector	B 4707 283 MA	B 4707 283 MA	B 4707 283 MA

SingleGauge measurement equipment TPG 261



- SingleGauge measurement unit TPG 261
- Length: 3 m

Dimensions (in mm)



Technical data	SingleGauge measurement equipment TPG 261, 1 TPR 280, 3 m cable	SingleGauge measurement equipment TPG 261, 1 IKR 251, 3 m cable	SingleGauge measurement equipment TPG 261, 1 PKR 251, 3 m cable
Flange (in)	DN 16 ISO-KF	DN 25 ISO-KF	DN 25 ISO-KF
Connections for transmitter	1	1	1
Measurement range max.	1000 hPa	0.01 hPa	1000 hPa
Measurement range min.	$5 \cdot 10^4$ hPa	$2 \cdot 10^9$ hPa	$5 \cdot 10^9$ hPa
Gauge head	1 TPR 280	1 IKR 251	1 PKR 251
Mains requirement: voltage (range)	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz
Interface	RS-232-C	RS-232-C	RS-232-C

Order number			
SingleGauge measurement equipment TPG 261	PT 441 930-T	PT 441 933-T	PT 441 935 -T

Accessories			
Centering ring with poral filter, Pore size: 20 µm, FPM/stainless steel, DN 16 ISO-KF	PF 117 216 -T		

Technical data	SingleGauge measurement equipment TPG 261, 1 PKR 251, 3 m cable	SingleGauge measurement equipment TPG 261, 1 PKR 251, 3 m cable	SingleGauge measurement equipment TPG 261, 1 PBR 260, 3 m cable
Flange (in)	DN 40 ISO-KF	DN 40 CF-F	DN 25 ISO-KF
Connections for transmitter	1	1	1
Measurement range max.	1000 hPa	1000 hPa	1000 hPa
Measurement range min.	$5 \cdot 10^9$ hPa	$5 \cdot 10^9$ hPa	$5 \cdot 10^{10}$ hPa
Gauge head	1 PKR 251	1 PKR 251	1 PBR 260
Mains requirement: voltage (range)	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz
Interface	RS-232-C	RS-232-C	RS-232-C

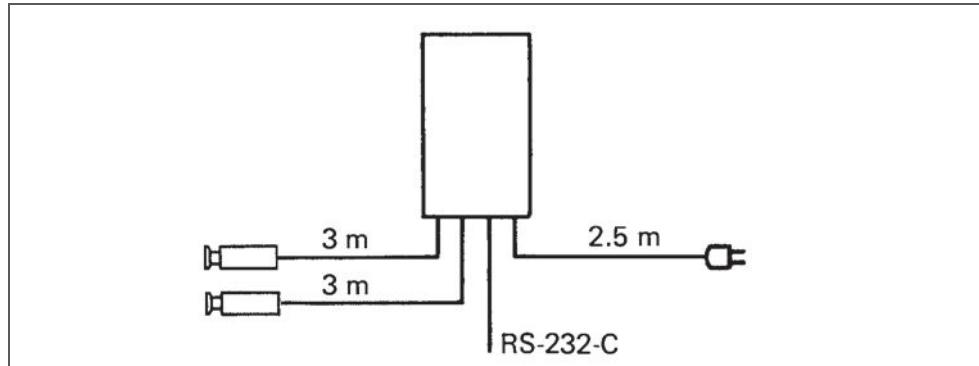
Order number			
SingleGauge measurement equipment TPG 261	PT 441 936 -T	PT 441 937 -T	PT 441 938 -T

DualGauge measurement equipment TPG 262

- DualGauge measurement unit TPG 262
- Length: 3 m



Dimensions (in mm)



Technical data	DualGauge measurement equipment TPG 262, 2 TPR 280, 3 m cable	DualGauge measurement equipment TPG 262, 1 TPR 280, 1 IKR 251, 3 m cable	DualGauge measurement equipment TPG 262, 2 PKR 251, 3 m cable	DualGauge measurement equipment TPG 262, 1 TPR 280, 1 PKR 251, 3 m cable
Flange (in)	DN 16 ISO-KF	DN 16 ISO-KF/ DN 25 ISO-KF	DN 25 ISO-KF	DN 16 ISO-KF/ DN 25 ISO-KF
Connections for transmitter	2	2	2	2
Measurement range max.	1000 hPa	1000 hPa	1000 hPa	1000 hPa
Measurement range min.	$5 \cdot 10^{-4}$ hPa	$2 \cdot 10^{-9}$ hPa	$5 \cdot 10^{-9}$ hPa	$5 \cdot 10^{-9}$ hPa
Gauge head	2 TPR 280	1 TPR 280, 1 IKR 251	2 PKR 251	1 TPR 280, 1 PKR 251
Mains requirement: voltage (range)	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz	90-250 V, 50/60 Hz
Interface	RS-232-C	RS-232-C	RS-232-C	RS-232-C

Order number				
DualGauge measurement equipment TPG 262	PT 441 940-T	PT 441 943-T	PT 441 945-T	PT 441 948-T

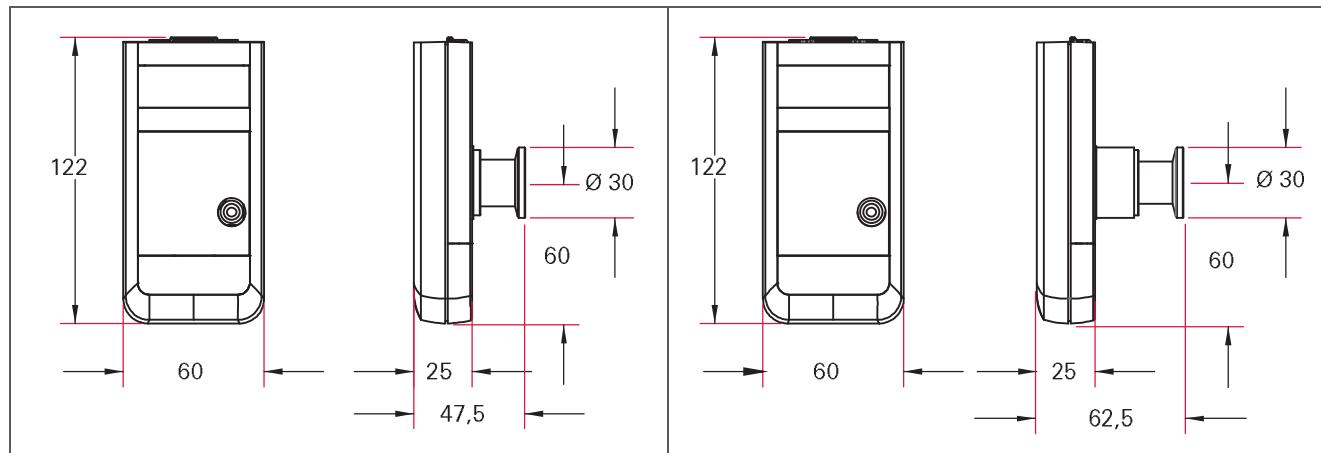
Accessories				
Centering ring with poral filter, Pore size: 20 µm, FPM/stainless steel, DN 16 ISO-KF	PF 117 216 -T	PF 117 216 -T		PF 117 216 -T

TPG 201, Pirani Handheld Vacuum Gauge TPG 202, Piezo/Pirani Handheld Vacuum Gauge



- Battery-operated manual measurement unit
- Measurement range from $5 \cdot 10^{-4}$ to 1000 hPa
- Data logging function
- Data readout by PC
- Scope of delivery: Battery not included

Dimensions (in mm)



TPG 201, Pirani manual measurement unit

TPG 202, Pirani manual measurement unit

Technical data	TPG 201, Pirani manual measurement unit	TPG 202, Pirani manual measurement unit
Connection: Vacuum side	DN 16 ISO-KF	DN 16 ISO-KF
Battery type	9 V AlMn E bloc, 6 LR6 ; 9 V Lithium E bloc	9 V AlMn E bloc, 6 LR6 ; 9 V Lithium E bloc
Seal	Metal	Metal
Pressure max.	400 kPa	200 kPa
Accuracy 10 - 100 hPa: % of measurement	approx. 30	
Accuracy 10^2 - 10 hPa: % of measurement	approx. 10	
Accuracy		1200 - 1000 hPa: 0,3 % Full Scale ; $10^2 \cdot 10^3$ of reading ; $\leq 2 \cdot 10^{-3}$ hPa : \leq factor 2 of reading
Weight	0.195 kg	0.230 (battery included) kg
Materials in contact with media	Nickel, stainless steel, tungsten, glass- feedthroughs	Stainless steel, gold, nickel, tungsten, glass, FPM
Measurement range max.	1000 hPa	1200 hPa
Measurement range min.	$5 \cdot 10^{-4}$ hPa	$5 \cdot 10^{-4}$ hPa
Method of measurement	Pirani	Piezo and Pirani
Protection category	IP 40	IP 40
Temperature: Operating	5-40 °C	+5-+50 °C

Order number		
TPG 201, Pirani Handheld Vacuum Gauge	PT G28 201	PT G28 202

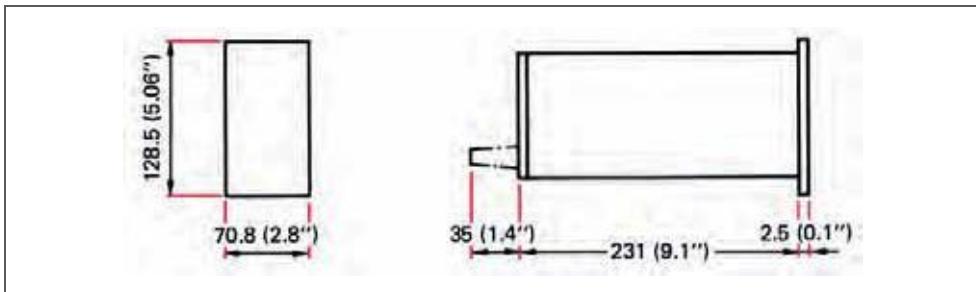
Accessories		
Accessories kit with AC adapter, battery, USB cable, DocuStar software	PT 350 102 -T	PT 350 102 -T

TPG 261, controller for 1 gauge



- For operation of one ActiveLine transmitter
- Simple to operate
- Easy readable display

Dimensions (in mm)



Technical data	TPG 261, controller for 1 transmitter
Connections for transmitter	1
Display rate	10 1/s
Error signal: Working contact, potential-free	1 piece
Error signal: Switching voltage max.	60 V DC
Filter time constant	1.2/0.4/0.02 s
Weight	1.1 kg
Measurement range max.	55000 hPa
Measurement range min.	$5 \cdot 10^{11}$ hPa
Measurement rate	50 1/s
Mains requirement: frequency (range)	50/60 Hz
Mains requirement: power consumption	45 VA
Mains requirement: voltage (range)	90-250 V
Set point: Voltage max.	60 V DC
Set point: Current max.	1 A
Set point: Changeover contact, potential-free	2 pieces
Interface	RS-232-C
Protection category	IP 30
Safety	EN61010-1 / EN 50081-1 / EN50082-2 / IEC1010
Signal output: Measuring value, analog	0-10 V
Temperature: Operating	5-50 °C
Temperature: Storage	-20-+65 °C

Order number	
TPG 261, controller for 1 gauge	PT G28 030

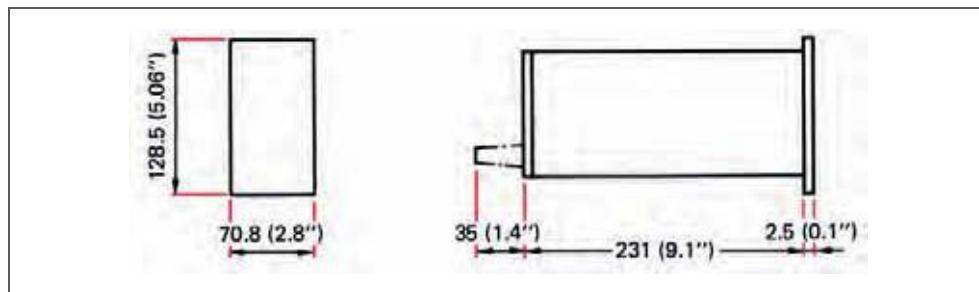
Accessories	
Sensor cable, 1 m	PT 448 248 -T
Sensor cable, 3 m	PT 448 250 -T
Sensor cable, 6 m	PT 448 251 -T
Sensor cable, 10 m	PT 448 252 -T
Sensor cable, 15 m	PT 448 253 -T
Sensor cable, 20 m	PT 448 254 -T
Sensor cable, 25 m	PT 448 255 -T
Sensor cable, 30 m	PT 448 256 -T
Sensor cable, 35 m	PT 448 257 -T
Sensor cable, 40 m	PT 448 258 -T
Sensor cable, 45 m	PT 448 259 -T
Sensor cable, 50 m	PT 448 260 -T

TPG 262, controller for 2 gauges

- For operation of two ActiveLine transmitters
- Simple to operate
- Easy readable display



Dimensions (in mm)



Technical data	TPG 262 controller for 2 transmitter
Connections for transmitter	2
Display rate	10 1/s
Automatic changeover: Pirani-cold cathode	$6 \cdot 10^{-3}$ hPa
Error signal: Working contact, potential-free	1 piece
Filter time constant	1.2/0.4/0.02 s
Weight	1.1 kg
Measurement range max.	55000 hPa
Measurement range min.	$5 \cdot 10^{-11}$ hPa
Measurement rate	50 1/s
Mains requirement: frequency (range)	50/60 Hz
Mains requirement: power consumption	45 VA
Mains requirement: voltage (range)	90-250 V
Set point: Voltage max.	60 V DC
Set point: Current max.	1 A
Set point: Changeover contact, potential-free	4 pieces
Interface	RS-232-C
Protection category	IP 30
Safety	EN61010-1 / EN 50081-1 / EN50082-2 / IEC1010
Signal output: Measuring value, analog	0-10 V
Temperature: Operating	5-50 °C
Temperature: Storage	-20-+65 °C

Order number	
TPG 262, controller for 2 gauges	PT G28 280

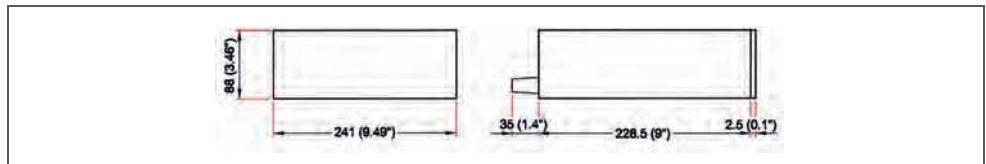
Accessories	
Sensor cable, 1 m	PT 448 248 -T
Sensor cable, 3 m	PT 448 250 -T
Sensor cable, 6 m	PT 448 251 -T
Sensor cable, 10 m	PT 448 252 -T
Sensor cable, 15 m	PT 448 253 -T
Sensor cable, 20 m	PT 448 254 -T
Sensor cable, 25 m	PT 448 255 -T
Sensor cable, 30 m	PT 448 256 -T
Sensor cable, 35 m	PT 448 257 -T
Sensor cable, 40 m	PT 448 258 -T
Sensor cable, 45 m	PT 448 259 -T
Sensor cable, 50 m	PT 448 260 -T

TPG 256 A, controller for 6 gauges

■ For operating 6 ActiveLine transmitters



Dimensions (in mm)

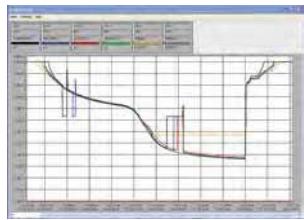


Technical data	TPG 256 A MaxiGauge controller, seriell interface	TPG 256 A MaxiGauge controller, seriell interface isolated
Connections for transmitter	6 (max. 3 IMR 265 / PBR 260 / CMR 27x)	6 (max. 3 IMR 265 / PBR 260 / CMR 27x)
Display rate	4 1/s	4.0 1/s
Error signal: Working contact, potential-free	1 piece	1 piece
Error signal: Switching voltage max.	60 V DC	60 V DC
Error signal: Switching current max.	3 A	3 A
Filter time constant	2.1/0.32/0.1 s	2.1/0.32/0.1 s
Weight	2.1 kg	2.1 kg
Measurement range max.	55000 hPa	55000 hPa
Measurement range min.	5 · 10 ⁻¹¹ hPa	5 · 10 ⁻¹¹ hPa
Measurement rate	100 1/s	100 1/s
Mains requirement: frequency (range)	50-60 Hz	50-60 Hz
Mains requirement: power consumption	60 VA	60 VA
Mains requirement: voltage (range)	90-250 V	90-250 V
Set point: Voltage max.	60 V DC	60 V DC
Set point: Current max.	3 A	3 A
Set point: Changeover contact, potential-free	6 pieces	6,0 pieces
Switching voltage	240 V with RI 256	240 V with RI 256
Interface	RS-232-C, RS-422	RS-232-C, RS-422, RS-422 isolated, RS-485 isolated
Protection category	IP 30	IP 30
Safety	EN61010-1 / IEC 1010, EN60950, EN 50081-1 / EN50082-1	EN61010-1 / IEC 1010, EN60950, EN 50081-1&2
Signal output: Output resistance	660 Ω	660 Ω
Signal output: Measuring value, analog	0-10 V DC	0-10 V DC
Temperature: Operating	5-40 °C	5-40 °C
Temperature: Storage	-20-+60 °C	-20-+60 °C

Order number		
TPG 256 A, controller for 6 gauges	PT G28 760	PT G28 761

Accessories		
Sensor cable, 1 m	PT 448 248 -T	PT 448 248 -T
Sensor cable, 3 m	PT 448 250 -T	PT 448 250 -T
Sensor cable, 6 m	PT 448 251 -T	PT 448 251 -T
Sensor cable, 10 m	PT 448 252 -T	PT 448 252 -T
Sensor cable, 15 m	PT 448 253 -T	PT 448 253 -T
Sensor cable, 20 m	PT 448 254 -T	PT 448 254 -T
Sensor cable, 25 m	PT 448 255 -T	PT 448 255 -T
Sensor cable, 30 m	PT 448 256 -T	PT 448 256 -T
Sensor cable, 35 m	PT 448 257 -T	PT 448 257 -T
Sensor cable, 40 m	PT 448 258 -T	PT 448 258 -T
Sensor cable, 45 m	PT 448 259 -T	PT 448 259 -T
Sensor cable, 50 m	PT 448 260 -T	PT 448 260 -T

Software for display and data logging for Active Line



- For the following controller: TPG 261, TPG 262, TPG 265 A and TPG 300
- Simple to operate
- Up to 6 channels simultaneous presentable
- Data is convertible in Excel
- System requirements:
 - Software: Windows 7, Windows XP, Windows Vista
(administrator authorisation is required)
 - Hardware: Pentium-PC (1000 MHz or higher recommended), 256 MB RAM
(512 MB recommended), 150 MB free hard disc storage unit, Super VGA-Monitor
(with 1024 x 768 screen definition, small font adjustment), 24 Bit True Color, Free COM Port

Order number	
Software for display and data logging for Active Line	PT 882 550 -T