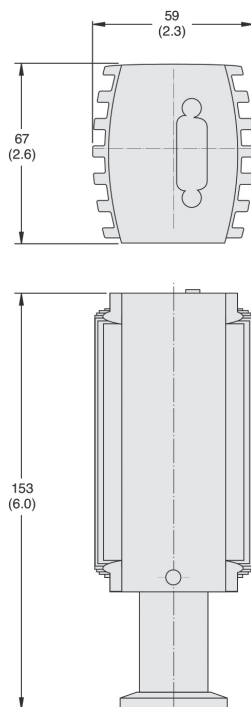


FRG-720/FRG-730 Full Range Pirani Bayard-Alpert Gauges



Dimensions: millimeters (inches)

The FRG-720 and FRG-730 combine the Agilent Pirani and Bayard-Alpert sensor into a single compact design that provides measuring capability from 3.8×10^{-10} Torr to atmosphere (5×10^{-10} mbar to atmosphere). Combining these two technologies into a single unit reduces complexity and integration challenges while protecting the Bayard-Alpert sensor from premature burnout.

Features	Benefits
Combination gauge – Bayard-Alpert and Pirani	Wide measurement range from 5×10^{-10} mbar to atmosphere
Pirani interlock	Protects Bayard-Alpert sensor from premature burnout and contamination effects from high pressure operation
Long-life yttrium oxide coated iridium filament	Rugged design for a wide range of applications
Set point control	Monitor pressure readings easily
LCD display option	Provides quick visual indication of status
Profibus communication option	Ease of network integration

Technical Specifications

Measurement range (Air, O ₂ , CO, N ₂)		5 x 10 ⁻¹⁰ to 1000 mbar (3.8 x 10 ⁻¹⁰ to 760 Torr)				
Accuracy		10 ⁻⁸ to 10 ⁻² mbar/Torr – ±15% of reading				
Repeatability		10 ⁻⁸ to 10 ⁻² mbar/Torr – ±5% of reading				
Degas		p < 7.2 x 10 ⁻⁶ mbar – electron bombardment, max. 3 min				
Pressure, maximum		2 bar absolute				
		Operation (ambient)	Storage	Bakeout at flange w/extension	Bakeout at flange wo/extension	Bakeout w/electronics removed
Temperature		0 to 50 °C	–20 to +70 °C	150 °C	80 °C	150 °C
Supply voltage		20 to 28 VDC, 1.4 A on startup for 200 msec, 0.8 A operating				
Output signal analog		0 to 10 V				
Measurement range		0.774 to 10.0 V				
Voltage vs. pressure		0.75 V/decade				
Error signal		0.3/0.5 V				
Minimum loaded impedance		10 kΩ				
Communications interface		RS-232C				
Electrical connection		D-sub, 15 pin, male				
Maximum cable length		100 m (330 ft)				
Materials exposed to vacuum		Yt ₂ O ₃ , Ir, Pt, Mo, Cu, W, NiFe, NiCr, stainless steel, glass				
Internal volume	KF/CF	24 cm ³ (1.46 in ³)/34 cm ³ (2.1 in ³)				
Weight	KF/CF	285 g/550 g				
Weight		IP30				
Setpoint relays (1) for FRG-730		Range	Relay Contact	Hysteresis	Contact rating	
		1 x 10 ⁻⁹ to 100 mbar	n.o., potential free	10 % of reading	30 V/0.5 A DC	
Profibus option						
Baud rates		9.6/19.2/93.75/187.5/500 kBaud; 1.5/12 mBaud				
Address		2 switches (address 00 – 127) or network programmable				
Digital functions		Read pressure, select units (Torr, mbar, Pa); degas function, Pirani full scale adjust; monitor gauge status; safe state allows definition of behavior in case of error; detailed alarm and warning information				
Analog functions		0 to 10 V analog output pressure indication; two setpoint relays A + B				
Setpoint relays (2)		Range	Relay Contact	Hysteresis	Contact rating	
		1 x 10 ⁻⁹ to 100 mbar	n.o., potential free	10 % of reading	60 V/0.5 A DC	
Connector for Profibus DP		D-sub, 9 pin, female				

Ordering Information

Description	Part Number	
	DN 25 ISO-KF	DN 35 CFF (2.75 in CFF)
FRG-720 Pirani/Bayard Alpert combination gauge – single filament	FRG720KF25	FRG720CF35
with display	FRG720KF25D	FRG720CF35D
with setpoints and Profibus	FRG720KF25SP	FRG720CF35SP
FRG-730 Pirani/Bayard Alpert combination gauge – dual filaments w/set pts	FRG730KF25S	FRG730CF35S
FRG-730 Pirani/Bayard Alpert combination gauge – dual filaments w/set pts. and display	FRG730KF25SD	FRG730CF35SD
FRG-730 Pirani/Bayard Alpert combination gauge – dual filaments w/set pts and Profibus	FRG730KF25SP	FRG730CF35SP

Accessories	
FRG-720 Replacement sensor–DN 25 ISO-KF	FRG720KF25RS
FRG-720 Replacement sensor–DN 35 CFF (2.75 in CFF)	FRG720CF35RS
FRG-730 (dual filaments)–DN 25 ISO-KF Replacement sensor	FRG730KF25RS
FRG-730 (dual filaments)–DN 35 CFF (2.75 in CFF) Replacement sensor	FRG730CF35RS
FRG-720/730 Baffle	FRG720BFL
FRG-720/730 Bakeout extension, 100mm	FRG720BKE
FRG-720/730 Power Supply 24 V DC/RS232C	FRG720PWR
FRG-720/730 Power Supply, Mains Voltage United States	AGPS15US
FRG-720/730 Power Supply, Mains Voltage Europe	AGPS15EU
FRG-720/730 Power Supply, Mains Voltage United Kingdom	AGPS15UK
FRG-720/730 Power Supply, Mains Voltage Australia	AGPS15AU

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<https://www.agilent.com/en/product/vacuum-technologies/vacuum-measurement/active-gauges/frg-720-730-full-range-pirani-bayard-alpert-gauge>

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