

## PGC2007 - Fuel Sulfur Analyzer



## Application

<b>Usage</b>	The PGC2007 performs Total Sulfur analysis for the range of fuels from gasoline to diesel.
<b>Description</b>	A fixed volume of liquid fuel stream is injected via a liquid sample inject valve. Air transports the sample into the furnace, where it oxidizes to carbon dioxide, water and sulfur dioxide. These components are separated using packed columns and pass into the FPD, where the trace levels of Total Sulfur are measured.

## Physical

Environmental (Enclosure):	Protected from weather: IP 52, (NEMA 12) Equivalent
Ambient Temperature Range:	0 to +50° C (32 to 122° F)
Humidity:	95% relative humidity, non-condensing
Dimensions:	708 mm W x 340 mm D x 1175 mm H (27.9 in. W x 13.4 in. D x 46.3 in. H)
Weight:	91 kg (200 lb.) (minimum)
Wall:	32 mm (1.3 in.) from wall with brackets
Floor:	Optional wheeled dolly
EMI/RFI Considerations:	Conforms to Class A Industrial Environment
Electrical Entries:	Top
Pneumatic Entries:	Right Side
Sample Entries: Liquid:	Right Side, 1 each Model 791 LSV
Vents:	Bottom and/or Right Side

## Safety Area Classification

NEC:	Class I, Division 1 Group B, C, D with Type Y-Purge T3, or T2
	Class I, Division 1 Group B, C, D with Type X-Purge T3, or T2 Class I, Division 2 Group B, C, D with Type Z-Purge T3, or T2
	Conforms to ATEX Directive 94/9/EC and EMC Directive 89/336/EEC as amended by 92/31/EEC & 93/68/EEC Zone 1: CE 0081; II 2G, EEx pde [ib] ib [ia] IIB+H2 T3, or T2 Zone 2: CE; II 3G EEx nP [ib] ib IIB+H2 T3, or T2 (T-code and protection method are dependent upon application.)
T- Rating:	T2 - 300°C or T3 - 200°C (Optional)
Z or Y-Purge Wait Time:	4.5 minutes
X-Purge Timeout:	4.6 minutes @ 60 Hz, 5.5 minutes @ 50 Hz

## Power

*(Hot, Neutral, Ground)*

Voltage:	100 VAC (+15, -6 VAC); 120 VAC ± 10%; 230 VAC ± 10%
Frequency:	50/60 Hz ± 10%
Power Consumption:	1800 VA Maximum, 1725 VA Typical



# Specifications

## Instrument Air

Supply Connection:	3/8 inch tube, minimum
Supply Pressure:	345 kPa (50 psig) minimum
Quality:	Instrument grade: Clean, Oil Free and -34° C, (-30° F) dewpoint
Flow Rates:	Start-up Purge: 214-242 L/min (7.6-8.6 ft <sup>3</sup> /min)
	Steady State Purge: 127-147 L/min (4.5-5.2 ft <sup>3</sup> /min)

## Analytical Detectors

Standard Detector:	Flame Photometric, with burner block, background sulfur addition
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## Isothermal Analytical Oven

Oven Liner:	Stainless Steel
Internal Dimensions:	390 mm W x 520 mm H x 230 mm D (15.3 in. W x 20.4 in. H x 9.0 in. D)
Number of Valves:	1 external liquid sample valve
Columns:	Packed
Heat:	Forced Air
Temperature Control Method:	Closed loop PID
Oven Temperature:	Ambient + 30° to 180° C (Settings and display in °C only) Typically set to about 112° C for Fuel Sulfur Applications
Setpoint Resolution:	1°C
Temperature Stability:	
Steady Ambient:	±0.1°C
Ambient Range:	±1.0°C

## Oxidation Furnace

Furnace Material:	Stainless Steel shell over a ceramic core, all enclosed in a flameproof housing
Internal Dimensions:	305 mm W x 153 mm H x 102 mm D (12 in. W x 6 in. H x 4 in. D)
Ceramic core Heat:	Electric
Temperature Control Method:	Closed loop PID
Furnace Temperature:	1000°C

## Gas Control

Electronic	
Control Method:	Closed loop PID; Temperature stabilized
Number of Zones:	1 for air, 1 for burner fuel and 1 for sweep gas
Filtration:	2µm at inlet, provided
Inlet Pressure:	
Minimum:	Setpoint + 69 kPa (10 psig)
Maximum:	1034 kPa (150 psig)
Range:	0-100 psig, Bubble tight, non-venting
Gauges:	Electronic readout : 0.01 psig resolution Setpoint resolution: 0.01 psig
Accuracy:	0-50 psig: 1.7%
	50-100 psig: 2.7%
Repeatability:	±0.1 psig
Allowable Gasses:	Zero Grade Air - carrier, Zero Grade Air - burner air, H <sub>2</sub> - burner fuel
Quality:	GC Grade Hydrogen
Flow Adjustment:	Oven mounted needle valves
Tube Fittings:	316 SS Gyrolok (std.) 316 SS Swagelok (optional) 1/16, 1/8, 1/4 inch connections