



Process &

**Environmental
Analysis Solutions**

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Precise[®] 5

GAS COMPOSITION, CALORIFIC VALUE, WOBBE INDEX, AND PHYSICAL PROPERTY ANALYZER

The Precise[®] 5 Analyzer is a real-time gas analyzer based on MKS' unique Tunable Filter Spectroscopy (TFST[™]) platform. The system can be calibrated for the measurement of various C1 through C6 hydrocarbons, CO₂, and high level H₂S. Calculated channels provide values for calorific value, specific gravity, density, higher heating value (HHV) and lower heating value (LHV). Other calculated values are available upon request.

Features & Benefits

- Analysis in seconds
 - Real-time, continuous measurement
- No carrier gas or fuel gas requirements
 - Low operational costs and infrastructure requirements
 - Suitable for small-scale plants and terminals
 - Ideal for remote installations
- Robust calibration
 - Reduced maintenance and operational costs
- Flow-through sensor design
 - Minimized potential sampling and phase change issues
- Compact, outdoor rated, low power
 - Well suited for transportable spot check applications
 - NEMA4X, IP66, can be engine or manifold mounted
 - Engineered to withstand vibration and shock
- Hazardous Area Certified
 - ATEX Zone 2
 - Class 1 Div 2

Applications

- Custody Transfer and Fiscal Metering
- Fuel analysis for engine control (gas turbines, internal combustion engines, fuel cell power plants, etc.)
- Calorific value measurement for fiscal metering of pipeline gases
- Wobbe Index metering for combustion control applications
- Check metering, blend monitoring, fast-response BTU monitoring
- Biomethane injection control
- Fast-response alternative to traditional calorimeter and/or gas chromatograph type instruments
- Acid/sour gas monitoring
- Syn-gas composition monitoring
- Natural gas fractionation plants
- Ethylene production
- Flare BTU monitoring



Specifications and Ordering Information

Recipe	282	242B	253	213	271	155	167
Description	Natural Gas Engine & Turbine	Natural Gas	Acid & Sour Gas	Natural Gas Fractionation	Syn-Gas	Olefins & Butadiene	Hydrocarbon Processing (depropanizer)
CH ₄	60-100%	50-100%	0-100%	0-100%	0-25%	0-100%	0-10%
C ₂ H ₆	0-20%	0-20%	0-25%	0-100%	0-25%	0-25%	0-10%
C ₃ H ₈	0-10%	0-10%	0-25%	0-100%		0-25%	0-100%
C ₄ +	0-10%						
iC ₄ H ₁₀		0-5%	0-10%	0-10%		0-50%	0-10%
nC ₄ H ₁₀		0-5%				0-50%	0-10%
nC ₄ + nC ₅			0-10%	0-100%			
C ₃ H ₆				0-10%		0-100%	0-100%
C ₂ H ₄				0-10%	0-20%	0-100%	
C ₂ H ₂					0-5%	0-30%	
iC ₅ + neoC ₅			0-10%				
Total C ₅		0-2%					
iso-C ₅ H ₁₂						0-10%	
1-Butene						0-20%	
cis-2-Butene						0-20%	
trans-2-Butene						0-20%	
Isobutylene						0-20%	
1,3-Butadiene						0-20%	
n-Hexane		0-2%	0-5%				
H ₂ S			0-50%				
CO					0-50%		
CO ₂	0-20%	0-20%	0-50%	0-100%	0-50%		
Balance	Yes		Yes	Yes	Yes	Yes	Yes
Density	Yes						
HHV (per ISO 6976:1995)*	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LHV (per ISO 6976:1995)*	Yes						
Specific Gravity*	Yes						
Wobbe (per ISO 6976:1995)*	Yes	Yes	Yes	Yes	Yes		

* Other gas combinations available upon request. Contact MKS for custom ranges.

Zero Drift

Not to exceed 0.2% per month
Maximum of 0.5% throughout life of bulb (~ 18 months)

Sample Pressure

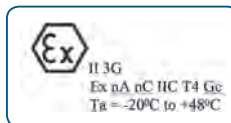
0.1 – 5 psig*

Flow Rate

0.1 – 2 L/min*

Certifications

CSA Class 1Div2,
Groups A/B/C/D,
T4. ATEX Zone 2,
Ex nAnCIICT4Gc
IECEX



* Contact MKS for higher or custom ranges

Please contact your local MKS office for price and availability information.



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