## **Gib hobté** ANALYZER SOLUTIONS

Measures Wobbe Index, Heating Value, Specific Gravity and Combustion Air Requirement Index (CARI).

## HIGAS A portable compact Natural Gas Quality Meter



## Gas quality variations

The rise in cross-border gas trading impacts Natural Gas quality by causing it to fluctuate more often and more rapidly. Fast-changing gas quality can have serious implications for your combustion installations such as furnaces and boilers.

Common problems include:

- Reduced capacity
- Higher CO NOx & CxHy emissions
- Contamination due to soot formation
- Equipment failure
- Variations in product quality

These problems result in higher financial costs, safety issues and loss of production. But by measuring gas quality prior to combustion, the air:fuel ratio can be adjusted in real time, making sure it is always an optimal mixture.

Typical applications are furnace control Natural Gas fired ovens for steel, glass and ceramics industries, as well as burner control in steam boilers, gas turbines, the greenhouse industry and emergency power units. Current burners mostly use a fixed setting or rely on feedback control.

Current control systems take into account changes in weather, such as temperature and air pressure, gas pressure fluctuations and relatively slow changes in gas quality with a wellrestricted bandwidth. However these systems are not set up to deal with stepchanges and an increased bandwidth. A fast feed-forward control is therefore required.

The larger and faster variations in Natural Gas quality have raised a demand for Hobré Wobbe Index technology for smaller burner installations.

### The Hobré HIGAS

The HIGAS is a compact Natural Gas quality meter, providing the Wobbe Index, (Heating Value and SpecificGravity is optional) and Combustion Air Requirement Index (CARI) within 15 seconds.

#### PORTABLE ANALYZER

The portable version is equipped with optional battery power and is the ideal tool for burner adjustments. By measuring the actual quality of the Natural Gas during burner adjustment, optimum settings are achieved.



#### STATIONARY ANALYZER

The stationary version can be used to control the energy flow and air: fuel ratio to burners, with the benefits of:

- Maximizing unit capacity and efficiency
- Minimizing emission
- Installation shutdown prevention
- Reduced maintenance



The HIGAS is developed for Natural Gas measurement in safe area applications. Other applications – including those in hazardous areas – can be handled with the WIM Compas<sup>™</sup>.

#### **TECHNICAL SPECIFICATIONS**

ApplicationsNatural Gas, Green GasMeasuring principleFlameless combustion with residual oxygen measurementLocationHodors, safe areaModelsPortable, stationaryCalibrationAutomatic on 100% methanePERFORMANCE40 - 60M/Nm³ / 1073.6 - 1610.4 BTU/scf *Accuracy40 - 60M/Nm³ / 1073.6 - 1610.4 BTU/scf *Accuracy10.2 M/Nm³ / 13.4 BTU/scfResponse time10 - 20 < seconds (typical)CARI (Combustion Air Requirement Index)% san 15 in 0 - 25 rangeRequirement Index)< 30 mg / Nm³ *NterrerSo mg / Nm³ *DisplayLocal color touchscreen, service port TCP/IPAnalog outputs2x 4-20mA active or passive, maximum load ≤ 600 ΩDigital outputs2x relay SPST for "in alarm" and "in calibration"Digital outputs50 Ar max.Power consumption50/Ar max.Instrument airNot required (internal air pump included)Sample flow<0.11 M/min < 0.2 scf/h (filtered)Sample pressure0.01 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 ps / 0 - 116 psiFISTLATIONSino ×400 x 250m (depending on configuration)Weight< 15kg / 33 lbsEnclosureEnclosureFinensions (HsWxD)500 ×400 x 250m (depending on configuration)Weight< 15kg / 33 lbsEnclosureEnclosureAnalog outputs50×400 x 250m (depending on configuration)Border< 15kg / 33 lbsEnclosureEnclosureFinanceFinanceA	GENERAL	
Measuring principleFameless combustion with residual oxygen measurementLocationIndoors, safe areaModelsOrable, stationaryCalibrationAutomatic on 100% methanePERFORMANCEWobbe index40-60MJ/Nm² / 103.6 - 1610.4 BTU/scf *Repeatability4.0.5 MJ/Nm² / 13.4 BTU/scfRepeatability6.0.2 MJ/Nm² / 13.4 BTU/scfRepeatability4.0.2 MJ/Nm² / 5.4 BTU/scfResponse time10-20 < seconds (typical)	Applications	Natural Gas, Green Gas
LocationIndoors, safe areaModelsPortable, stationaryCalibrationAutomatic on 100% methane <b>PEFFORMANCE</b> Wobbe index40 - 60M/Nm³ / 1073.6 - 1610.4 BTU/scf*Accuracy60 - 60M/Nm³ / 13.4 BTU/scfRepeatability±0.2 M/Nm³ / 13.4 BTU/scfResponse time10 - 20 < seconds (typical)	Measuring principle	Flameless combustion with residual oxygen measurement
ModelsPortable, stationaryCalibrationAutomatic on 100% methanePERFORMANCEWobbe index40 - 60MJ/Nm³ / 1073.6 - 1610.4 BTU/scfAccuracy± 0.5 MJ/Nm³ / 13.4 BTU/scfRepeatability± 0.2 MJ/Nm³ / 5.4 BTU/scfReponse time10 - 20 < seconds (typical)	Location	Indoors, safe area
CalibrationAutomatic on 100% methanePERFORMANCEWobbe index40 - 60MJ/Nm³ / 1073.6 - 1610.4 BTU/scf *Accuracy± 0.5 MJ/Nm³ / 13.4 BTU/scfRepeatability± 0.2 MJ/Nm³ / 5.4 BTU/scfResponse time10 - 20 < seconds (typical)	Models	Portable, stationary
PERFORMANCEWobbe index40 - 60MJ/Nm³ / 1073.6 - 1610.4 BTU/scf*Accuracy± 0.5 MJ/Nm³ / 13.4 BTU/scfRepeatability± 0.2 MJ/Nm³ / 5.4 BTU/scfResponse time10 - 20 < seconds (typical)	Calibration	Automatic on 100% methane
Wobbe index      40 - 60MJ/Nm³ / 1073.6 - 1610.4 BTU/scf *        Accuracy      ± 0.5 MJ/Nm³ / 13.4 BTU/scf        Repeatability      ± 0.2 MJ/Nm³ / 5.4 BTU/scf        Response time      10 - 20 < seconds (typical)        CARI (Combustion Air Requirement Index)      Max. span 15 in 0 - 25 range        Accuracy      ≤ 11% of full scal        Total sulfur      < 30 mg / Nm³*        INTERFACE         Display      Local color touchscreen, service port TCP/IP        Analog outputs      2x 4-20mA active or passive, maximum load ≤ 600 Ω        Digital outputs      2x relay SPST for "in alarm" and "in calibration"        Digital outputs      2x relay SPST for "in alarm" and "in calibration"        Power supply      115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl portable version)        Power consumption      50/X max.        Instrument air      Not required (internal air pump included)        Sample flow      <0.1 NI/min < 0.2 scf/h (filtered)        Sample pressure      0 - 0.1 barG standard / 0 - 8 barG with pressure reduction or 1.5 psi / 0 - 116 psi        Installation      Wall mounting (stationary version)        Dimensions (HxWxD)      500 x 400 x 250mm (depending on configuration)        Weight	PERFORMANCE	
Accuracy± 0.5 MJ/Nm³ / 13.4 BTU/scfRepeatability± 0.2 MJ/Nm³ / 5.4 BTU/scfResponse time10 - 20 < seconds (typical)	Wobbe index	40 – 60MJ/Nm <sup>3</sup> / 1073.6 - 1610.4 BTU/scf *
Repeatability± 0.2 M//Nm³ / 5.4 BTU/scfResponse time10 - 20 < seconds (typical)	Accuracy	± 0.5 MJ/Nm <sup>3</sup> / 13.4 BTU/scf
Response time10 - 20 < seconds (typical)CARI (Combustion Air Requirement Index)Max. span 15 in 0 - 25 rangeAccuracy< ±1% of full scal	Repeatability	± 0.2 MJ/Nm <sup>3</sup> / 5.4 BTU/scf
CARI (Combustion Air Requirement Index)Max. span 15 in 0 - 25 rangeAccuracy< ±1% of full scal	Response time	10 - 20 < seconds (typical)
Accuracy< ±1% of full scalTotal sulfur< 30 mg / Nm³*	CARI (Combustion Air Requirement Index)	Max. span 15 in 0 – 25 range
Total sulfur< 30 mg / Nm³*Local color touchscreen, service port TCP/IPDisplayLocal color touchscreen, service port TCP/IPAnalog outputs2x 4-20mA active or passive, maximum load ≤ 600 ΩDigital outputs2x relay SPST for "in alarm" and "in calibration"Digital inputsfor "start calibration" and "start validation"Digital inputsfor "start calibration" and "start validation"Power supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl. – portable version)Power consumptionS0VA max.Instrument airNot required (internal air pump included)Sample flow<0.1 Nl/min < 0.2 scf/h (filtered)	Accuracy	< ±1% of full scal
DisplayLocal color touchscreen, service port TCP/IPAnalog outputs2x 4-20mA active or passive, maximum load ≤ 600 ΩDigital outputs2x relay SPST for "in alarm" and "in calibration"Digital outputsfor "start calibration" and "start validation"Digital inputsfor "start calibration" and "start validation"Digital outputsStart calibration" and "start validation"Digital inputs115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl portable version)Power supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow< 0.1 NI/min < 0.2 scf/h (filtered)	Total sulfur	< 30 mg / Nm <sup>3</sup> *
DisplayLocal color touchscreen, service port TCP/IPAnalog outputs2x 4-20m Aactive or passive, maximum load ≤ 600 ΩDigital outputs2x relay SPST for "in alarm" and "in calibration"Digital inputsfor "start calibration" and "start validation"Digital inputsfor "start calibration" and "start validation"Power supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow<0.1 NI/min < 0.2 scf/h (filtered)Sample pressure0 - 0.1 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 psi / 0 - 116 psiInstallationWall mounting (stationary version)InstallationSo0 × 400 × 250mm (depending on configuration)Weight<15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	INTERFACE	
Analog outputs2x 4-20mA active or passive, maximum load ≤ 600 ΩDigital outputs2x relay SPST for "in alarm" and "in calibration"Digital inputsfor "start calibration" and "start validation"Digital inputsfor "start calibration" and "start validation"UTILITESPower supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow<0.1 Nl/min < 0.2 scf/h (filtered)	Display	Local color touchscreen, service port TCP/IP
Digital outputs2x relay SPST for "in alarm" and "in calibration"Digital inputsfor "start calibration" and "start validation"Digital inputsin start calibration" and "start validation"UTILITESPower supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl. – portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow< 0.1 NI/min < 0.2 scf/h (filtered)Sample pressure0.0 .0 .1 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 psi / 0 - 116 psiInstallationWall mounting (stationary version)Dimensions (HxWxD)500 × 400 × 250mm (depending on configuration)Weight< 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Analog outputs	2x 4–20mA active or passive, maximum load $\leq$ 600 $\Omega$
Digital inputsfor "start calibration" and "start validation"UTILITIESPower supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl. – portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow<0.1 NI/min < 0.2 scf/h (filtered)	Digital outputs	2x relay SPST for "in alarm" and "in calibration"
VILITIESPower supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow<0.1 NI/min < 0.2 scf/h (filtered)	Digital inputs	for "start calibration" and "start validation"
Power supply115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl. – portable version)Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow< 0.1 NI/min < 0.2 scf/h (filtered)Sample pressure0 - 0.1 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 psi / 0 - 116 psiINSTALLATIONInstallationWall mounting (stationary version)Dimensions (HxWxD)500 x 400 x 250mm (depending on configuration)Weight< 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	UTILITIES	
Power consumption50VA max.Instrument airNot required (internal air pump included)Sample flow< 0.1 NI/min < 0.2 scf/h (filtered)	Power supply	115 / 230VAC, 50 / 60Hz or 24VDC (optional battery pack incl. – portable version)
Instrument airNot required (internal air pump included)Sample flow<0.1 Nl/min < 0.2 scf/h (filtered)	Power consumption	50VA max.
Sample flow< 0.1 Nl/min < 0.2 scf/h (filtered)Sample pressure0 - 0.1 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 psi / 0 - 116 psiINSTALLATIONInstallationInstallationWall mounting (stationary version)Dimensions (HxWxD)500 x 400 x 250mm (depending on configuration)Weight≤ 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Instrument air	Not required (internal air pump included)
Sample pressure0 - 0.1 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 psi / 0 - 116 psiINSTALLATIONInstallationWall mounting (stationary version)Dimensions (HxWxD)500 x 400 x 250mm (depending on configuration)Weight< 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Sample flow	< 0.1 Nl/min < 0.2 scf/h (filtered)
INSTALLATIONInstallationWall mounting (stationary version)Dimensions (HxWxD)500 x 400 x 250mm (depending on configuration)Weight≤ 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Sample pressure	0 - 0.1 barG standard / 0 - 8 barG with pressure reduction 0 - 1.5 psi / 0 - 116 psi
InstallationWall mounting (stationary version)Dimensions (HxWxD)500 x 400 x 250mm (depending on configuration)Weight≤ 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	INSTALLATION	
Dimensions (HxWxD)500 x 400 x 250mm (depending on configuration)Weight≤ 15kg / 33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Installation	Wall mounting (stationary version)
Weight≤ 15kg/33 lbsEnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Dimensions (HxWxD)	500 x 400 x 250mm (depending on configuration)
EnclosureEpoxy-coated stainless steelAmbient temperature range5 - 45°C / 41 - 113°F	Weight	≤ 15kg / 33 lbs
Ambient temperature range5 - 45°C / 41 - 113°F	Enclosure	Epoxy-coated stainless steel
	Ambient temperature range	5 – 45°C / 41 - 113°F

#### ORDER CODES

ST	Stationary version (wall mounted)
Р	Portable version
Н	Horizontal mounting (ST version)
V	Vertical mounting (ST version)
CC	Carrying case
115	Power supply 115 VAC, 50/60 Hz
130	Power supply 230 VAC, 50/60 Hz
24	Power supply 24 VAC
BP	Battery Pack (P version)
SG	Specific Gravity Cell

105-HIGAS-1015

For more detailed information, visit our website www.hobre.com or contact our sales representatives.



#### HOBRÉ INSTRUMENTS

HOBRÉ IS A LEADER IN THE DESIGN, MANUFACTURING AND MAINTENANCE OF ON-LINE ANALYZERS, SAMPLE SYSTEMS AND COMPLETE TURNKEY ANALYZER SYSTEMS. ESTABLISHED IN 1978, OUR COMPANY FOCUSES MAINLYUPON PROVIDING SOLUTIONS FOR THE OIL AND GAS INDUSTRY AND PETROCHEMICAL SECTOR WORLDWIDE.

## $\bigcirc$

#### HOBRÉ SERVICES

- FEASIBILITY
  STUDY & ENGINEERING
- COMMISSIONING, SAT AND START-UP
- TRAINING
- PREVENTATIVE AND CORRECTIVE FIELD SERVICES
- IN-HOUSE MAINTENANCE AND REPAIR
- SPARE PARTS AND
  SUPPLY
- REMOTE SUPPORT

# 

HOBRÉ INSTRUMENTS NETWERK 4 1446 WK PURMEREND THE NETHERLANDS TELEPHONE +31 299 420 871 TELEFAX +31 299 423 302

INFO@HOBRE.COM WWW.HOBRE.COM

**HID HOBTE** ANALYZER BOLUTIONS