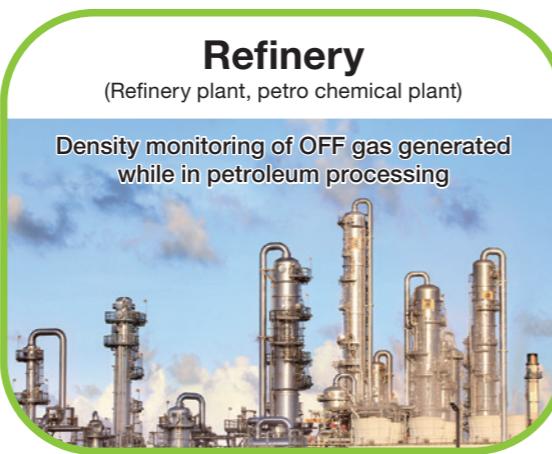
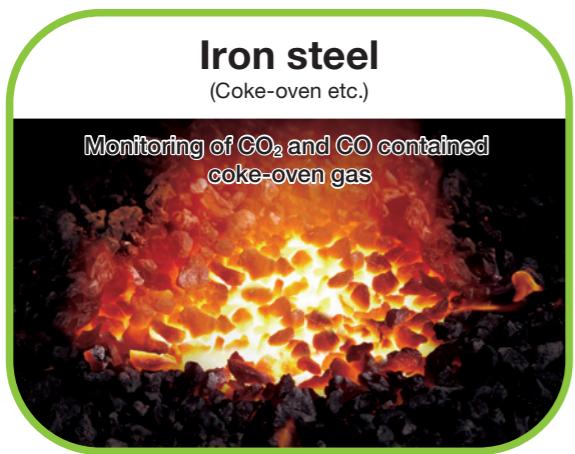
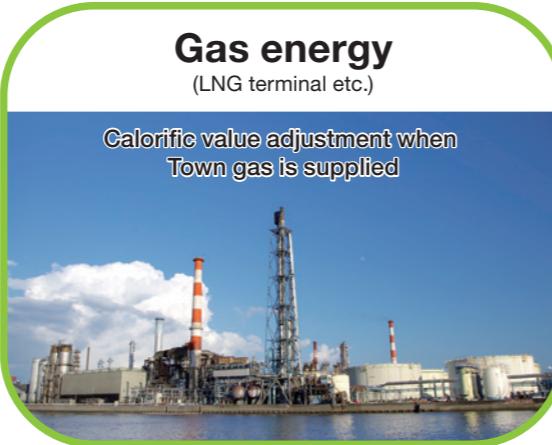


Application



- The applications above are just examples. Contact RIKEN KEIKI for the other measuring targets and measuring ranges.

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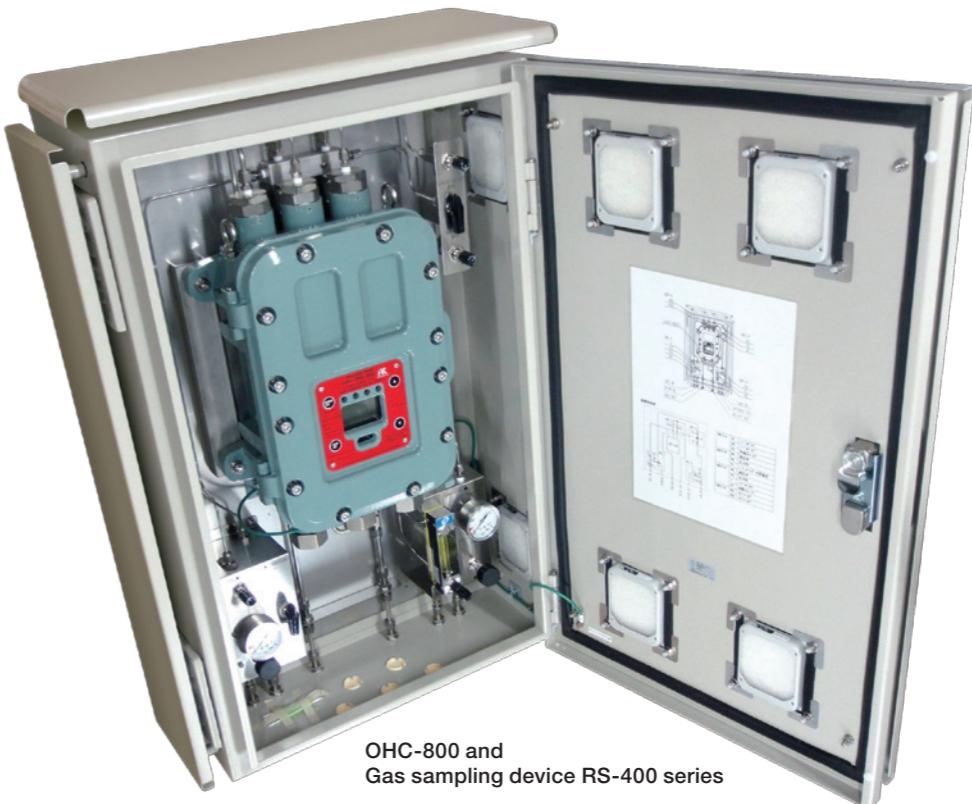
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※The contents described in this catalog are subject to change without notice according to the performance improvement.

Explosion-Proof Calorimeter

Calorific value	Specific gravity
Wobbe Index	Methane number

Model OHC-800



■ “Opt-Sonic calculation” is applied by using Optical sensor and Sonic sensor

“Opt-Sonic calculation” is based on the calculation combining 2 measuring results obtained by the 2 sensors. This can minimize the interference effects on the reading caused by interference gases, and enable the high-accuracy and reliable measurement.

* Opt-Sonic is a term coined by RIKEN KEIKI to describe Optical and Sonic sensors

■ Easy to switch the display among “Calorific value”, “Density” and “WOBBE index”

Displayed unit is easily switched by pressing the button. Laborious calculation is not needed.

■ Fulfilling self-diagnosis function and running cost

Self-diagnosis function including fault diagnostic prevents the calorimeter from being incapable of measuring the gas.
Few consumables are needed and this saves running cost.

■ Body structure that can be installed into all types of location

Structure is robust with Explosion-Proof (Exd IIB+H2 T4) and high ingress protection level (IP66/IP67)
Both 100VAC~240VAC and 24VDC power supply can be supplied.

RIKEN KEIKI Co.,Ltd.

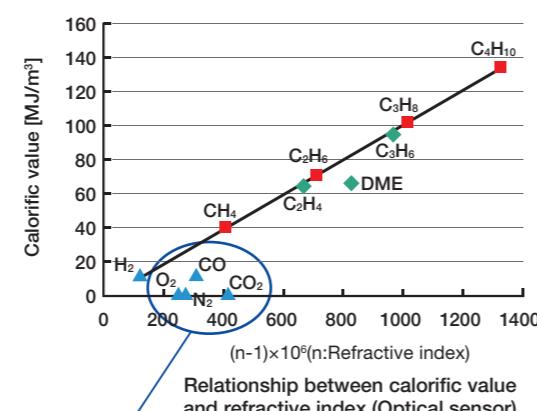
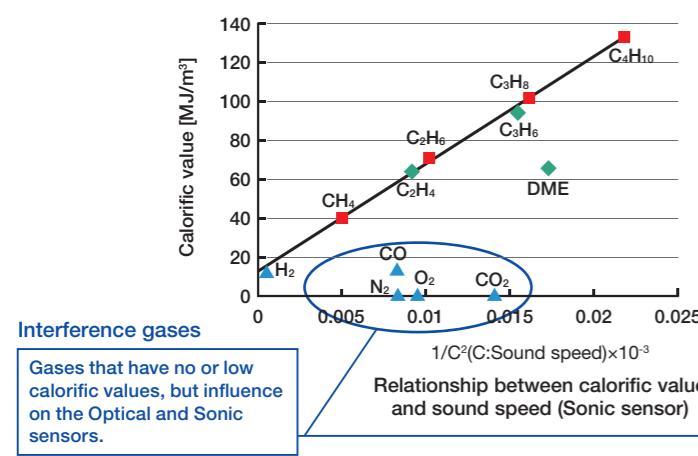
Features

- Unique measuring principle “Opt-Sonic calculation” is applied. This can minimize the interference effects caused by interference gases, and a high-accuracy measuring result can be obtained.
- Fast response time T90 reaction within 5 seconds.
- High repeatability +/-0.02MJ/m³
- Wide operation temperature -20~+60 degree C
- Explosion-Proof structure even for Hydrogen II2G Ex db IIB+H₂ T4 Gb <ATEX / IECEx>
- High ingress protection level IP66 / IP67
- Remarkable temperature characteristic
Below 0.10MJ/m³ fluctuation for the temperature change in a day (< 20 degree C)
- Easy to switch the display among “Calorific value”, “Density” and “WOBBE index” just by the button operation.

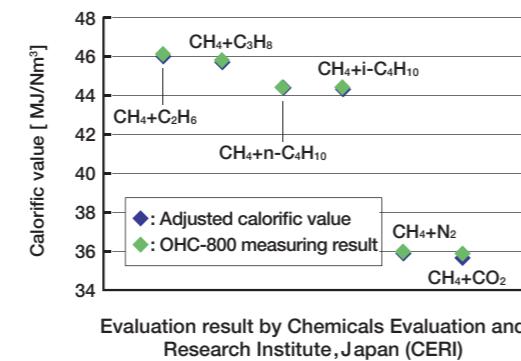
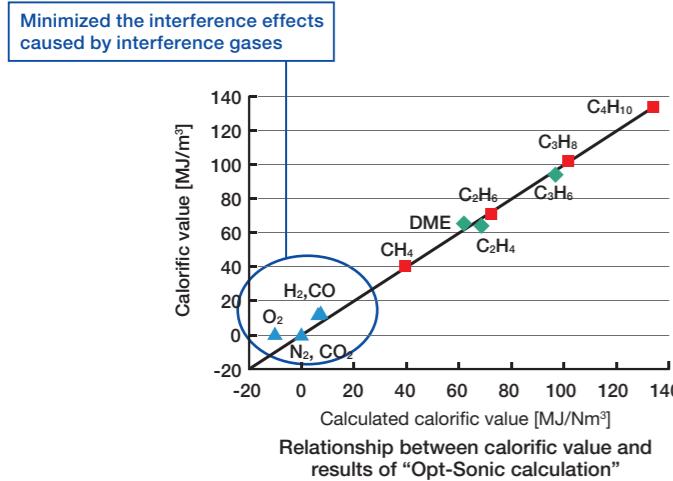
“Opt-Sonic calculation” is applied by using Optical sensor and Sonic sensor. The interference effects on the reading caused by interference gases such as N₂, O₂, CO₂ etc. can be minimized.

[What is “Opt-Sonic calculation” ?]

Optical sensor and Sonic sensor are individually used for a calorimeter, but both sensors have the interference effects on the reading caused by interference gases such as N₂, O₂, CO₂ etc.



“Opt-Sonic calculation” using measuring results of the Optical sensor and Sonic sensor can minimize the interference effects caused by interference gases, and realize a high-accuracy measurement.



■ Specification

Model	OHC-800
Measuring principle	Opt-Sonic calculation through measurement of refractive index and sound speed
Measuring gas	CH ₄ basis Paraffinic Hydrocarbon gases as represented by Natural Gas ^{*1}
Measuring targets	Calorific value (Density / WOBBE index selectable)
Measuring range ^{*2}	Calorific value: 25.00~50.00 MJ/m ³ (Gross, 0 degree C, 101.325kPa converted) Density: 0.500~1.500 (Specific gravity converted)
Measuring method	Constant-flow-rate gas introduction using external sampling devices
Display	Full-dot LCD (with backlight), 3 color LED lamp
External Output	4-20 mA DC (isolated, source current type) maximum load resistance of 300 Ω / RS-485 communication
FAILURE alarm	Low flow, Sensor unit abnormality, Low light amount
FAILURE alarm display	Lamp (red) / Content indication on LCD
FAILURE alarm contact ^{*3}	No-voltage contact 1a or 1b De-energize (Energize when alarming) or Energize (De-energize when alarming) Contact capacity of 2 A, 30 VDC (resistance load)
Self-diagnostic function	FUNCTION CHECK (warm-up or maintenance mode), MAINTENANCE REQUIRED, OUT OF SPECIFICATION
Self-diagnostic display	FUNCTION CHECK, OUT OF SPECIFICATION: Lamp (orange) / Content indication on LCD MAINTENANCE REQUIRED: Lamp (green) / Content indication on LCD
Self-diagnostic contact	FUNCTION CHECK, OUT OF SPECIFICATION: No-voltage contact 1a or 1b De-energize (Energize when alarming) or Energize (De-energize when alarming) Contact capacity of 2 A, 30 VDC (resistance load) MAINTENANCE REQUIRED: SSR contact, contact capacity of 20 W, 240 VAC (resistance load)
Power supply	100 - 240 VAC ±10%, 50/60 Hz, max. 18 VA or 24 VDC ±10%, max. 5 W (The setting can be changed to either the AC or DC)
Ingress Protection level	Equivalent to IP66 and IP67
Operation temperature	ATEX / IECEx: -20~+60 degree C (no sudden changes) / Japan Ex: -20~+57 degree C (no sudden changes)
Operation humidity	95%RH or less (no condensing)
Outer dimensions / Weight	Approx. 286 (W) x 453 (H) x 150 (D) mm / Approx. 23 kg
Explosion-Proof structure	Flame-proof enclosures (Explosion-proof class: II2G Ex db IIB+H ₂ T4 Gb <ATEX / IECEx> / Exd IIB+H ₂ T4 <Japan Ex>)

*1 Total concentration of interference gases such as N₂, O₂, CO₂, CO etc. contained in a target gas is estimated as less than 20%

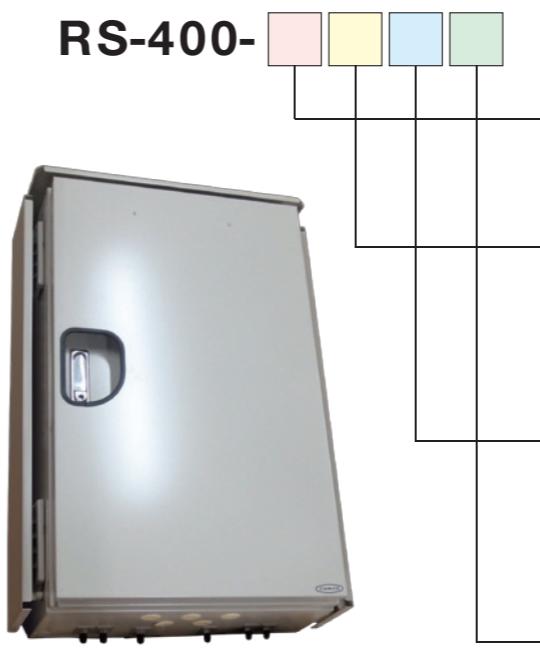
*2 Contact RIKEN KEIKI for the other measuring ranges

*3 Contact setting is adjustable

OHC-800 is designed to have it incorporated in the specific sampling device RS-400 series. The model of sampling device is selected in accordance with the location where the calori-meter is installed and gas sampling point pressure condition etc.

Sampling device model

RS-400-



Enclosure

- 0: No enclosure
- 1: Enclosure for outdoor (SUS) with shading plate
- 2: Enclosure for indoor (SPCC) with window

Use of pressure reducing valve for measuring gas

- 0: Pressure reducing valve not used
- 1: Pressure reducing valve used

Bypass flow rate of measuring gas

- 0: Not bypassed
- 1: 0.5 - 5 L/min
- 2: 1 - 10 L/min
- 3: 2 - 20 L/min

* “0: Not bypassed” is applied for the case without pressure reducing valve.

Pressure gauge unit

- 1: MPa
- 2: MPa/PSI double units

* “1: MPa” is selected for the use in Japan because of the Measurement Act.