

THE RIGHT ANALYZER FOR *YOUR* APPLICATION!

WDG-IVC FLUE GAS OXYGEN & COMBUSTIBLES ANALYZER

CLOSE-COUPLED EXTRACTIVE DESIGN FOR FAST RESPONSE IN A WIDE RANGE OF FLUE GAS APPLICATIONS UP TO 3000°F (1648°C). COMPLETELY FIELD SERVICEABLE.

SENSOR



Principle of Operation: Zirconium oxide for net oxygen measurement and a catalytic detector for combustibles.

Output Range

Oxygen: From 0-1% to 0-100%
 Combustibles: From 0-2,000 ppm to 0-10,000 ppm or from 0-1% to 0-5%

Accuracy

Oxygen: $\pm 0.75\%$ of measured value or $\pm 0.05\%$ oxygen, whichever is greater
 Combustibles: $\pm 2\%$ of full scale output range

Response:

Oxygen: 63% of a process step change < 3 secs.

Drift: < 0.1% of cell output per month (< 0.005% O₂ per month with 2% O₂ applied)

Aspirator Air Requirements: 10 to 20 SCFH (4.72 to 9.4 L/min.) at 15 to 100 PSIG (1.05 to 7.04 kg/cm²)

Max. Flue Gas Temp./Probe Type/Lengths

1300°F (704°C) / 316 SS / 36" - 108" (91cm - 274 cm)
 1875°F (1024°C) / RA330 / 36" - 108" (91cm - 274 cm)
 3000°F (1649°C) / Hexoloy® / 24" - 72" (60 cm - 182 cm)

Max. Sample Dewpoint: 450°F (232°C)

Sample Pressure

± 2 psig: no adjustment required
 ± 2 to ± 9 psig: software selectable
 ± 10 psig and above: consult factory

Environment

Ambient Temp.:
 -5°F to 160°F (-20°C to 71°C)
 -5°F to 140°F (-20°C to 60°C) with Div. 2 Option
 Relative Humidity: 10% to 90%, non-condensing

Enclosure: Lift-off NEMA 3R, weather resistant, stainless steel. Optional hinged NEMA 4X (IP56), explosion-proof, purged, and floor mount versions available.

Power Requirements: 115 VAC, $\pm 10\%$, 47-63 Hz, 600 VA max. (650 VA max with floor mount option); 230 VAC, $\pm 10\%$, 47-63 Hz, 1850 VA max. (1900 VA max. with floor mount option)

Calibration Gas Requirements: Use calibration gases @ 10 PSIG, 1.5 SCFH (0.70 kg/cm², 0.7 L/min.)

O₂ Span Gas: Air or from 1.0% to 100% O₂, balance N₂

O₂ Zero and Comb. Zero Gas: 2% or from 0.1 to 10% O₂, balance N₂

Comb. Span Gas: 60 to 80% (ppm ranges) or 40 to 60% (% ranges) of the selected comb. recorder output range in certified mixtures of CO + H₂, 3-4% O₂, balance N₂.

SERIES 2000 CONTROL UNIT



Display: Four-line x 20-character vacuum fluorescent. Displays combinations of oxygen, % or ppm combustibles, time and date, cell temperature, user-programmable text, thermocouple mV or cell mV. Password protection, programmable pressure compensation and context-sensitive help are also provided.

Recorder Output: Two isolated linear current outputs for oxygen and one for combustibles. Select O₂, combustibles, cell temperature, thermocouple mV or cell mV. Each output can be 4-20 mA, 0-20 mA, 20-4 mA or 20-0 mA and is fully scalable. Hold or track during calibration and select degree of damping. Maximum load 1200 ohms.

Alarms: Two independent oxygen alarms, each high- or low-selectable. One alarm can be assigned as oxygen, calibrate or verify. Two high combustibles alarms. Set relays to energize or de-energize on alarm.

Contact Rating: 1 A, 30 VA max. noninductive load, AC or DC

Diagnostics: Watchdog timer and service alarms. System test for A/D, RAM, EEPROM and keypad. Display line 4 reserved for full-text error and diagnostic messages. Twenty-entry event log.

Communications: RS-485 2-way addressable.

Environment:

Ambient Temp.: 14°F to 122°F (-10°C to 50°C)
 Relative Humidity: 10% to 80%, non-condensing

Enclosure: Standard weatherproof NEMA 4 (IP 56) wall/panel mount. Optional GP (General Purpose) wall mount, GP 19" rack mount, GP panel mount, or stainless steel weatherproof NEMA 4X (IP 56) wall/panel mount. All are UL Listed for NEC Class I, Division 2 areas. Purged and explosion-proof versions also available.

Calibration: Oxygen cell lifetime extender. Calibrate or verify calibration. Store last calibration and verification data. Selectable calibration gas run time and process recovery time. Timed automatic calibration with optional Remote Calibration Unit.

Power Requirements: Nominal 95-230 VAC, $\pm 10\%$, 47-63 Hz, 75 VA max.

System Compliance:

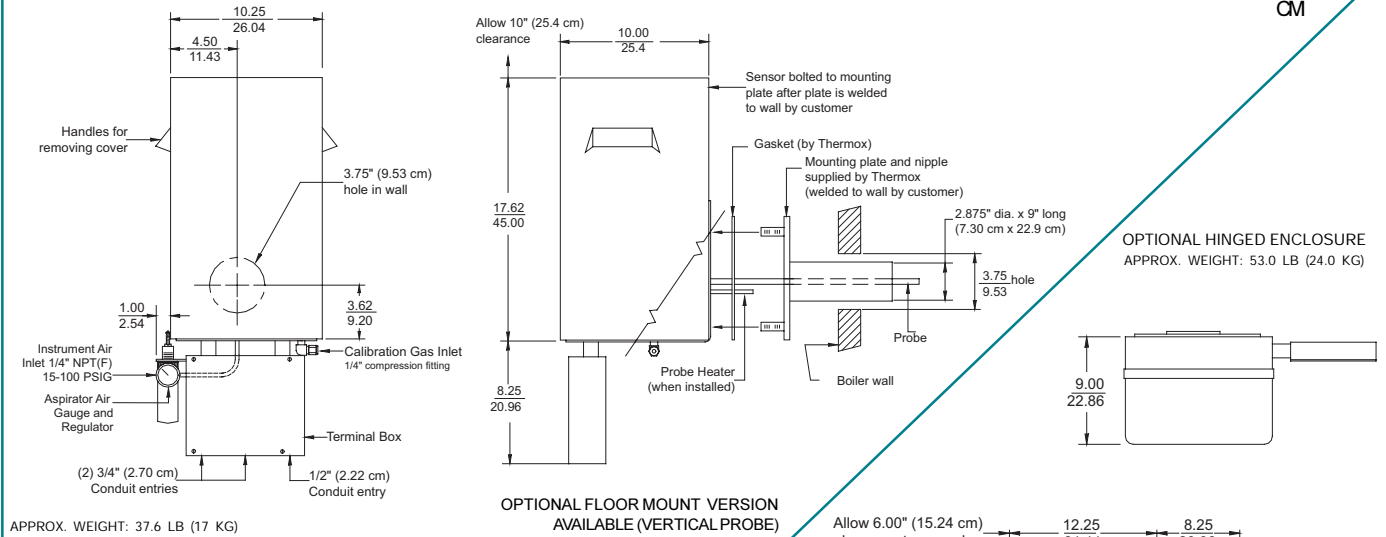
EMC Directive 89/336/EEC
 Low Voltage Directive 73/23/EEC

DIMENSIONS

SENSOR

STANDARD LIFT-OFF ENCLOSURE

INCHES
CM

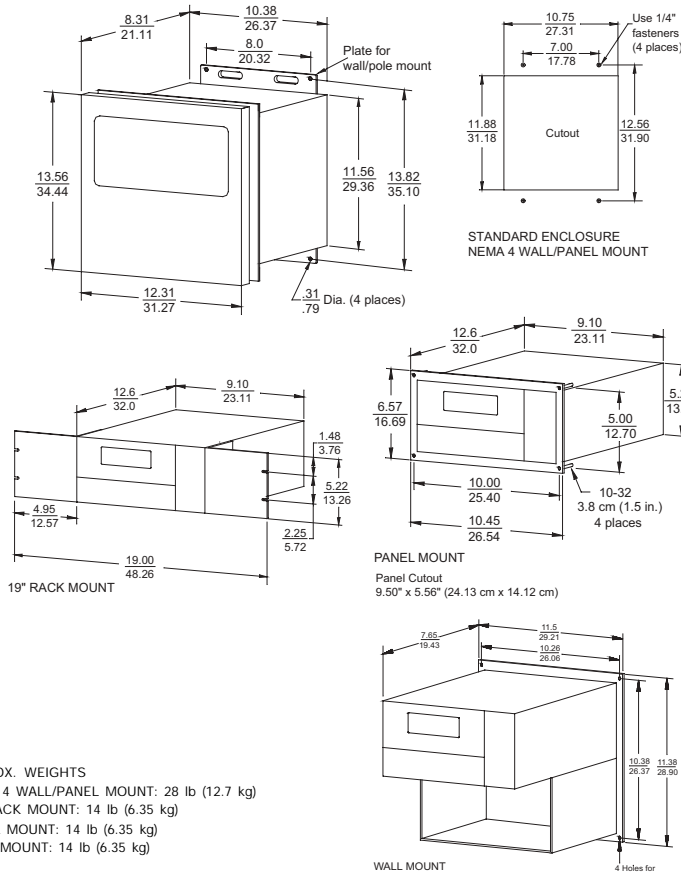


OPTIONAL HINGED ENCLOSURE
APPROX. WEIGHT: 53.0 LB (24.0 KG)

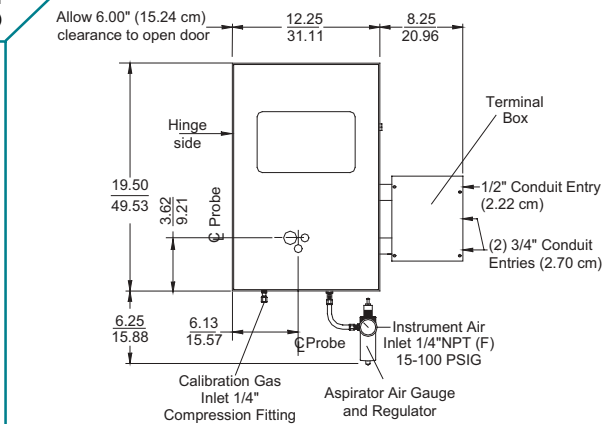
APPROX. WEIGHT: 37.6 LB (17 KG)

OPTIONAL FLOOR MOUNT VERSION AVAILABLE (VERTICAL PROBE)

CONTROL UNIT

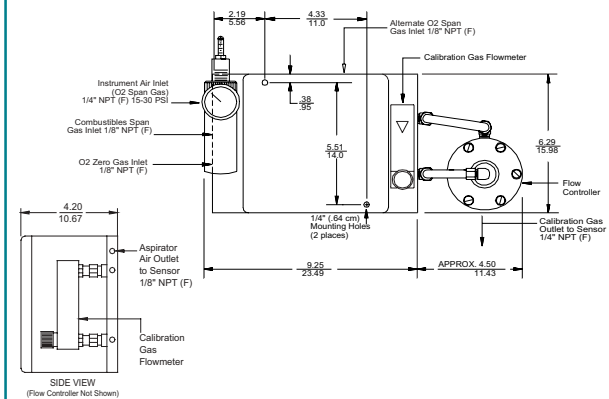


APPROX. WEIGHTS
NEMA 4 WALL/PANEL MOUNT: 28 lb (12.7 kg)
19" RACK MOUNT: 14 lb (6.35 kg)
PANEL MOUNT: 14 lb (6.35 kg)
WALL MOUNT: 14 lb (6.35 kg)



REMOTE CALIBRATION UNIT

RCU ENCLOSURE NEMA 4X
APPROX. WEIGHT: 11.0 LB (5.0 KG)



NOTES: 1. All static performance characteristics are with operating variables constant. 2. System accuracy referenced to 0.1 to 10% calibrated range.

One of a family of innovative process analyzer solutions from AMETEK Process Instruments. Specifications subject to change without notice.

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