

Bacharach® ECA 450 Analyzer

Portable Environmental Emissions 7-gas Analyzer for Industrial Applications



DESCRIPTION

The MSA Bacharach® ECA 450 is an industrial grade analyzer ideal for professionals concerned about combustion efficiency, environmental compliance, or both. Accommodating up to seven sensors, simultaneous measurements and calculated parameters are evaluated to ensure that industrial equipment is meeting environmental regulations while burning safely and efficiently.

The ECA 450 is designed for on-demand or semi-continuous sampling of industrial furnaces, boilers and other industrial combustion equipment. It complies with regulations such as U.S. EPA test methods, EN 50379, CTM-030 and state/local protocols including SCAQMD.

Note: The ECA 450 calculates CO₂ value based upon other measured values during the combustion process. It does not measure CO₂ directly.

Features

Measures up to 7 gases simultaneously (minimum O₂ and CO), including NO_x, SO_x and combustibles

Sensors are easily replaced or upgraded in the field

Rugged suitcase design with large, easy-to-read display

Built-in printer for instant traceability and record-keeping

Measurement Ranges

Measurement	Description
O ₂	0.1 to 20.9%
CO (H ₂ COMPENSATED)	0 to 4,999 ppm
CO (HIGH RANGE)	4,001 to 80,000 ppm
NO	0 to 3,500 ppm
NO ₂	0 to 500 ppm
SO ₂	0 to 4,000 ppm
COMBUSTIBLES	0 to 5.00% (application dependent)
STACK TEMPERATURE	-4 to 2,400° F (-20 to 1,215° C)
PRIMARY / AMBIENT TEMPERATURE	-4 to 999° F (-20 to 999° C)
PRESSURE / DRAFT	-27.7 to 27.7 inwc



MORE INFORMATION:

Scan the QR code to learn about the ECA 450 and other MSA Bacharach products.

Calculated Ranges

Measurement	Description
COMBUSTION EFFICIENCY	0.1 to 100%
EXCESS AIR	1 to 250%
CO ₂	0 to fuel dependent maximum
NOX (NO + NO ₂)	0 to 4,000 ppm
NOX (REFERENCED TO %O ₂)	0 to 17,000 ppm
CO (REFERENCED TO %O ₂)	0 to 99,999 ppm
NO (REFERENCED TO % O ₂)	0 to 14,900 ppm
NO ₂ (REFERENCED TO %O ₂)	0 to 2,100 ppm
SOX (REFERENCED TO %O ₂)	0 to 17,000 ppm

Accuracy

Measurement	Description
O ₂	±0.3% O ₂ on practical concentration of flue gas
STACK TEMPERATURE	±4°F from 32 to 255° F (±2°C from 0 to 124° C) ±6° F from 286 to 480° F (±3°C from 125 to 249° C) ±8° F from 481 to 752° F (±4°C from 250 to 400° C)
PRIMARY / AMBIENT AIR TEMPERATURE	±2° F from 32 to 212° F (±1° C from 0 to 100° C)
PRESSURE / DRAFT	±2% of reading or ± 0.02 inwc, whichever is greater
CO	±5% of reading or ±10 ppm, whichever is greater from 0 to 2,000 ppm ±10% of reading from 2,001 to 4,000 ppm
NO	±5% of reading or ±5 ppm, whichever is greater from 0 to 2,000 ppm
NO ₂	±5% of reading or ±5 ppm, whichever is greater from 0 to 500 ppm
SO ₂	±5% of reading or ±10 ppm, whichever is greater from 0 to 2,000 ppm
HC	±5% of full scale
SELECTABLE FUELS	Natural Gas, Oil #2, 4, 5, 6, Propane, Coal, Wood, Kerosene, Bagasse

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

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