**Please provide the following information to help us provide a system that exactly suits your requirements.**

**Please don’t hesitate to contact us if you have any questions or if you need help filling out this questionnaire.**

|  |  |  |
| --- | --- | --- |
| **CUSTOMER:** **Company****Contact name****Address****City, State, Zip code** | Email: | **your email address** |
|  |
| Phone: | **your phone number** |
|  |
| Date: | **Date** |

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| **Industry:**  |  | ***Others \*1***  |

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| **“MGA-5” MOBILE GAS ANALYSER**for continuous process gas monitoringSuitable for continuous emission and monitoring measurements at all industrial combustionssources (power utilities, refineries, chemical plants, laboratories, heating/drying stations etc.)and for compliance testing at engines, turbines, boilers and furnaces.**Basic equipment**• 19” rack, aluminium enclosure, mounted in a rugged transport case  with trolley and wheels• Effective, integrated, complete flue gas conditioner with double stage  gas cooler, condensate pump and auto-zero solenoid valve (heated coarse filter in the probe and heated sample line are  optionally available)• Optimized Teflon coated filter elements for protection against dust and  soiling• Dimensions: 19.68 x 20.46 x 11.61 (500 x 520 x 295) ( H x W x D )),  weight 41.8 lbs (19 kg)**Fuel types: ALL KNOWN FUEL TYPES, + USER DEFINABLE****Continuous analysis of:**• O2 0 – 25.0 % electrochemical measurement, long life• CO 0 – 3,000 ppm (\*) (see options, NDIR measurement)• CO2 0 – 20.0 % (see options, NDIR measurement)• SO2 0 – 3,000 ppm (\*) (see options, NDIR measurement)• NO 0 – 2,500 ppm (\*) (see options, NDIR measurement)• NO2 0 – 500 ppm (\*) (see options, NDIR measurement)• combustion air temperature up to 100 °C  (see options, up to 300 °C with appropriate probes)• stack gas temperature up to 650 °C  (see options, up to 1700 °C with appropriate probes)• differential pressure measurement 0 – +/- 100hPa  (see options, for flue gas velocity measurement)• flue gas velocity 3 – 100 m/sec (see options, Pitot tube is required)(\*) with accuracy,+/– 3%FSLarger measuring ranges are always possible, not all combinations of NDIR benches are possible!Ask MRU for available measuring ranges and NDIR bench combination!**Combustion and emission calculations:**• CO, CO2, SO2 referenced to 0% O2 or to user selectable O2 values• Excess Air, Air Ratio• Combustion efficiency, heat losses, dew point (only at well defined fuel types)• CO, CO2, SO2 in mg/Nm3• Gas velocity (with optional Pitot tube) and mass emission (g/sec) calculation**Features, configuration of analyser:**► Automatic internal test and control of soft- and hardware functions► Large, high-contrast and lighted graphical display with zoom function► All measured data at one sight► Individual, user definable display and printout settings► Large fuel type list including user definable fuels with user definable parameters► Long life (estimated 5 years) oxygen measurements as standard oxygen measurement► Variable O2 referencing for emission reports► RS 232 interface and internal data memory for approx. 8500 measurements► RS 485 interface for external MRU smart sensor (transmitter) connection► Automatic interval measurement program► Data-visualization and evaluation software for WINDOWS 7 (32BitDataLogger)► Integrated, double stage electrical gas cooler and automatic condensate peristaltic pump► Automatic zeroing by means of 3-way solenoid valve► Universal analog input (4-20mA or 0-10Vdc ) or additional NiCrNi thermocouple input► 8 channel user free configurable analog output 4-20mA self-powered current loop► Universal grid power supply: mains 90-264 Vac/ 300 W► Internal battery, for protection against short grid power supply failure (less than 1 minute)**Standard accessories :**► Combustion air temperature sensing element, short “K” type thermocouple► 100g glass wool filter, lasting for 50 times filtering (2g / filter)► 3 m RS 232 interface cable,► CD-Rom with PC software for data visualisation and user manuals► mains power supply cable► user manual ( English)► soft case (nylon) for transport of probe, sampling line and accessories |

**Please select the gases that you need to monitor (NDIR Benches below).**

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| --- | --- | --- | --- |
| **What gases do you want to monitor?** | **[ ]**  | Multi-gas infrared bench NO/NO2 | 0 to 2,500 ppm NO |
| (with H2O compensation) | 0 to 500 ppm NO2 |
| **[ ]**  | Multi-gas infrared bench CO/CO2/SO2 | 0 to 3,000 ppm CO |
| 0 to 30.00% CO2 |
| 0 to 3,000 ppm SO2 |
| **[ ]**  | Multi-gas infrared bench CO/CO2/SO2 | 0 to 10,000 ppm CO |
| 0 to 30.00% CO2 |
| 0 to 5,000 ppm SO2 |
| **[ ]**  | Multi-gas infrared bench CO/CO2/HC | 0 to 3,000 ppm CO |
| 0 to 30.00% CO2 |
| 0 to 3,000 ppm HC as CH4 |
| **[ ]**  | Multi-gas infrared bench CO/CO2/HC | 0 to 30.00% CO |
| 0 to 30.00% CO2 |
| 0 to 30.00% HC as CH4 |
| **[ ]**  | H2 thermal conductivity detector (TCD) | 0 – 10.00% to 100 % |

Not every combination of these options from above is simultaneously possible!

**Available options - please choose below.**

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| **[ ]**  | Flow velocity measurement including flow Calculation. Requires PITOT Tube from the selection that follows. |
| **[ ]**  | PITOT TUBE, 12” x 0.2” ID |
| **[ ]**  | PITOT TUBE, 20” x 0.2” ID |
| **[ ]**  | PITOT TUBE, 30” x 0.2” ID |
| **[ ]**  | PITOT TUBE, 40” x 0.3” ID |
| **[ ]**  | Interface for MMC (SD) card, incl. MMC card 1GB |
| **[ ]**  | RS 232 / RS 485 converter for long distance data transfer |
| **[ ]**  | RS 232 to USB converter for data transfer to notebook (function depends on type of PC/notebook ) |
| **[ ]**  | Combustion air temperature probe, 12” |
| **[ ]**  | Differential pressure measurement +/- 100hPa |
| **[ ]**  | External RS 232 printer |
| **[ ]**  | Handheld remote control unit with 33’ transmission cable |

**Please choose from the available Probes below.**

**Industrial gas sampling probe with:**

**heated, easy replaceable glass wool filter, optional sintered metal filter for some applications**

exchangeable probe tube and gas temperature measurement

(select one handle and one or more probe tubes from below)

|  |  |
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| **[ ]**  | **Gas sample probe handle with 9’ unheated sample line** |
| **[ ]**  | **Gas sample probe handle with 16’ unheated sample line** |
| **[ ]**  | **Gas sample probe handle with 10’ heated sample line +250°F regulated** |
| **[ ]**  | **Gas sample probe handle with 16’ heated sample line +250°F regulated** |
| **[ ]**  | **Gas sample probe handle with 32’ heated sample line +250°F regulated** |
| **[ ]**  | **Gas sample probe handle with 65’ heated sample line +250°F regulated** |
| **[ ]**  | Probe tube 12” x 0.5” (up to 1200°F) |
| **[ ]**  | Probe tube 30” x 0.5” (up to 1200°F) |
| **[ ]**  | Probe tube 40” x 0.5” (up to 1200°F) |
| **[ ]**  | Probe tube 60” x 0.5” (up to 1200°F) |
| **[ ]**  | Probe tube 80” x 0.5” (up to 1200°F) |
| **[ ]**  | Probe tube 40” x 0.5” INCONEL (up to 2000°F) |
| **[ ]**  | Probe tube 80” x 0.5” INCONEL (up to 2000°F) |

**HIGH TEMPERATURE PROBES**

**Includes exchangeable probe tube, gas temperature measurement using K-Type thermocouple, and heated, easy to change glass wool filter**

|  |  |
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| **[ ]**  | Gas sample probe handle with 9’ unheated sample line |
| **[ ]**  | Gas sample probe handle with 10’ heated sample line |
| **[ ]**  | Gas sample probe handle with 16’ heated sample line |
| **[ ]**  | Ceramic probe tube 40” x 0.4” ID with “S” type thermocouple |

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| **Other requirements** |  |

**Please email this questionnaire to: info@mru-instruments.com**