

### **Expand Your Capabilities**

Mustang Dynamometer introduces the Vehicle Mass Analysis System (VMAS<sup>®</sup>) 2.0 which measures mass emissions in real-time for pre-cert CARB EO testing. Now Mustang dyno owners can add emissions testing that measures and records grams per mile for tailpipe emissions, integrating core Mustang technologies into the basic system, which has been a standard for idle-state, loaded mode and transient emissions-based testing. VMAS<sup>®</sup> 2.0 simultaneously measures raw concentrations, diluted exhaust flow and dilution ratio, performs the required calculations to generate mass emissions rates and cumulative mass of CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, and HC (as hexane), saving the data on a second-by-second basis for instant inspection and analysis.

The heart of the system is comprised of Sensors' NDIR, NDUV and flow measurement technologies. The Automotive Microbench (AMB II) is employed for the measurement of CO, CO<sub>2</sub>, and HC exhaust constituents. NDUV technology has been integrated for the measurement of NO and NO<sub>2</sub>, which is a more accurate, precise and responsive analytical technique. Finally, the vortex flow measurement device has been replaced with a more robust, accurate and wide-ranging averaging pitot technique. The result is a complete system with greater accuracy and reliability.



### **Features/Benefits**

Mustang Dynamometer's VMAS<sup>®</sup> 2.0 advantages are:

- Measure emissions while running EPA drive cycles
- Tune vehicles more accurately under steady state conditions
- Ensure after market, bolt-on products do not increase emissions

Visit [MustangDyne.com](http://MustangDyne.com) or contact [Sales@MustangDyne.com](mailto:Sales@MustangDyne.com) to find out more about Mustang Dynamometer's VMAS<sup>®</sup> 2.0.

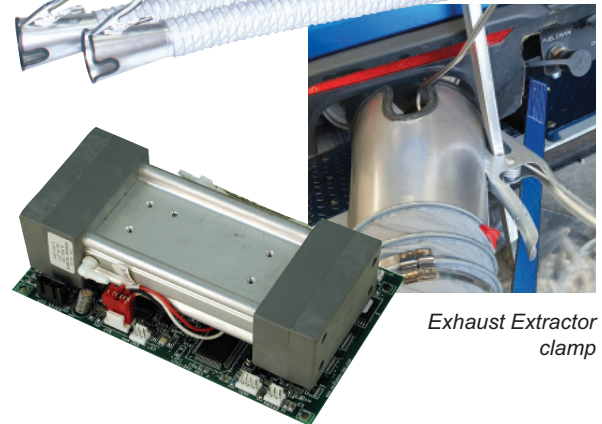
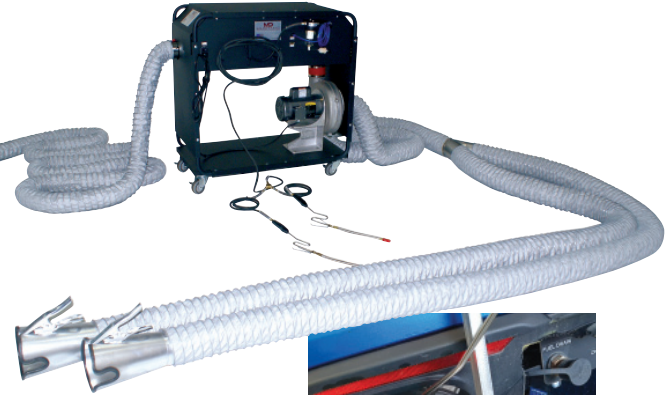


# SPECIFICATIONS

# VMAS<sup>®</sup> 2.0



## Vehicle Mass Analysis System



Exhaust Extractor clamp

AMB II (without enclosure box) and EFM4 module

### EFM4

Temperature Range	-5 to 500° C			
Temperature Accuracy	± 1% of reading or ± 2° C, whichever is greater			
Flow Measurement Accuracy	± 2% of reading or ± 0.5% of full scale, which is greater			
Nominal EFM Tube	100° C		400° C	
Diameter (in.)	Min Flow (kg/hr)	Max Flow (kg/hr)	Min Flow (kg/hr)	Max Flow (kg/hr)
4	30.7	2080.0	46.3	1550.0

### NDIR

Parameter	CO	CO <sub>2</sub>
Max Range (Full Scale)	8% vol.	18% vol.
Minimum Span to Meet Requirements	0.5%	6%
Resolution	10 ppm	0.01 % vol. CO <sub>2</sub>
Accuracy	< ± 2% of reading or ≤ ± 0.3% of full scale, whichever is larger	
	As low as ± 50 ppm	As low as ± 0.1% vol. CO <sub>2</sub>

### NDUV

Parameter	NO	NO <sub>2</sub>
Max Range (Full Scale)	0 to 3000 ppm	0 to 1000 ppm
Minimum Span to Meet Requirements	300 ppm	300 ppm
Resolution	0.1 ppm	0.1 ppm
Accuracy	< ± 2% of reading or ≤ ± 0.3% of full scale, whichever is larger	

### RANGES

HC	0 to 2000 ppm Hexane 0 to 4000 ppm Propane
O <sub>2</sub>	0 to 25%

### RESOLUTION

HC	1 ppm vol.
O <sub>2</sub>	0.01% vol.

### CART

H x W x D	1057 x 1102 x 508 mm
Weight	100 kg

### Mustang Dynamometer

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### Features

- EFM4 Module
- NDUV Analyzer
- NDIR Analyzer
- Sample Assembly
- Filter Assembly
- Power Supply
- Blower Assembly
- Tail Pipe Clamps
- Software Integration

