



## WALL MOUNT ULTRA-LOW-FLOW SHED FID THC ANALYZER MODEL W600-15



Complies with J2763, 2722 and Other Test Procedures

The J.U.M. Engineering HFID Model W-6001-15 for ultra-low total sample through flow amounts is a very economical, time proven and very reliable and rugged wall or panel mount fully heated Total VOC / hydrocarbon FID-analyzer for Mini-SHED and Micro-SHED applications for low drift, high accuracy, sensitivity and stability.

All sample wetted components are integrated into the heated chamber. The Model W600 uses our time proven hydrogen Flame Ionization Detector (FID) in a heated oven to prevent the loss of high molecular weight hydrocarbons and to provide very reliable performance in the analysis of low to high trace levels of contaminants in air and other gases. The disposable heated sample filter is easily accessible from the rear panel. No special tools are required for filter change.

This analyzer can easily be installed on the side wall of a SHED chamber to keep the sample line very short.

Low cost of ownership. Low fuel gas consumption. The combustion air supply for the FID-detector is built in. No external cylinder for synthetic burner air is needed.

### Features

- *User Specified sample flow through rates between 12 ml/min up to 60 ml/min can be realized*
- Low investment cost, low cost of ownership
- All components in contact with sample fully heated and controlled at 190°C to prevent hydrocarbon hang up and cracking
- Built-In air pressure and sample pumps
- Built-in combustion air supply, no extra air bottle needed
- Easy to change sample filter accessible on the rear panel. No special tools required for quick filter changes
- Automatic flame out alarm
- Optional automatic flame ignition and re-ignition
- Low fuel consumption
- Very selective to hydrocarbons

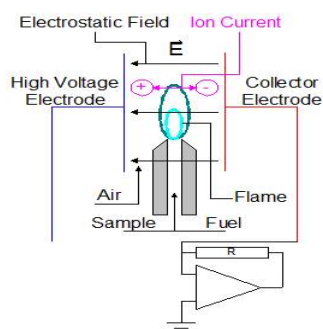
### Major Applications

- Ultra-Low Flow SHED applications for Mini and Micro SHED test chambers
- THC Monitoring for contaminants in climate chambers and other clean air test chambers
- Any other low or ultra-low flow application, please contact us for flow through amounts

## Principle of Operation

The Flame Ionization Detection (FID) method is used to determine the presence of total hydrocarbon concentrations in a gaseous sample stream. Burning hydrocarbon-free hydrogen in hydrocarbon-free air produces a negligible number of ions. Once a sample containing hydrocarbons is introduced into this flame a very complex ionization process is started. This process creates a large number of ions. A high polarizing voltage is applied between the two electrodes around the burner tip of the nozzle and produces an electrostatic field. Now negative ions migrate to the collector electrode and positive ions migrate to the high voltage electrode. The so generated ionization current between the two electrodes is directly proportional to the hydrocarbon concentration in the sample that is burned by the flame. This signal is measured and amplified by our electrometer-unit.

Our proprietary VPMC sample flow and pressure regulator provides a controlled sample flow and gives admittance of a constant sample flow rate into the FID burner. Using our VPMC technique is time proven by J.U.M. Engineering since many years to provide the highest possible sample flow rate stability and lowest maintenance for ultra-low flow pumping systems. Our compactly designed flow control module for controlling the fuel and air flow rates via needle valves use high precision pressure regulators. The needle valves are factory certified, adjusted and sealed to ensure the optimization of the FID-burner.



## Available Options

<b>AZM 615</b>	Automatic flame ignition and re-ignition
<b>FOAS 615</b>	Flame out alarm with automatic fuel shut off valve
<b>LTO 615</b>	Measurement of low trace hydrocarbon levels. Requires external, zero grade combustion air supply!
<b>BLVX 615</b>	Designed to be used in conjunction with the LTO option to use external combustion air from a synthetic air cylinder. Needs to be specified with PO
<b>RCI4 615</b>	4-20 mA analog output, galvanically isolated
<b>TPR 615</b>	External temperature controller for J.U.M. heated sample lines Model TJ 100

Availability of options may not be complete. Changes will not be announced! Please contact us before specifying your purchase order!

## Technical Data

Method of analysis	Flame Ionization Detector
Sensitivity	Max. 1 ppm CH <sub>4</sub> full scale
Response time	3 seconds @ sample inlet, given by SHED Configuration and sample line lengths
Zero drift	<1.5% full scale / 24h
Span drift	<1.5% full scale / 24h
Linearity	Up to 10.000ppm within 1% FSD
Oxygen synergism	< 2% FSD
Measuring ranges (ppm)	0-10, 100, 1.000, 10.000, 100.000, others on request
Signal outputs	0-10 VDC, 4-20 mA and RS-232 data output
Display	6- digit direct reading ppm and other units
Total Sample Flow Through Rate	To be user specified between 12 and 60 ml/min capacity @ operating temp.
Sample Filter	2 micron change filter
Zero and Span gas	Switch selectable, inlets on rear panel
Zero and span adjust	Manual on front panel
Fuel consumption 40%H <sub>2</sub> /60%He	approx. 90 ml/min @ 1.5 bar (22 psig)
Burner air consumption	Built in burner air supply
Oven temperature	190°C (374°F)
Temperature control	μ-processor PID controller
Power requirements	either 230VAC/50Hz, 850 W or 115VAC/60Hz, 850 W
Ambient temperature	5-43°C (41-110°F)
Dimensions (W x H x D)	19" (483 mm) x 650 mm x 132 mm
Weight	approx. 20 kg (50 lbs)

J.U.M. reserves the right, at any time and without notice, to change specifications presented in this data sheet and assumes no responsibility for the application or use of the devices described herein.

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