

# JUM 3-200

## FID VOC THC Analyzer

Successfully used in international markets for more than 40 years, the JUM 3-200 is the first fully heated transportable FID designed using a high pressure sampling filter. This analyzer is an identical but portable version of the rack-mounted JUM analyzers such as VE7, 3-500 and 3-300A.

### A fully heated portable FID

Ergonomic, the JUM 3-200 can be both rack-mounted and portable. It is highly appreciated for its robustness, high precision, sensitivity and stability. This analyzer is widely distributed in the industry for stack testing operations.



- ✓ **Comply with EN 12619 norm**
- ✓ **Norms EN 14181 & EN ISO 14956**
- ✓ **EPA Method 25A & 503 (USA)**



**Flame Ionization Detector (FID)**

## KEY POINTS

- All components in contact with sample are fully heated and digitally maintained at 190°C
- Built-in sample pump
- Built-in combustion air supply, no extra burner air bottle needed
- «Overflow» calibration system for safe zero and span calibration
- Automatic flame out alarm and fuel shut off with power off available in option
- Fast response time
- Low fuel consumption
- Microprocessor PID type temperature controller
- Automatic or remote range change available in option

## APPLICATIONS

### Continuous emission monitoring

- Chimney hydrocarbon gases
- RDE test: vehicle hydrocarbon gas
- Crude hydrocarbon gases from vehicles

### Continuous ambient air monitoring

- Oil contamination in air
- Traces of hydrocarbons detection
- Indoor air quality
- LEL solvent-laden air monitor

### Other ...

- Catalytic converter test
- Engine combustion efficiency monitoring
- Regeneration control of carbon uptake
- Industries

# DESCRIPTION

The JUM 3-200 is a highly reliable, rugged, low drift FID Heated Total Hydrocarbon (HCT) analyzer. The 3-200 uses a Hydrogen Flame Ionization (FID) detector in a heated oven to prevent the loss of high molecular weight hydrocarbons and to provide reliable performance and rapid response in the analysis of VOCs, ranging from low traces to high ranges.

All components in contact with the sample are integrated into an easy to maintain heated chamber. The permanent heated sample filter is cleaned by back purging with compressed air or nitrogen. This feature allows nearly uninterrupted measurements during cleaning the sample filter. While back purging the sample filter, the heated sample line and sample probe are also cleaned. This is a very unique feature which makes separate cleaning of the sample line unnecessary. The use of a stack probe filter is not necessary when the 3-200 FID is used in a stand-alone mode. The combustion air supply for the detector is built in. No expensive air generator or external cylinder for synthetic air is needed. A safe 10 bar recharge is possible from any master cylinder.

## TECHNICAL SPECIFICATIONS

METHOD	Heated Flame Ionization Detector (HFID)
SENSITIVITY	Max. 1 ppm CH <sub>4</sub> full scale (100 ppb lowest detectable)
LOWER DETECTION LIMIT	+/-5% of range
t90 TIME	@ sample inlet <1.2 seconds
t90 TIME (Including 4x6mm sample line)	Including heated sample line (7.5m) and sample probe filter: less than 8 seconds
t90 TIME CH <sub>4</sub> (With HCNM cutter)	<40 seconds
ZERO DRIFT	<2% full scale / 24h
SPAN DRIFT	<2% full scale / 24h
LINEARITY	Up to 10.000 ppm full scale within 1.5%
OXYGEN SYNERGISM	< 2% FSD
MEASURING RANGES (ppm)	Front panel turn switch: 0-10,100, 1.000, 10.000, 100.000, others on request.
SIGNAL OUTPUTS	0-10 VDC, 4-20 mA, including RS-232
DISPLAY	6- digit direct reading ppm units capability to measure 3 overlapping ranges without range change
TOTAL SAMPLE FLOW THROUGH	2.5 to 2.8 l/min capacity @ operating temp.
HEATED SAMPLE FILTER	Disposable 2 micron change filter in front panel
ZERO AND SPAN GAS	Front panel switch selectable & remote control. Gas inlets on rear panel
ZERO AND SPAN ADJUST	Manual duo dial on front panel
FUEL GAS CHOICE	Standard 100% H <sub>2</sub> . Optional 40% H <sub>2</sub> / 60% He
BURNER AIR CONSUMPTION	Built in burner air supply. No external cylinder air needed. consumption is approx. 130 ml/min, all mixed fuel gases approx. 220 ml/min.
OVEN TEMPERATURE	190°C (374°F)
TEMPERATURE CONTROL	Micro-processor PID controller
POWER REQUIREMENTS	230VAC/50Hz, 900W (120 VAC/60Hz optional)
AMBIENT TEMP.	5-43°C (41-110°F)
DIMENSIONS	(W x D x H) 483 mm x 460 mm x 221 mm
WEIGHT	approx. 24 kg

## AVAILABLE OPTIONS

OVE 32	Quick change, disposable 2 micron sample filter housed in the heated oven instead of back purge sample filter
ICM 32 *	Built-in NMHC Cutter, measure either THC or Methane
APO 32	Automatic external sample filter back purge timing system
AZM 32	Automatic flame ignition and re-ignition
ENGA 32	6-digit engineering units display 0-100.000 ppm with RS232 data output. 24 bit resolution allows to digitally measure throughout 2 to 3 measuring ranges without range change
FOAS 32	Flame out control with automatic fuel shut off valve
PDA 32	Sample pressure monitor with alarm
RCA 32	0-20 mA analog output, galvanic isolated, instead of standard 4-20 A
RCI0 32	0-20 mA analog output, galvanic isolated
RCI4 33	4-20 mA analog output, galvanic isolated
TPR 32	External temperature controller for J.U.M. heated sample lines TJ 100 or other brands with "J" type thermocouple
FSS 32	Low pressure metal hydride hydrogen fuel storage
UFS 32	Hydrogen Recharging Set; Pressure regulator for high pressure hydrogen cylinder equipped with Swagelok® flow through quick connector
TJ 100	Heated Sample Line: 1, 3, 5 and 10 Meters of Length

## For more information

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