

# NOVASTREAM 6000

## Wall Mount Gas Analyser



FID

### ppb, ppm and % analysis using Flame Ionisation Detector

The NovaSTREAM 6000-FID Analyser is explosion proof utilising a Purge method of conformity, and is housed in a mild steel enclosure for use in the hazardous areas of Zone 1 and Zone 2 classification. This specially designed enclosure enables real-time analysis in hazardous areas with reliable and consistent results.

The core of this analyser system is the NovaSTREAM 6000 Analyser platform using AGC Instruments' own industry-proven Flame Ionisation Detector (FID). Designed to continuously measure and monitor concentrations of Hydrocarbons in a gas stream, it can also measure CO & CO<sub>2</sub> using a methaniser. It will provide accuracy with long term performance for applications ranging from gas producers to laboratory uses. For ppb applications, the internal cabinet is heated to provide a stable ambient temperature to offset any working temperatures and the Flame Ionisation Detector provides measurements to less than 30 ppb with speed. Using the large colour interactive touch screen, the NovaSTREAM 6000-FID analyser is straightforward to set-up and use with all functionality easily accessible and navigable with minimal training required.

With the integration of Pressure Sensors and voltage free alarm relay contacts, all critical monitoring is automated and provides peace of mind to the operator. Should the flame be extinguished, the analyser will automatically shut off the Sample and Fuel lines to the FID and an alarm will be activated. Further verification is provided by voltage free contacts for switching in calibration gas inputs externally to support the auto-calibration routine. Both Calibration and Alarm records are maintained also with a fall-back option to restore factory settings.

The precise results obtained from this analyser can be transmitted via an array of communication modules such as: Passive 4-20mA (2 off), mV Signal, USB (2 off) and VGA outputs. Active 4-20mA, Ethernet, RS-232 and RS-485 outputs are also available as optional extras. This allows the analyser to be integrated seamlessly into all analytical infrastructures worldwide.

The modular design allows for easy access to the electronics for trouble-free maintenance and servicing. It is both cost effective and reliable with a low cost of ownership due to the low gas and power consumption. The AGC Engineering Team will custom design and test an analytical solution to meet your application and all systems are designed with volume optimised pipe work using only 1/8" Swagelok® fittings. Therefore, this robust system ensures an excellent stability, sensitivity and a long working life.

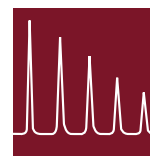


V1.0  
02-04-2021

### Features

- Explosion Proof for use in Zone 1 and Zone 2
- Cabinet fitted with Purge Controller to EExP standards
- Also available in safe zone configuration
- Flame Ionisation Detector (FID)
- Highly Sensitive to < 30 ppb with Minimal Drift
- Fast Detector Response: < 30 seconds (T<sub>90</sub>)
- Long Term Stability & Sensitivity
- 6.5" LCD Touch Screen with 6mm Protective Glass
- Fully Automated use with intuitive GUI
- Integrated Configurable Alarms System with Alarm Record
- Added Sample Flow Alarm
- Integrated Diagnostics System
- Pressure Sensors
- Voltage free contacts for switching in calibration gas inputs externally
- Auto-Calibration Routine with Calibration Record
- Internal storage of results up to 24 months and data trending via PC
- External I/O Connections for internally pre-wired communication modules: 2 x 4-20mA, 1 x mV Signal, VGA & USB Outputs
- Active 4-20 mA option
- Ethernet, Modbus over TCP/IP & Profibus options
- Easy Access for maintenance and servicing
- Cost Effective and Reliable

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## Principle Of Operation

The NovaSTREAM 6000-FID, using AGC's own Flame Ionisation Detector (FID), is used to measure concentrations of hydrocarbons within a sampled gas. The presence of hydrocarbons is detected by burning the sampled gas in an air-hydrogen flame and burning just pure hydrogen with air produces only trace amounts of ionisation. The presence of hydrocarbons in the sampled gas, when burnt with an air-hydrogen mix causes high levels of ionisation. The ionisation occurs as a result of the carbon atoms present in the sampled gas and the level of ionisation is proportional to the number of carbon atoms within the sample which can then be measured.

With a quick start up time and fast detector response, operation of the NovaSTREAM 6000-FID is swift, precise and straightforward. Moreover, the packed columns with their independent column ovens and individual temperature controllers also maintain exceptional stability, accuracy and repeatability. Servicing and maintenance is trouble-free with easy access to the electronic components and our unique column infrastructure, which can regenerate in-situ, providing you with seamless operations. The minimal gas consumption provides an economical platform with a low cost of ownership and long-life span.

## Typical Industries

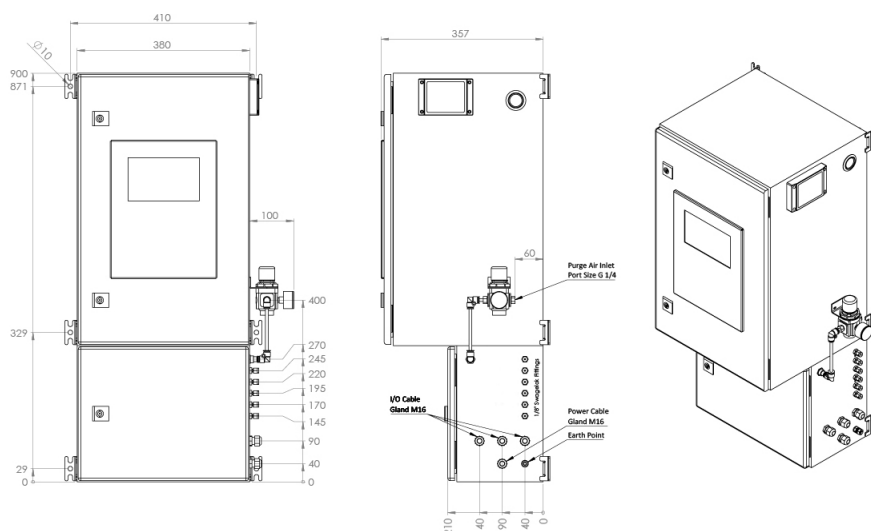
- THC in  $H_2$ ,  $O_2$ , Air, Ar,  $N_2$ , He and  $CO_2$
- Air Separation Units
- Air Liquefaction Plants
- Semiconductor Industry
- Gas Blending Equipment
- Industrial Gas Production Units
- Gas Cylinder Filling Sites
- Compressor Manufacturers
- Chemical Plants
- Refineries
- Adhesive Manufacturing Emissions
- Combustion Engine Efficiency
- Ambient Air Monitoring
- Landfill and Biogas Applications
- Calibration/Quality Control Laboratories

## Configurations

MODEL	RANGE
6000-23	% Analyser
6000-24	ppm Analyser
6000-25	ppm Analyser with Methaniser for $CO/CO_2$ (Single Reading)



This analyser system is available for use in Safe Zones and both Hazardous Areas Zone 1 or Zone 2. Please contact AGC Instruments to discuss your application requirements.



## Benefits

- Continuous Hydrocarbon Monitoring
- Selective to Hydrocarbons only
- Long Term Reliability & Stability even in low ppm ranges
- Approved low detection limit
- Versatile Fuel Mixtures
- Methaniser option to measure  $CO$  and  $CO_2$
- Heated version available to analyse Gas Streams where Sample Temperature needs to be maintained at the Operating Temperature.

Specification	
Detector	Flame Ionisation Detector (FID)
Range of Detection	0.01 - 20,000 ppm (Higher ranges available upon request)
Analyser Configurations	6000-23 (%) / 6000-24 (ppm) / 6000-25 (ppm with Methaniser for CO/CO <sub>2</sub> (Single Reading))
Minimum Detectable Level	< 30 ppb
Resolution	< 0.01 ppm
Zero Drift	< 30 ppb
Response Time	< 30 seconds
Warm up Time	1 Hour typical
Interface	6.5" Industrial Grade Colour Touch Screen Control with 6mm Protective Glass
Outputs / Communication Modules	<ul style="list-style-type: none"> <li>• 2 x Isolated 4-20mA outputs (Active or Passive) [configurable for high &amp; low resolution readings]</li> <li>• 1 x mV Signal output</li> <li>• 1 x RS-232</li> <li>• 2 x USB</li> <li>• VGA</li> <li>• Modbus over TCP/IP*</li> <li>• Profibus*</li> <li>• Ethernet*</li> </ul>
Alarms	7 x Voltage Free Alarm Relay Contacts (including one for sample flow)  Alarm Record
Calibration	Auto-Calibration Routine (with internal validation) [Dependent on Model]  Voltage Free contacts for switching in the calibration gas inputs externally  Calibration/Validation Record
Data / Results	Data Trending via PC connection and 24 months internal storage
Gas Connections	1/8" Swagelok® fittings
Fuel Gas	Zero Grade H <sub>2</sub>
Fuel Mix	40/60% mixture
Zero Air	> 0.1 ppm of total hydrocarbons
Sample Gas	Sample Flow Monitored by Flow Sensor
Flame Ignition	Stable Flame Ignition Circuit  If activated, the Flame Out Alarm will automatically shut off the fuel & sample flow  Flame Arrestors available for ATEX applications
Operating Temperature	5° to 40° Celsius
Power Supply	100 - 120 VAC or 220 - 240 VAC, 50/60 Hz
Max Power Consumption	≤ 350 Watts (Application Dependent)
Dimensions	380 (W) x 363 (D) x 757 (H) - Wall Mount Design
Weight	47 Kg (Dependent on System Configuration/Design)
Certifications	<ul style="list-style-type: none"> <li>• CE</li> <li>• ISO 9001:2015</li> <li>• ATEX &amp; IECEx certified</li> </ul>



## Company Profile

### AGC Instruments Ltd.

AGC Instruments is a leading manufacturer of Gas Analysis Solutions to all users requiring a Quality Control or identification of their gas stream. We have over 50 years experience in providing our customers with their "Total Gas Analysis Solutions". We work closely with all customers to ensure they obtain the analytical solution that meets their needs and a system that is easy to use and understand. All AGC distributors are extremely experienced and factory trained to the highest standards, offering you a complete after sales support service.

The wide range of Detectors available can be customised to measure unique gas streams and we place an emphasis on the continuous development of our analytical solutions. Our worldwide reach with strategic partners ensures that you have peace of mind and after sales care that are important to your operations.

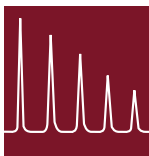


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## After-sales Care

AGC Instruments are committed to providing and maintaining quality systems from customer liaison to technical knowledge through to System Design and Delivery. We believe that our After Sales Support to the customer is one of the most important services we can offer. Each Distributor has been carefully selected and trained to ensure our customers receive the best possible service. Furthermore, online customer support and direct support are available to deliver a comprehensive support package.

### Zone 1 ATEX Certification

Certificate Numbers: CSANe 20ATEX1111X

Certifying Body: CSA Group Netherlands

Equipment Marking:  II 2G Ex pxb IIB+H2 T3 Gb  
 2813



### Zone 2 ATEX Certification

Certificate Number: CSANe 20 ATEX M803

Certifying Body: CSA Group Netherlands

Equipment Marking:  II 3G Ex pzc IIB+H2 T3 Gc  


### Zone 1 & 2 IECEx Certification



Certificate Number: IECEx SIR 20.0040X

Equipment Marking Zone 1: Ex pxb IIB+H2 T3 Gb

Equipment Marking Zone 2: Ex pzc IIB+H2 T3 Gc

For further information please contact:

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