

GASEX PORTA

Autonomous Stand-alone Portable FTIR – for gas analysis

Arcoptix presents **GASEX PORTA I**:

GASEX PORTA I is an autonomous FTIR gas spectrometer optimized for on-site or laboratory operation. Its core consists of the OEM **GASEX** unit comprising a powerful couple of our vacuum tight “Rocket” FTIR spectrometer, integrated to a low volume (0.2L) heated gas cell providing five meters long optical path in your gas sample. GASEX PORTA is equipped with LiPo accumulators providing energy for up to 8 hours of autonomous operation.



Features

GASEX PORTA includes:

- Compact, rugged and high-performance FTIR module with 4TE-MCT detector;
- **Long path (5m), low volume (0.2L) heated gas (190°C)** cell seamlessly matched to the FTIR for high sensitivity and very short response time;
- **Rhodium coated** chemically resistant optics
- LiPo accumulators for up to **8 hours of off-grid field operation.**
- Optionally powered from 12 V or 24
- **USB2 or optionally WiFi** connection for communication with your PC.;

Application fields

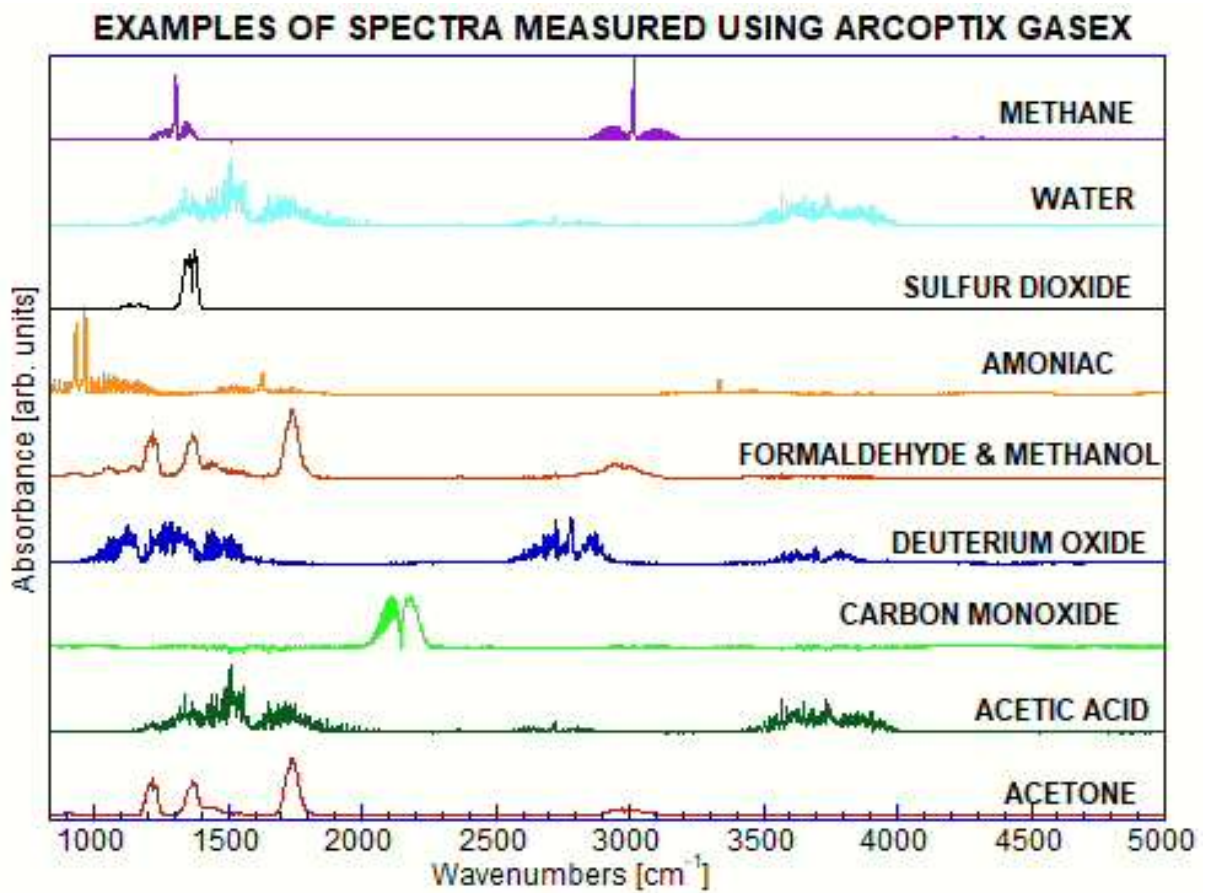
- Ambient air (environmental and pollution) monitoring
- Continuous emissions monitoring (CEM);
- Engine emissions;
- Combustion monitoring
- Security and defense
- Mining
- Petro-chemistry
- Toxic gas detection
- Fire fighting
- Forensic science

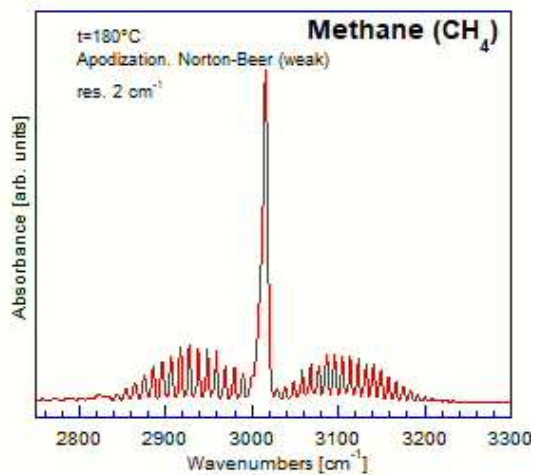
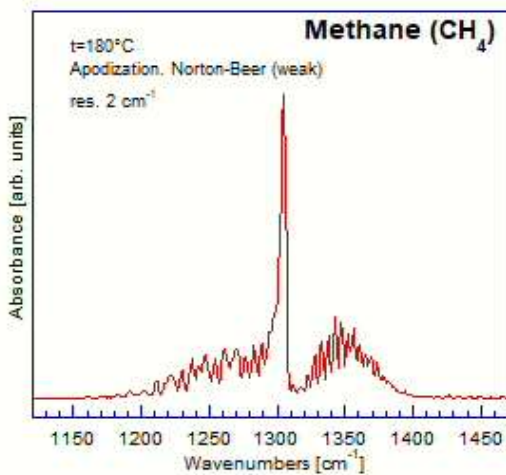
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- Specifications

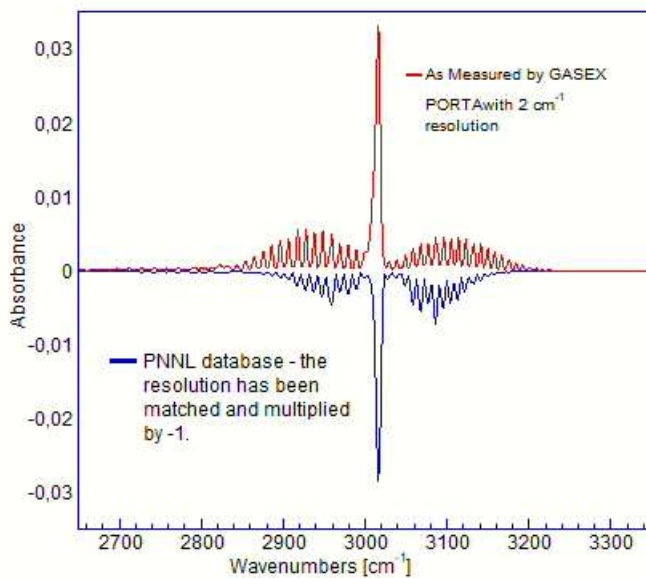
FTIR	
Design	Permanently aligned, maintenance free, hermetic.
Resolution [cm⁻¹]	2 optionally 1
Beamsplitter / window material	ZnSe
Spectral range [cm⁻¹]	5000 - 830
Detector	MCT (4-TE cooled)
Detectivity D* [cm Hz^{1/2}W⁻¹]	> 2.5x10 ⁹
Light source	Broadband SiC, 1550 K
Reference laser	Stabilized solid-state laser at 850nm
Scan frequency [s⁻¹]	>1 (at 4cm-1)
Signal-to noise ratio	> 3'000:1 (at full resolution)
Operation	Position independent, vibration resistant
Light Source	Glo-bar stabilized at 1550 K
OPTIONAL Absotrans (TM)	Active suppression of H ₂ O and CO ₂
GAS CELL	
Design	Multi-pass, permanently aligned, directly matched to the FTIR
Path length	5m
Internal volume	0.2L
Transmission	>50%
Temperature range [°C]	-20 to 200 (not condensing)
Construction	Aluminum with inert coating.
Mirrors parabolic,	Rhodium protected, gold coated aluminum
Windows	BBAR ZnSe
Heating	Up to 200°C
SYSTEM	
Communication	USB 2.0, WiFi
Gas connection	For 6mm or ¼" diameter tubing (customizable)
Operating Temperature	10-35°C
Operating system	Windows 64 bits
API	Windows DLL instrument control and data retrieval
Power autonomy	8 hours in all regimes
Dimensions [mm]	450x300x300
Weight	13 kg

Examples of Gas Spectra measured with GASEX PORTA

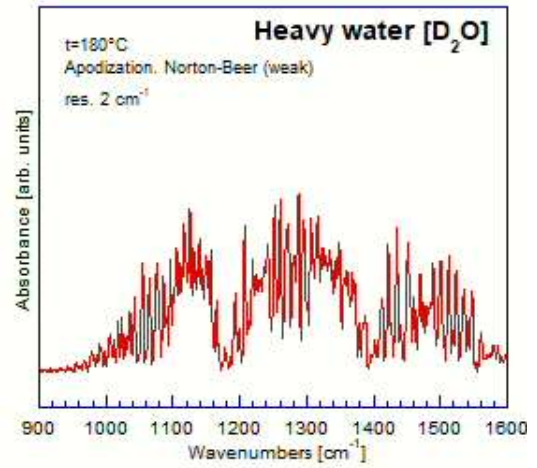
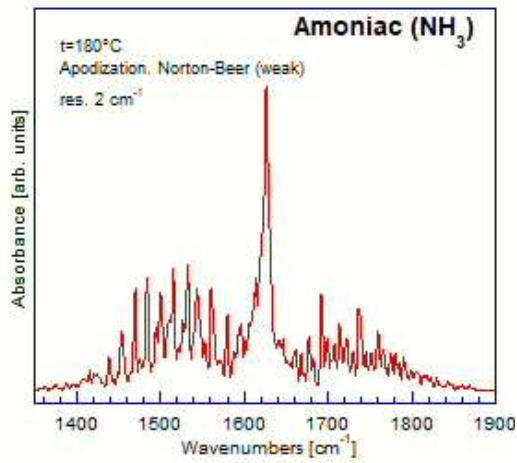




Characteristic bands of lines corresponding to methane absorptions – detail.



Comparison of Gasex measured spectrum compared with a PNNL database originating spectrum, adjusted to the same resolution.



Characteristic bands of lines corresponding to ammoniac and h