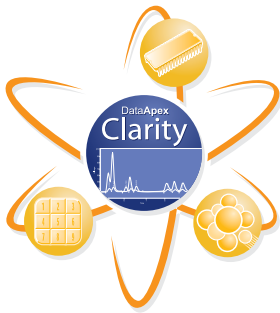


Clarity NGA Extension



Software module for Natural Gas Analysis

NGA Extension provides tools for automated and quick Natural Gas and Liquefied Petroleum Gas data processing in Clarity.

Calculates gas properties in compliance with internationally recognized standards ISO 6976-95, ASTM D 3588-98, GPA 2172-09 for Natural Gas or ASTM D 2421-02, ASTM D 2598-02, ISO 8973-97 / EN589-04 for Liquefied Petroleum Gas.

The gas properties can be calculated across multiple signals and even across multiple chromatograms. Detailed list is on the next page.

It is possible to include additional norms based on customers feedback.

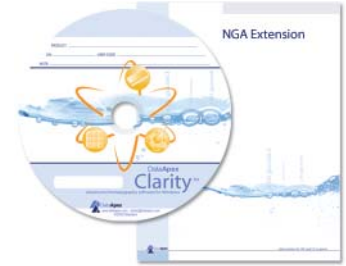
NGA Extension is an optional addition to Clarity software, it cannot be used as a standalone program.

Clarity NGA Extension

Software module for Natural Gas Analysis

The NGA Extension is an optional fully integrated addition to Clarity software. It can be ordered as a part of new software or as an extension to existing software.

The Clarity Chromatography Software is designed to acquire and evaluate data from up to four multidetector chromatographs at a time (four independent timebases). The NGA mode is selectable for any Instrument within a station. The NGA Extension is also compatible with Clarity Offline software.



Features - calculated properties according to norms

ISO 6976-95

- Compression Factor (for real gas only)
- Mean Molecular Weight
- Relative Density
- Density
- Superior Calorific Value
- Inferior Calorific Value
- Wobbe Index

ASTM D 3588-98 and GPA 2172-09

- Molar Mass
- Molar Mass Ratio
- Compressibility Factor
- Relative Density
- Ideal Heating Value (also in BTU - British Thermal Units)
- Real Heating Value (also in BTU - British Thermal Units)

ASTM ASTM D 2421-02 and D 2598-02

- Vapor Pressure
- Relative Density
- Motor Octane Number

ISO 8973-97 / EN589-04

- Absolute Vapour Pressure (for Molar and Mass Percent only)
- Gauge Vapour Pressure (for Molar and Mass Percent only)
- Octane Number

Specification

Part No.:

A32

Related products:

Clarity (p/n C50) or Clarity Offline (p/n C59) - required
GC and AS Control module (p/n A23 and A26)

Clarity - Chromatography SW
DataApex 2009

NGA Results for Norm: Natural Gas ISO 6976-95
Norm Table Signature Status: Valid (Last Signed by DataApex, Ltd.)

Result Calculations (ngp-1.3_2009_5_42_17_P96)

Property	Value	Units
Compound Links	Valid	
Gas	Valid	
Mean Molecular Weight	16.346	
Relative Density	0.5440	
Density	1.8102	kg/m ³
Superior Caloric Value	479.87	kJ/m ³
Inferior Caloric Value	393.95	kJ/m ³
Wobbe Index	46.56	MJ/m ³

NGA Results Table (ngp-1.3_2009_5_42_17_P96)

Compound Name	Signal	Area (%)	Amount (Molar %)
1 Methane	MSD	80.96	87.63
2 Ethane	MSD	1.63	0.09
3 Propane	MSD	8.88	0.08
4 i-butane	MSD		
5 n-butane	MSD		
6 Isopentane	MSD		
7 Isopentane	MSD		
8 Isopentane	MSD		
9 Hexane	MSD	0.00	0.00
10 Nitrogen	MSD	2.48	0.00
11 CO ₂	MSD	0.05	0.00
12 H ₂ O	MSD	181.59	180

NGA Method: Natural Gas ISO 6976-95
Source Amount: Molar Percent
Caloric Value Calculation Basis: Molar Basis
Temperature: Combustion 15°C (Measuring 15°C)
[Total] Fuel Gas: [Total Gas]
Ideal Heating Type: Dry Basis

NGA Summary Table

Compound Links	Gas	Mean Molecular Weight	Relative Density	Density (kg/m ³)	Superior Caloric Value (kJ/m ³)	Inferior Caloric Value (kJ/m ³)	Wobbe Index (MJ/m ³)
ngp-1.3_2009_5_42_17_P96	Valid	16.346	0.5440	1.8102	479.87	393.95	46.56
ngp-1.3_2009_5_42_17_P96	Valid	17.815	0.6151	2.0513	479.87	393.95	46.56



DataApex™

www.dataapex.com

DataApex reserves the right to make changes to described products without prior notice.

Last revision: October 2009

Code/Version: B025/EN01-20091002