

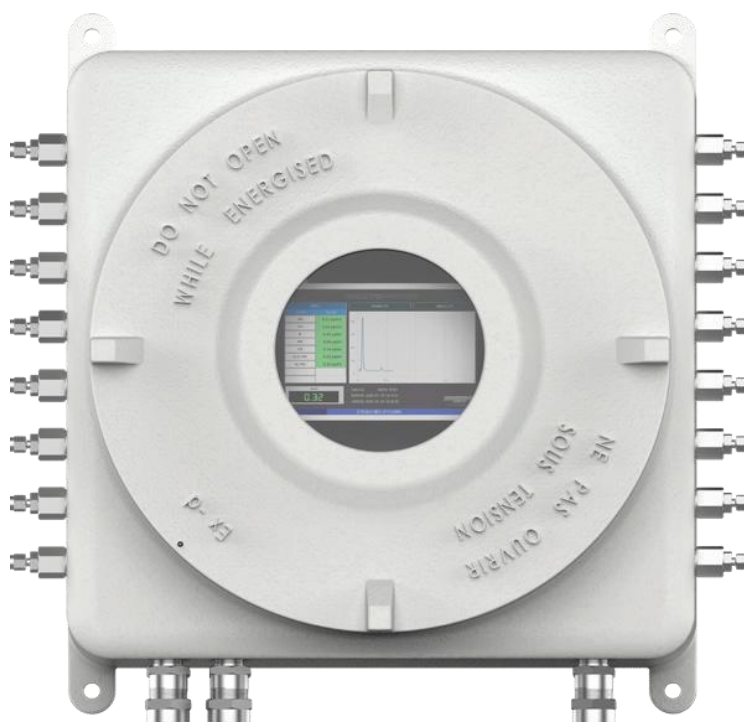


EIE

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01

Chromatographic Online Analyzer Composition Analysis



- Physical safety; explosion-proof system Exd IIC T6 Gb, Zone 1 & 2.
- Reliable UniLite Embedded Control System
- Multiple detectors: FID, TCD, miniature TCD, FPD, etc
- Supports switching between no fewer than 16 samples

**EIE**

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01

Introduction

Use: Catalytically stabilizes olefin and aromatic content in heavy oil-based gasoline; serves as a raw material for olefin and aromatic components in catalytic gasoline production at hydroprocessing plants; and is used in blending products to enhance olefin and aromatic profiles.

Sample temperature: °C (design temperature: °C)

Sampling pressure (MPa) (Design pressure (MPa))

Output signals: 4–20 mA DC analog conversion for N channels, and one contact alarm channel (typically unnecessary unless DCS communication is available)

Communication Interface: RS485 to DCS

Report Content

No.	Component Name	normal value	Min	Max	unit	Lower measurement limit	Measurement Upper Limit
1	C2	0	0	2	wt%	0	3
2	C3	0	0	2	wt%	0	3
3	C4	0	0	2	wt%	0	3
4	C5- alkanes	0.01	0	2	wt%	0	3
5	C5- cycloalkanes	0.05	0	2	wt%	0	3
6	C6- alkanes	7.15	4	11	wt%	0	12
7	C6- cycloalkanes	3.82	2	6	wt%	0	7
8	C7- alkanes	12.2	7	18	wt%	0	20
9	C7- cycloalkanes	8.39	5	12	wt%	0	13
10	C8- alkanes	13.48	8	19	wt%	0	20
11	C8- cycloalkanes	11.02	6	16	wt%	0	17
12	C9- alkanes	12.34	7	18	wt%	0	20
13	C9- cycloalkanes	7.11	4	10	wt%	0	11
14	C10- alkanes	7.3	4	11	wt%	0	12
15	C10- cycloalkanes	1.65	0	3	wt%	0	4
16	Benzene	2.87	1	5	wt%	0	6
17	Toluene	6.47	3	10	wt%	0	11
18	Xylene	4.73	2	7	wt%	0	8
19	Trimethylbenzene	1.43	0	3	wt%	0	4

**EIE**

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01

Technical Features

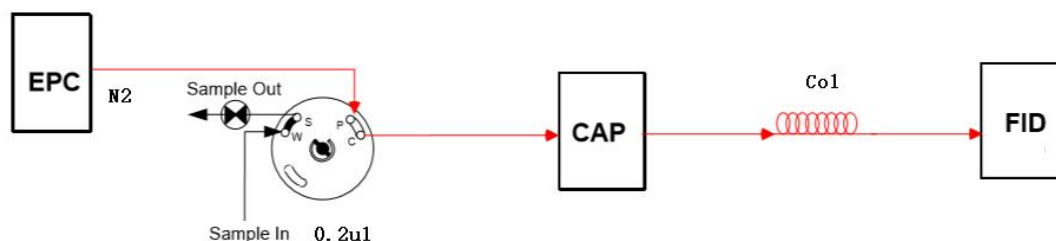
Analysis Method:

ASTM D5134 Standard Test Method for Detailed Analysis of Petroleum Naphthas through n-Nonane by Capillary Gas Chromatography

Analysis Principle:

A representative sample is introduced into a gas chromatograph equipped with a fused silica capillary column containing a methylsilicone stationary phase. Helium (or nitrogen) serves as the carrier gas, carrying the vaporized sample through the column to separate the components, which are then detected by a flame ionization detector. The detector signals are processed by the chromatographic workstation. Each eluting peak's retention index is compared against a known retention index database and identified by reference to standard spectra. The retention index database is established by analyzing standard samples under identical conditions, using gas chromatography-mass spectrometry (GC/MS), or combining both methods. The mass fraction of each component is determined using the calibration factor normalization method. The peaks after n-octane dilution are summed and reported as C10+.

Detection Schematic Diagram





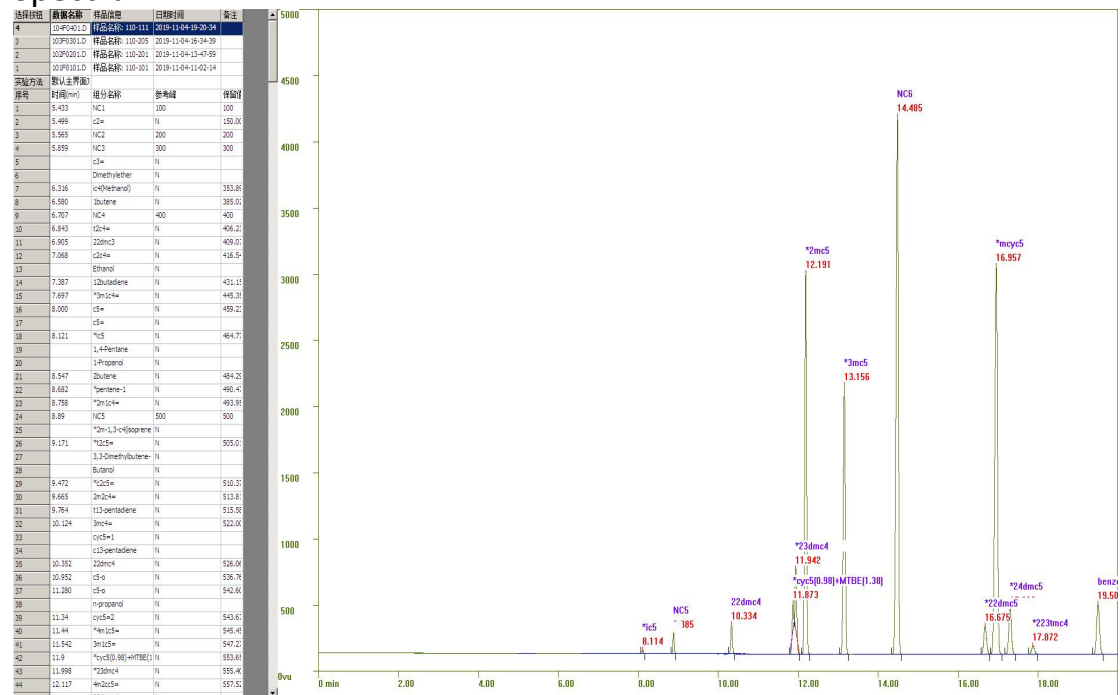
EIE

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01

Technical Features

Typical Spectrum



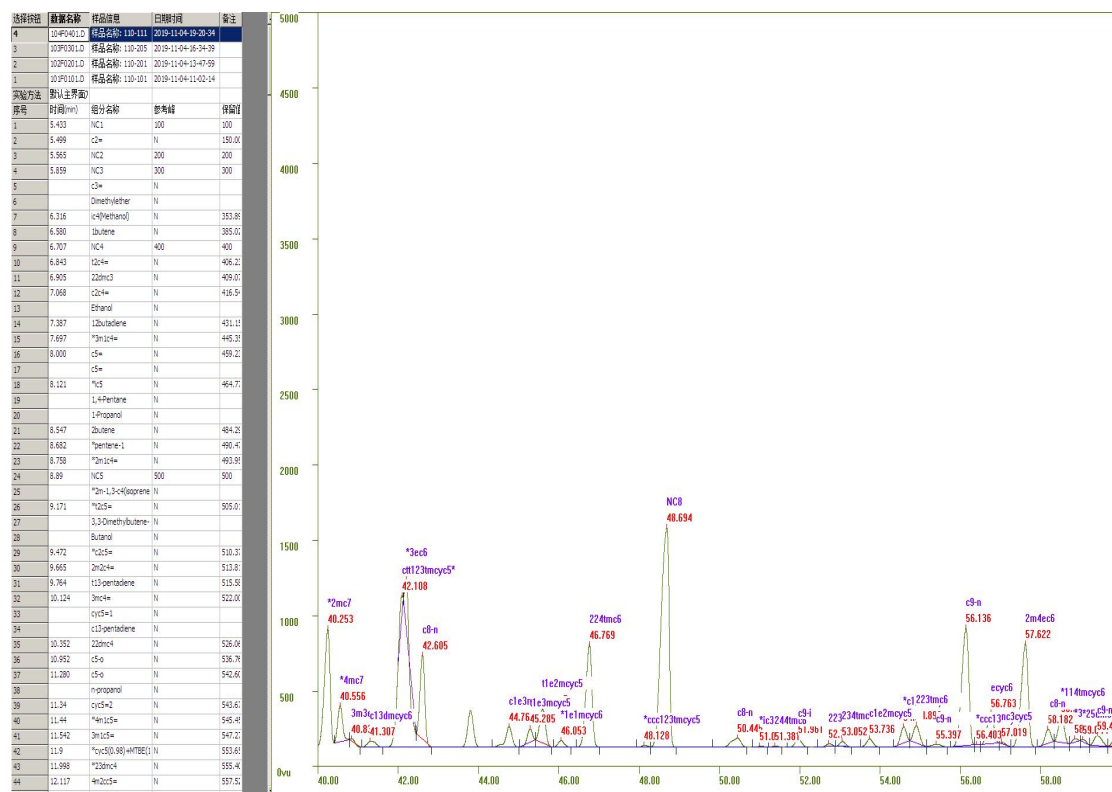
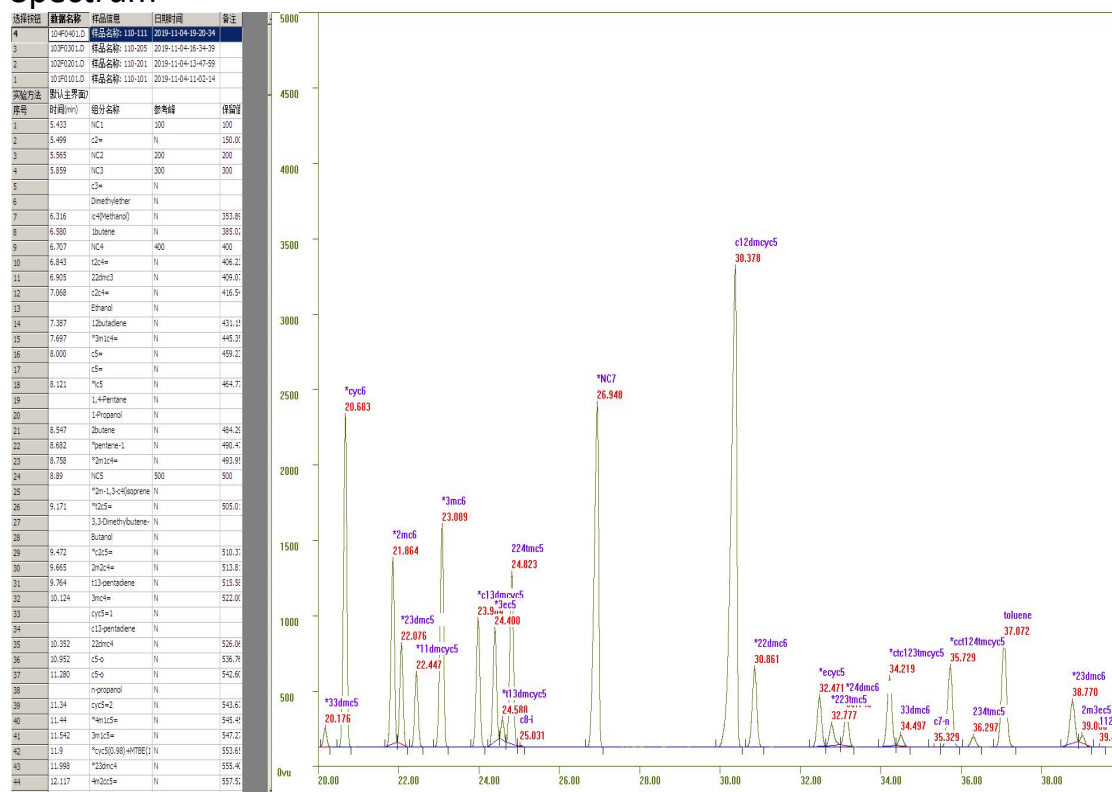


EIE

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01

Typical Spectrum

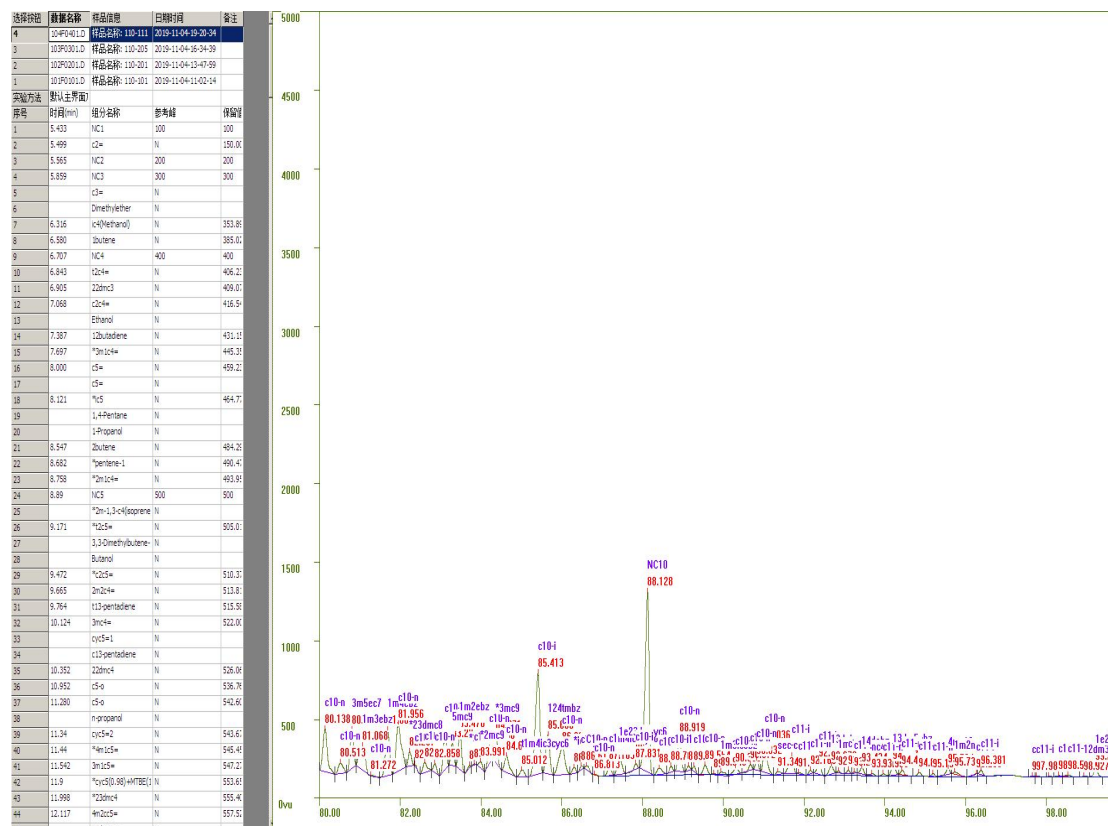
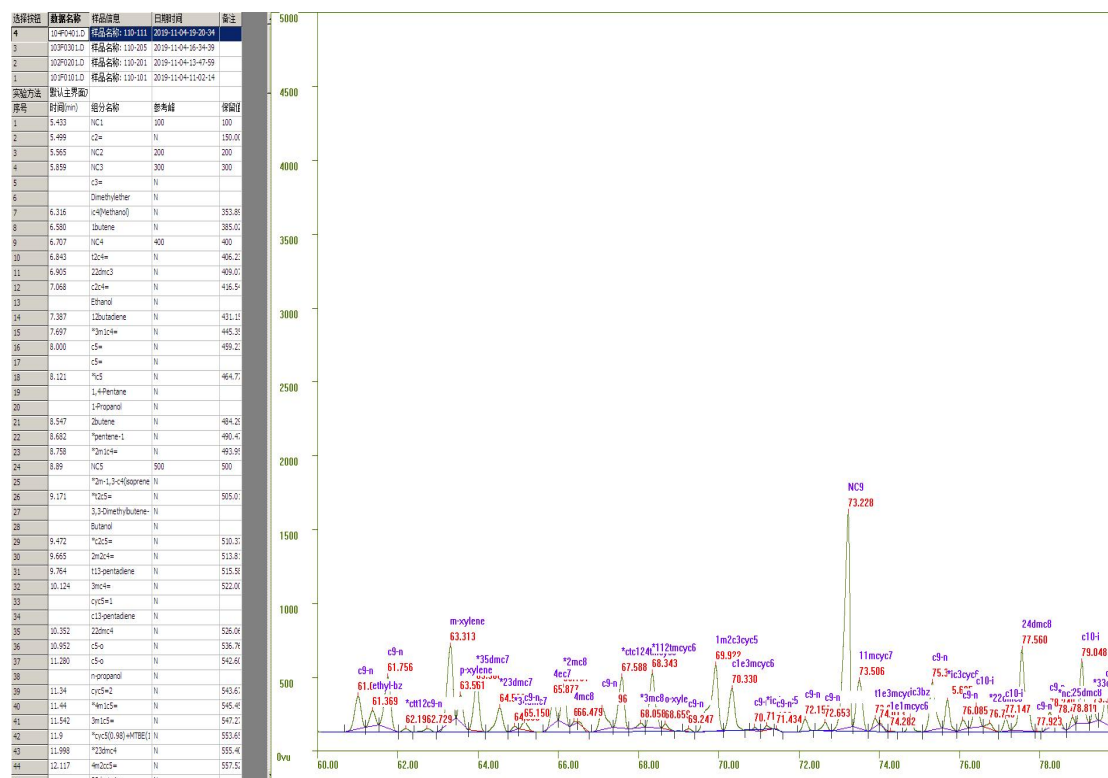


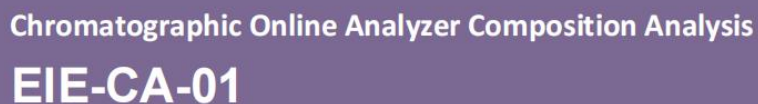


EIE

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01





Enclosure	flameproof enclosure
Height and Depth	500mm × 500mm, depth 350 mm
Weight	50KG
Certifications	ATEXIIC6,ZONE1,2
Power Input	100–240 VAC, 50–60 Hz, maximum power of 300 W
Communication Mode	RS485,Ethernetx1,
Screen Size	standard configuration
4- 20 mA Output	Support (optional)
MODBUS	Support (Standard)
I/O Output	Instrument status, alarms, hardware errors, maintenance (all I/Os are configurable)

**EIE**

Chromatographic Online Analyzer Composition Analysis

EIE-CA-01**General Parameters for Chromatographs**

Chromatographic Column Type	capillary column
Heating method for the chromatographic column	constant temperature
Valve Type	Switching valve/membrane valve, operating temperature range 0–225°C
Airway Control Method	Full pneumatic EPC control system
Detector Type	FID
Keypad	configurable explosion-proof keyboard
Instrument Reverse Control Software	Equipped with built-in UniLite® system control software, it automatically performs sampling, analysis runs, and periodic calibration/system response measurements.
Communication Port Configuration Software	Modbus or other industrial standard protocols
Analog Output	Supports no fewer than 32 channels
Multiple-sample testing	Supports cyclic sampling at over 16 sampling points (optional)
Control Software	UniLite Industrial Edition
Detector Protection	FID: Automatic ignition; automatic gas cutoff upon fire suppression; alarm function