



HGC 303

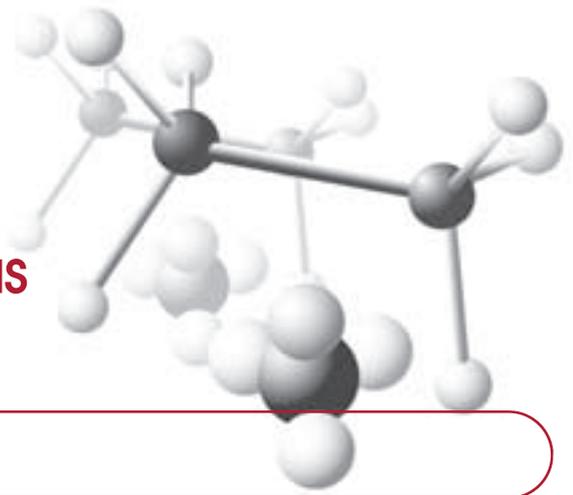
Chromatograph for natural gas



- Custody transfer for natural gas
- Compact & strong site transmitter
- Measurement of the gas quality
- Analysis and calculations based on international standards
- Manual or automatic calibration
- Multi-protocol communication
- Monitoring possible through a PC
- Installation in hazardous area
- Easy to integrate and start-up on site
- Reduced maintenance

Flocapt HGC303

Chromatograph for naturel gas



Gas quality

HGC 303 : Analysis unit

- ▶ Chromatography gaseous phase conforms to ISO 6974 part 4
- ▶ Analysis time : 300 seconds
- ▶ Measured gas stream : 1
- ▶ 11 components analyzed
- ▶ Detector : Micro TCD (Thermal conductivity detector)
- ▶ Heat value calculation method : ISO 6976
- ▶ Calculation of the basic density
- ▶ Calculation of the concentration of the various components
- ▶ Manual or automatic calibration configurable through a PC
- ▶ Repeatability of analysis : 0.05 % of the heat value
- ▶ Conforms to ISO 14001

ACCESSORIES

HMU : Fieldbus/Modbus converter

- ▶ Converter which converts Fieldbus data into Modbus data
- ▶ Output : 2 relays :
 - Control of the auto-calibration valve
 - Alarm
- ▶ Mounting on rail DIN
- ▶ 1 serial link type :
 - RS232
 - RS485
 - RS422 } (to specify in order)

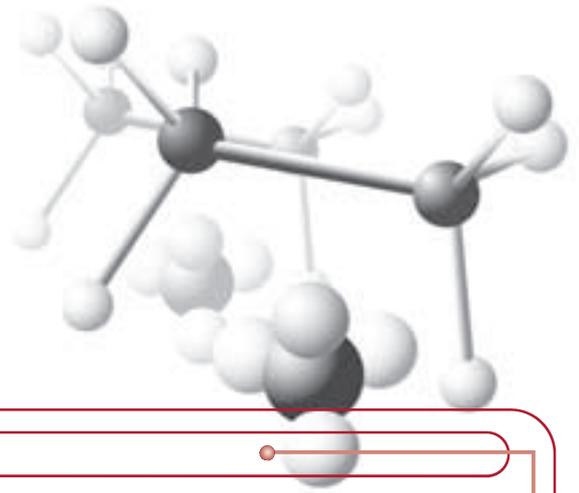
HFA 100 : Adaptator

- ▶ Interface PC / HGC 303
- ▶ Compatible Windows 2000 / XP (other possibilities on request)
- ▶ Connection or disconnection to the Fieldbus network on line

HGM : Software PC

- ▶ Configuration of the chromatograph
- ▶ Management of the calibration
- ▶ Analysis and calibration reports
- ▶ Additional data monitoring : – chromatogram,
 - oven temperature,
 - carrier gas pressure,
 - total raw concentration
- ▶ Compatible Windows 98 / Me / NT / XP / 2000
- ▶ As a standard with the analysis unit

Technical characteristics



GAS ANALYZED

Components		Range (% mol)		Minimum Detection (% mol)
• Methane	CH ₄	50	100	-
• Ethane	C ₂ H ₆	0	15	0.05
• Propane	C ₃ H ₈	0	3	0.05
• Butane	n-C ₄ H ₁₀	0	1	0.01
• I-butane	i-C ₄ H ₁₀	0	1	0.01
• Pentane	n-C ₅ H ₁₂	0	0.5	0.01
• I-pentane	i-C ₅ H ₁₂	0	0.5	0.01
• Neo-pentane	neo-C ₅ H ₁₂	0	0.5	0.01
• Hexane & more	C ₆ +	0	0.3	0.01
• Nitrogen	N ₂	0	15	0.1
• Carbon dioxide	CO ₂	0	10	0.05

Process gas :

- ▶ Temperature : - 10° to + 50°C
- ▶ Flow rate : 50 +/- 20 ml/min
- ▶ Pressure 50 to 400 kPa in the input of the flow meter
- ▶ Dust and mist : none
- ▶ Moisture : 2000 ppm or less

Coexisting components limit :

- ▶ H₂ < 0.1 % mol
- ▶ He < 0.1 % mol
- ▶ O₂ < 0.1 % mol
- ▶ H₂S (dry) < 0.1 % mol

Utilities

Carrier gas :

- ▶ Helium minimal purity 99.99 %
- ▶ Pressure 400 kPa +/- 50 kPa
- ▶ Consumption ≈ 25 ml/min

Instrument air :

- ▶ Pressurized air or Nitrogen or Helium
- ▶ To be used to actuate the valve of the chromatograph
- ▶ Pressure 400 kPa +/- 50 kPa

Output

- ▶ 1 output for Fieldbus foundation protocol (standard)
- ▶ 1 output for Modbus protocol through HMU converter

Power supply

- ▶ 24 Vdc - 4 A minimum at start up
- ▶ Consumption 5 - 50 VA between - 10 °C and + 50 °C

MECHANICAL AND ENVIRONMENTAL FEATURES

HGC303

- | | | | |
|-------------------------|---|---------------------------------|---------------------------------|
| ▶ Size (D x W x H): | 115 x 100 x 244 mm | ▶ Mounting : | on vertical tube Ø 50 |
| ▶ Weight : | 3.5 Kg | ▶ Protection : | IP 65 |
| ▶ Materials : | <ul style="list-style-type: none"> • Body and oven : Cast aluminium • Wet part : 304 stainless steel, polyamide • Sensor Platinum, Glass, Gold | ▶ Explosion-proof : | ATEX/GENELEC II 2GD EExdIICT6 |
| ▶ Electric connection : | Cable gland 1/2 NPT & connecting terminals | ▶ Process temp. : | - 10 to + 50 °C |
| ▶ Gas connection : | 1/4 NPT | ▶ Storage and transport temp. : | - 40 to + 70 °C |
| | | ▶ Relative humidity : | ≤ 95 % |
| | | ▶ Mounting under shelter : | protection against sun and rain |

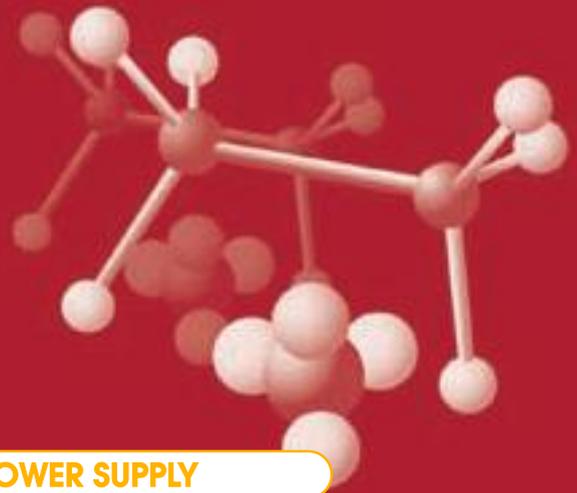
HMU

- | | | | |
|-------------------------|--------------------|-------------------------|-----------------|
| ▶ Size (D x W x H) : | 100 x 130 x 120 mm | ▶ Mounting : | Rail DIN |
| ▶ Weight : | 0.6 Kg | ▶ Process temperature : | - 10 to + 50 °C |
| ▶ Electric connection : | SUBD 9 points | ▶ Relative humidity : | ≤ 95 % |

HFA 100

- | | | | |
|----------------------|-------------------|-------------------------|--------------|
| ▶ Size (D x W x H) : | 71 x 98 x 20.5 mm | ▶ Process temperature : | 0 to + 50 °C |
| ▶ Weight : | 0.25 Kg | ▶ Relative humidity : | ≤ 95 % |

Codification



MODEL

HGC : Chromatograph

UNIT OF ANALYSIS

Unit of chromatography

- 0 — None
- 1 — 1 Measured gas stream

PROTOCOL CONVERTER

- 0 — None
- 1 — HMU Fieldbus/Modbus RS 485 or 422
- 2 — HMU Fieldbus/Modbus RS 232

POWER SUPPLY

- 0 — None
- 1 — External power supply 220/24 V 5 A (mounting in cabinet)

FIELDBUS/PC INTERFACE CONNECTION

- 0 — None
- 1 — Interface HFA with cable connection to PC

APPROVAL OF MODEL

- 00 — None
- FR — France
- DZ — Algeria

OPTIONS

Accessories : cable gland

- 0 — None
- 1 — A set of 2 cable glands explosion proof

Distributed by :

HGC 303, HMU and HFA are manufactured by YAMATAKE

Example

HGC :

HGC-1-1-1-0-00-0
HGC303, converter HMU RS 485/422
power supply 220 – 24 V.

MECI s.a.s

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