

Bendix

**Environmental &
Process Instruments
Division**

P.O. Drawer 831
Lewisburg, W. Va. 24901
Tel. (304) 647-4358

The Bendix Corporation

Continental Oil Company
Purchasing Department
704 Louisiana Savings Building
Lake Charles, LA 70601

May 8, 1980

Attention: Mrs. Jolley Martin

Re: Bendix Quotation 804-14939

- JM-061-80

Dear Mrs. Martin:

Standardization of equipment is often the key to effective budget management and Continental Oil Company, in its continuing selection of the Bendix Programmers and analyzers as its primary chromatographic system, exemplifies effective budget management.

The significant advantages that are realized by standardization are as follows:

- Reduced operator training expense
- Reduced spares provisioning costs
- Improved maintenance capability
- Lower initial installation time
- Improved vendor support

We, at Bendix, and our customers believe that our systems are in most cases superior to those of our competition and therefore standardization is the bonus that Continental Oil Company receives in selecting Bendix.

Sincerely,

Frank Hetzel

Frank Hetzel
Customer Service
(304) 647-2358
FH/ps

Enclosures

CWH 000001200



Continental Oil Company

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May 9, 1980

cc: Bendix District Sales Office
Mr. Leroy McLauren
P.O. Box 45212
Baton Rouge, LA 70816
(504) 346-7656

CWH 000001201



Environmental &
Process Instruments
Division

P.O. Drawer 831, Lewisburg,
West Virginia 24901
Phone: Area Code (304) 647-4358
TWX: 710-938-1501

Page 1 of 4 pages

YOUR REFERENCE

Date May 8, 1980

QUOTATION

Verbal

To: Continental Oil Company
Purchasing Department
704 Louisiana Savings Building
Lake Charles, LA 70601

BENDIX QUOTATION NO.

804-14939

Attention: Mrs. Jolley Martin

Please refer to this number
when ordering

F.O.B. Lewisburg, West Virginia

All Prices

Item No.	QTY.	Type, Cat. or Part No.	DESCRIPTION	Unit Price	Total
1	1		Bendix Model 7170 Process Gas Chromatograph consisting of the following: A. Programmer Model 7000 1. Digital programmer with front panel programming for 15 program functions, 8 components, 5 valves, and reset, Quartz crystal clock, non-volatile memory in event of power failure program held up to 8 hours 2. After memory calibration 3. 0-5v output for bargraph 4. Electronic auto zero 5. Memory output 4-20 mADC 6. Dual Range Switch, front panel mounted for Ethylene 0-1% and 0-5% B. Analyzer Model 007 containing: 1. Valves as specified under Par. 2. Application Engineering (columns to perform measurement under Par. 3. Detector - Thermal Conductivity 4. Column flow regulating system 5. Pressure gauges 6. Air bath heater system ($\pm 1^{\circ}\text{C}$) Spare set of columns supplied as part of Application Engineering. PRICE-----		\$15,67

CWH 000001202

DELIVERY APPROXIMATELY 120 DAYS AFTER RECEIPT OF WRITTEN ORDER. THIS QUOTE IS VALID FOR 90 DAYS.

TERMS: (Domestic) Net 15th/Net 30th
(Export) Irrevocable & Confirmed Letter of Credit.

All prices U.S. dollars, payable through a New York bank

ENVIRONMENTAL AND PROCESS INSTRUMENTS DIVISION

T. A. Foster

Thomas A. Foster, Customer Service Manager

YOUR REFERENCE

Date May 8, 1980

QUOTATION

Verbal

To: Continental Oil Company
Purchasing Department
704 Louisiana Department
704 Louisiana Savings Building
Lake Charles, LA 70601

BENDIX QUOTATION NO.

804-14939

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All Prices F.O.B. Lewisburg, West Virginia

Item No.	QTY.	Type, Cat. or Part No.	DESCRIPTION	Unit Price	Total Price
			PRINTS & INSPECTION		
			A. *Preliminary prints sent upon request only - One set brownlines. Additional sets are available @ \$10.00/set per instrument.		
			B. *Final print package to consist of one set of blueines. Additional copies are available @ \$10.00/set per instrument.		
			C. Bendix reserves the right to charge \$280.00/day for witnessed factory testing.		
			D. One operational/maintenance manual supplied with each instrument. Additional manuals are available @ \$25.00/set per instrument.		
			*On multiple instruments orders where prints are applicable to more than one unit, only one set of prints will be provided for the units which are similar.		
			OPTIONS		
			A. Rechargeable 3/8" SS U-Tube Mole Sieve Drier recommended for use in carrier, hydrogen or fuel air lines as applicable. P/N 5501237-1. -----	\$39.50	
			B. 24" x 44" panel with programmer and/or recorder mounted only -----	\$80.00	
			C. Mounting dolly for the above 24" x 44" panel complete with removeable casters-----	\$250.00	
			D. Dolly for analyzer complete with removeable casters -----	\$250.00	
			BENDIX RESERVES THE RIGHT TO REVIEW THE PRICING IF THE CUSTOMER DESIRES TO SPLIT THE ORDER AND PURCHASE LESS THAN ALL THE LINE ITEMS.		

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ENVIRONMENTAL AND PROCESS INSTRUMENTS DIVISION

Thomas A. Foster, Customer Service Mgr.

CWH 000001203

SPECIFICATIONS

Inquiry No. Verbal Quotation No. 804-14939 Page 3 of 4

Instrument Model No. 7170 Tag No. _____

This quotation is for a process analyzer described in the attached specifications.

GENERAL

The instrument control section and analyzer section are designed for simplicity of operation, ruggedness, and maximum accessibility of all components to facilitate field service. The system is designed to perform the analysis as specified in Paragraph 1.1 below and provide optimum "on stream time" so vital to the customer. All columns are selected to give the necessary component separations and provide reproducible elution times over extended periods of time. Column materials are selected such that the "maximum operating temperature" of the columns is not exceeded.

1. PERFORMANCE AND MEASUREMENT

The instrument will measure components as listed in Paragraph 1.1 below and will operate on a stream with composition as listed in Paragraph 1.2, under customer specified flow conditions. The repeatability in any series of analyses will be as indicated in Paragraph 1.1. Due to the difficulty in establishing standard calibrating gases, a calibrated accuracy equal to repeatability cannot normally be claimed but can be approached.

1.1 MEASUREMENT		Thermal	5-6	Stream Phase
Carrier	Helium	Conductivity	Min.	to Analyzer
	Detector	Cycle Time/Str.		Vapor
<u>Component</u>		<u>Measurement Range</u>	<u>Accuracy</u>	<u>8 Hour Repeatability</u>
		<u>Full Scale</u>	<u>% of Full Scale</u>	<u>% of Full Scale</u>
Carbon Dioxide		0-2%	+1%	+1%
Ethylene		0-1% and 5%	+1%	+1%
Ethane		0-2%	+1%	+1%
Oxygen and Argon		0-5%	+1%	+1%
Carbon Monoxide		0-2%	+1%	+1%

1.2 STREAM COMPOSITION

H ₂ O	Trace
N ₂	80-95
Ethylene Dichloride	0-0.5
Ethyl Chloride	0-0.5
HCL	Trace
Methane	0-1
Vinyl Chloride	0.02%
Ethylene Trichloride	Trace
Chloral (Trichloro-Acetaldehyde)	Trace

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2. DESIGN SPECIFICATIONS

2.1 CONTROL SECTION

Model No. 7000. This control section contains one module(s). The control of the analyzer valves, cycle timer, automatic zeroing, component range attenuators, and type of readout is located in the control section. The stream selector, if required for multistream operation, is also located here. The readout normally consists of: bargraph (automatic presentation of the concentration of the selected components) and spectrum (manual presentation of the complete spectrum of components passing through the detector). A manual attenuator is provided for spectrum readout. The control section can be air purged and interlocked such that power is removed from unit upon loss of air pressure.

General Purpose Area X Air Purged and Interlocked

Designed for Class Group Division Locations

2.1.1 Control Section Functional Capability

Module		Comp. Pots	Readout				Str. Sel.		Recorder
Type	No. Furn.		Bar	Memory		Signal Output	No. Req'd	No. Avail.	
				Req'd	Avail.				
Digital Programmer	1	5	0-5	5	5	4-20	-	-	-
			volt			ma/dc			

2.2 ANALYZER SECTION

Model No. 007. Designed for Class 1 Group D Division 1 locations. The internal sample handling system standardly consists of stainless steel with other suitable materials for the specified application. Other materials such as Hastelloy, Monel, or nickel are available where the application dictates their use due to the possibility of corrosion. The analyzer section consists of the air bath oven, heater system, solid-state temperature controller, necessary flow regulation, carrier and sample heat exchangers, sample valve(s), auxiliary switching valves, solenoids, columns, and detector(s). A SPARE SET OF COLUMNS IS SUPPLIED AT NO COST WITH EACH INSTRUMENT APPLICATION ENGINEERED BY BENDIX.

2.2.1 Analyzer Section Capability

Max. Oven Temp. 225

Valve Type					Detector Type	Max. Temp.	Material of Construction	
S/V	B/F	CS/V	SSO	CSO			Body	Seal
10-Port Sliding - B/F Sliding Plate						200°C	Hastelloy "B"	Teflon
4-Port Shutoff S/P						200°C	Hastelloy "B"	Teflon
8-Port S/P						200°C	S.S.	Teflon
					T/C	200°C	S.S.	-

CWH 000001305 M'

Continental Oil Company

Bendix Quotation No. 804-14939

EXCEPTIONS

1. Invoicing will take place within three days from the date of shipment and payment is to be made within 30 days by Conoco.
4. We believe our patent indemnification clause (see paragraph 8 of our Terms and Conditions) will offer adequate protection in this transaction and it should be incorporated.
7. We must take exception to this clause and have it deleted.