BARTEC ORB

Process Analyzer

# Viscosity Analyzer Model P–900

Credible Solutions for the Oil and Gas Industry

# Viscosity Analyzer Model P–900

Process Analyzer

To remain competitive, today's refiners must employ all optimization and product control techniques available. The use of online physical property analyzers is one of the key features to reach those objectives because they measure important quality properties in the process directly.

Absolute viscosity provides a measure of a fluid's internal resistance to flow.

BARTEC ORB

Your partner for innovative system solutions.

The BARTEC specialists have many years of experience. They create system solutions that you can rely on: efficient and dependable for decades to come.

**Capillary type of viscometer**

**Correlates to ASTM D445**

**Continuously measures dynamic viscosity**

**Certified for installation in hazardous areas**

## APPLICATION

Given today's highly competitive environment, oil refiners are demanding instrumentation that aids in the optimization of the refining process. Therefore, refineries require a reliable and accurate viscosity analysis system to meet the required specifications. This analysis will allow the operators to optimize the refining process and therefore lower production costs while improving product quality.

## Special Features:

- **Customizable 2–4000 cP Sample Range** (optional kinematic output)
- **Does not require atmospheric recovery system**
- **Modbus**
- **Optional densitometer**

## Norms and Standards:

**Correlates with:**

- **ASTM D445**

Make your decision for a strong partner!

**Choose BARTEC GROUP** also for:

- **Fast Loop Systems**
- **Sample Conditioning Systems**
- **Validation Systems**
- **Recovery Systems**
- **Chillers**
- **Air Conditioning Systems/HVAC**
- **Pre Commissioned Analyzer Shelters/ Turn–Key Solutions**

# Viscosity Analyzer Model P–900

## EXPLOSION PROTECTION

| | |
|---|---|
| **Ex protection marking** | ATEX: Ex d II B + H2 [ia II C] T3 Gb<br>CSA/CUS Class I Div 1 Group C + D<br>CE 0518 |

## TECHNICAL DATA

| | |
|---|---|
| **Technology** | capillary type,<br>absolute / dynamic viscosity |
| **Method** | |
| **Measuring ranges and temperatures** | 2-4000 cP |
| **Repeatability** | ± 1 % full scale or better |
| **Reproducibility** | correlates with:<br>ASTM D445 |
| **Measuring cycle** | continuous, response time T90: 180 Sec |
| **Product streams** | lube oils, asphalts and bunker fuels |
| ■ **Electrical data** | |
| **Nominal voltage** | 220 VAC, 50/60 Hz; 1 phase - Heater and Pumps<br>120/220 VAC, 50/60 Hz; 1 phase - Electronics |
| **Maximum power consumption** | less than 4000 W |
| ■ **Protection class** | IP 65 |
| ■ **Ambient conditions** | |
| **Ambient temperature** | operation 5 to 40°C (41 to 104°F) |
| **Ambient humidity** | up to 90 % |

### Sample

| | |
|---|---|
| **Quality** | filtered 10 µm - optional sample, conditioning system available, without free water |
| **Properties** | |
| **Consumption** | 5 l/h (fixed metering pump) |
| **Pressure at inlet** | 1.4 to 14 bar (20 to 203 psi) |
| **Temperature at inlet** | ± 38°C (68°F) of bath temperature |
| **Process sample** | max temperature 111°C (232°F) |

### Utilities

| | |
|---|---|
| ■ **Coolant** | |
| **Consumption** | depends on application (consult factory) |
| **Temperature** | 0 to 50°C (32 to 122°F) |
| **Pressure at inlet** | 1 to 60 bar (14 to 870 psi) |
| **Quality** | clean and filtered (10 µm) |

### Signal outputs and inputs

| | |
|---|---|
| **Analog outputs** | 1 standard for viscosity, programmable for cST or cP, selectable for sample viscosity values, analyzer system / maintenance warning or analysis measurement indication |
| **Digital outputs** | 3 dry contact outputs, selectable for sample viscosity value alarm, analyzer maintenance warning or analyzer fault alarm |
| **Digital inputs** | up to 2, customer alarm, remote standby |

### Electrical data of signal outputs and inputs

| | |
|---|---|
| **Analog outputs** | isolated 4-20 mA output, 1 standard, 1 optional |
| **Digital outputs** | 3 SPDT Relays with contacts rated at 3 A resistive load at 250 VAC |
| **Digital inputs** | dry contact |

### User interfaces

| | |
|---|---|
| **Display** | 7“ color graphics |
| **Keyboard** | 5 button magnetic, no hot work permit required |

### Connections

| | |
|---|---|
| **Sample inlet** | 1/4“ FNPT |
| **Sample outlet** | 1/4“ FNPT |

### Weight and dimensions

| | |
|---|---|
| **Weight** | approx. 159 kg (350 lbs) |
| **Dimensions** (W x H x D) | approx. 1341 x 1803 x 762 mm (52.75” x 71” x 30” in) |

### Optional interfaces

| | |
|---|---|
| **Analog outputs** | optional (bath temperature, density) |
| **MODBUS interface** | TCP/IP or Serial/RTU 485 |

**Important notice** P-900 is subject to continuous product improvement, specifications are preliminary and may be subject to change without notice. If your technical data do not comply with existing data, please contact us for technical clarification.

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BARTEC GROUP

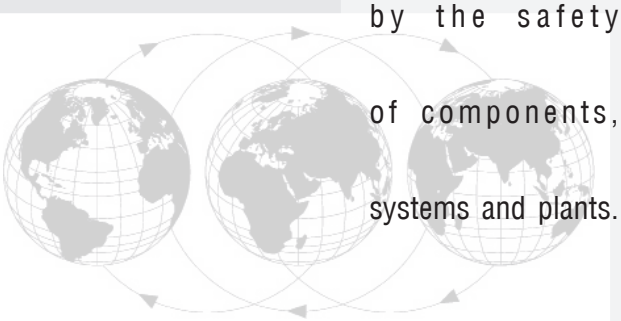
protects people and

the environment

by the safety

of components,

systems and plants.



- **Flash Point Analyzer Model P–500**
- **Salt In Crude Analyzer Model P–600**
- **Reid Vapor Pressure Analyzer Model P–700**
- **Freeze Point Analyzer Model P–800LT, Low Temperature**
- **Cloud Point Analyzer Model P–820LT, Low Temperature**
- **No Flow Point Analyzer Model P–840/P–840LT**
- **Viscosity Analyzer Model P–900**
- **Viscosity Index Analyzer Model P–950**
- **UV Oil In Water Analyzer Model W–800**

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