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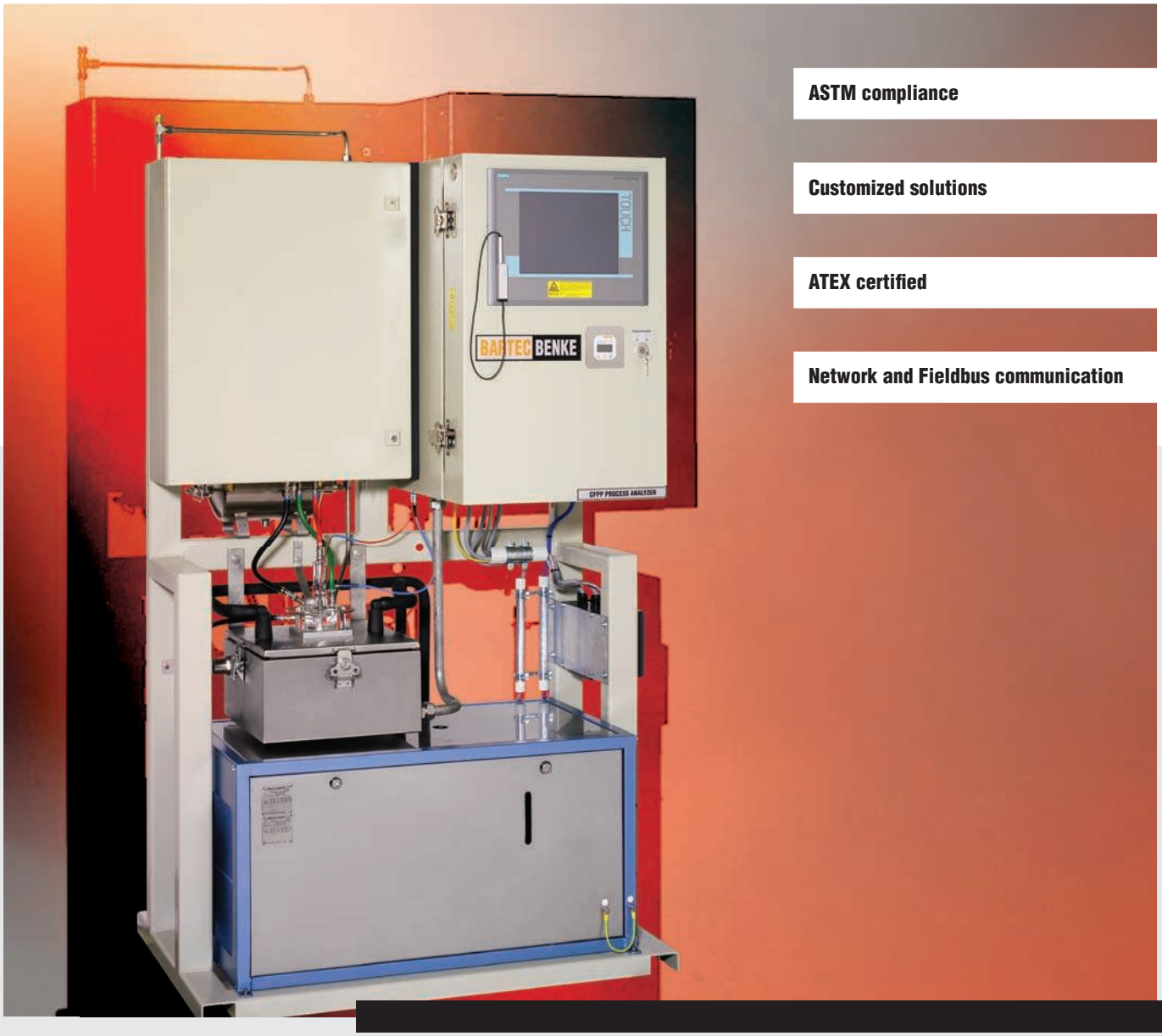

- ASTM compliance
- Customized solutions
- ATEX certified
- Network and Fieldbus communication

Process Analyzer

Cold Filter Plugging Point Process Analyzer CFPP-4.2

Cold Filter Plugging Point Process Analyzer **CFPP-4.2**

Application

The BARTEC BENKE Cold Filter Plugging Point Process Analyzer (CFPP-4.2) is a system for the fully automatic determination of the cold filter plugging point (CFPP) of mineral oil products.

The CFPP operates online. It serves to monitor/maintain product quality for the in-spec production of mixtures such as diesel fuel and heating oil.

BARTEC BENKE

YOUR competent partner for safe plants

The specialists from BARTEC BENKE have many years of experience in plant safety. They create solutions which you can rely on: economical, reliable and for the future.

Special Features

- Visible function cycles by using a measuring cell made of plexiglass/glass
- Optimized assembly – easy removal of complete cell
- No paraffin-adhesions on test mesh filter by flushing with preheated sample
- No correlative measurement, but exact reconstruction of cycles as described in ASTM D 6371
- Identical test mesh filter as used in laboratory method
- Possibility to shorten cycle time by:
  - Switching between summer and winter setting
  - Reading cloud point value (if available)
- Integrated failure diagnosis and self monitoring
- Available communication interfaces:
  - Modbus /RTU, Modbus/TCP
  - Remote Access via modem, ISDN, LAN, VPN

Make your decision for a strong partner!

Choose BARTEC BENKE also for

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

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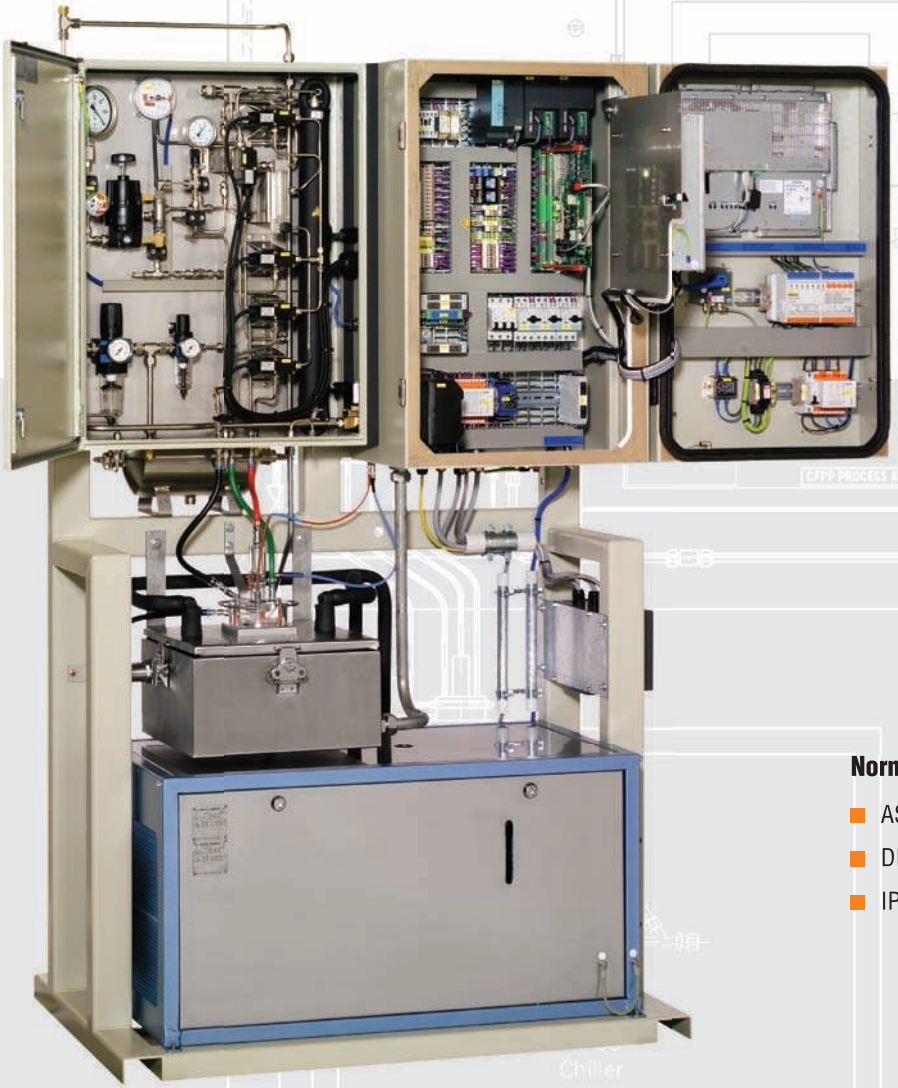

Norms and Standards

- ASTM D 6371
- DIN EN 116
- IP 309

Method

A sample of the product is cooled under specified conditions in a special cell. 45 ml of the sample is drawn under a controlled vacuum of 20 mbar through a standardized wire mesh filter. As the sample continues to be cooled at intervals of 1 K below the first temperature, testing is continued until the amount of wax crystals that have separated out of solution is sufficient to stop or slow down the flow. If the time taken to run through the mesh filter exceeds 60 seconds, the temperature of the cell is recorded as the CFPP „1“. The sample is opened to atmosphere and if the sample does not flow completely back to the cell through the mesh filter before the sample has cooled by a further 1 K, the temperature of the cell is recorded as the CFPP „2“. The temperature at which the last filtration commenced is known as the CFPP.

Note: Illustrations of this brochure show a typical CFPP-4.2 Analyzer.

Cold Filter Plugging Point Process Analyzer CFPP-4.2

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Explosion Protection

Ex protection type	Ⓔx II 2G IIC T4
Certification	TÜV 09 ATEX 554793

Technical Data

Method	ASTM D 6371, DIN EN 116, IP 309
Measuring range	-35 to 10°C (-31 to 50°F)
Repeatability	≤ DIN EN /ASTM
Reproducibility	≤ DIN EN /ASTM
Measuring cycle	discontinuous 25 to 90 min (according to standard procedure)
Product streams	1 x sample, 1 x validation (additional hardware required)

Electrical data

Nominal voltage	AC 230 V ± 10%, 1 phase; 50 Hz chiller: AC 400 V ± 10%, 3 phases; 50 Hz other ratings on request
Maximum power consumption	approx. 500 W chiller: approx.1200 W
Protection Class	IP 54

Ambient conditions

Ambient temperature	operation 5 to 40°C (41 to 104°F)
Ambient humidity	operation 5 to 80 % relative humidity, non-corrosive

Sample

Quality	filtered ≤ 10 µm, humidity max. 550 ppm
Consumption	20 to 40 l/h
Pressure at inlet	1 to 4 bar
Temperature at inlet	≥ 15°C (59°F)
Outlet	open to atmosphere

Utilities

Instrument air

Consumption	
(purge)	min. 4.3 Nm^3 per flushing cycle
(operation)	max 2.3 Nm^3/h
Pressure at inlet	3 to 6 bar
Quality	dew point ≤ -40°C (-40°F) class 2 or better according to ISO 8573-1

Signal Outputs and Inputs

Analog outputs	Cold Filter Plugging Point, see options
Digital outputs	sum alarm, ready
Digital inputs	reset, see options

Electrical data of signal outputs and inputs

Analog outputs	2 x 4 to 20 mA 800 Ω out; active isolated on request
Digital outputs	DC 24 V; max. 0.5 A
Digital inputs	high: DC 15 to 28 V low: DC 0 to 4 V
Auxiliary power supply output	DC 24 V; max 0.8 A

Control Unit

Central control unit	Industrial PC
Operating system	Windows XP®
Control software	PACS

User Interfaces

Display	TFT display with touch function 800 x 600 pixel
Keyboard	Virtual keyboard, controlled via TFT display

Connections

Pipe fittings	Swagelok® 6 mm/12 mm/18 mm other fittings on request
Vent/Slop	open to atmosphere

Weight and Dimensions

Weight	approx. 400 kg
Dimensions (W x H x D)	approx. 1140 x 2030 x 710 mm
Space requirements	right 500mm/left 500mm

Optional Signal Outputs and Inputs

Analog outputs	sample temperature, trigger temperature, jacket temperature
Analog inputs	cloud point
Digital outputs	identification of a validation cycle, out of range, warning
Digital inputs	sample selection summer/winter, request for a validation cycle
MODBUS interface	Modbus/RTU via RS485 or RS422 or fiber optic cable Modbus/TCP via fiber optic cable
Remote maintenance	via modem, ISDN, Ethernet via fiber optic cable

Important Notice CFPP-4.2 is subject to continuous product improvement, specifications are preliminary and may be subject to change without notice.

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