

CLEARVIEW COLORIMETER

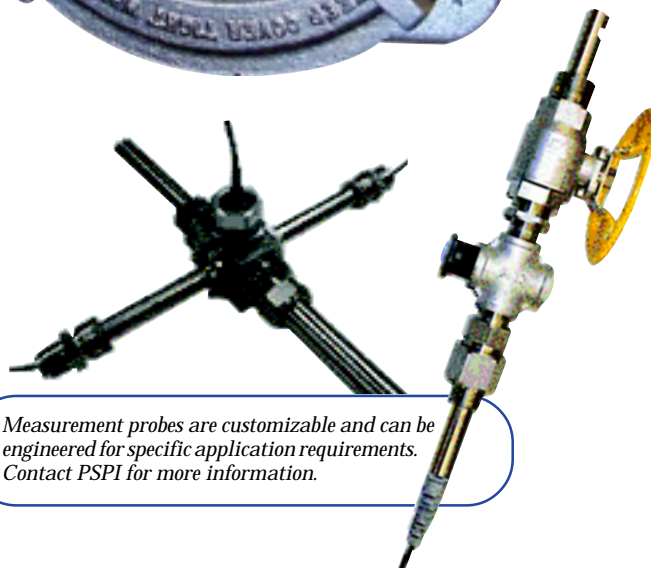
PROCESS/ON-LINE

42015 CLV

Measure both color and haze simultaneously, continuously and completely on-line!

Never before has a colorimeter offered as much versatility as PSPI's ClearView Analyzer. The 42015 CLV continuously measures color of liquid petroleum fuels, even in the presence of haze. Easily determine color and haze using a single measurement probe ...one sample, one test, two results! Sample can be inserted directly in the pipeline or taken from a side-stream. Various measurement probes, including high pressure, high temperature and custom accommodate all your testing needs. And because each insertion probe installs directly into the pipeline, there is no need for a Fast Loop or Sample Conditioning System. The analyzer is also available with the Welker Insertion Device to assist with probe insertion and retraction under pressure.

- Measures color on ASTM D 1500, Saybolt (ASTM D 156) or APHA Platinum-Cobalt (ASTM D 1209) scales
- Haze measurements correlate with ASTM D 4176 Colonial Haze Scale
- Several different types of measurement probes available to fit all applications
- Flow-through cells provide accurate measurements for very low APHA or very high Saybolt ranges (optical paths up to 20 cm)
- Typical applications are locations where automatic, on-line color analysis of Diesel Fuel and Jet Fuel is required:
 - fuel composition



Measurement probes are customizable and can be engineered for specific application requirements. Contact PSPI for more information.

MEASUREMENT RANGE

| | |
|--------------------------------------|-----------|
| ASTM D 1500 Scale | 0 to 8 |
| Saybolt (ASTM D 156) Scale | -16 to 30 |
| APHA / Platinum Cobalt (ASTM D 1209) | 0 to 100 |
| Haze (ASTM D 4176) | 1 to 6 |

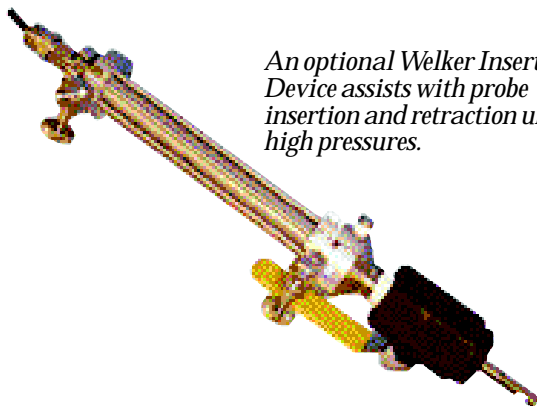
CLEARVIEW COLORIMETER

42015 CLV

THEORY OF OPERATION

The PSPI Clear View Analyzer is designed for real-time, on-line process analysis. It can accept a wide variety of optic probes, depending on application requirements. Light is sent through an optical fiber into the sample probe. The VIS/NIR lamp is optically stabilized for ultra-low photometric drift with its own detector adjusting the voltage to the lamp to maintain lamp brightness. The probe allows light to pass through the sample.

Depending on sample characteristics, light can be absorbed or reflected at different wavelengths. The light transmitted through the sample is collected and sent back to the detector via a second fiber optic cable. The light received from this fiber is then directed to several narrow band wavelength filters and detectors using a patented procedure. The light reflected by the sample is collected at a 90 degree angle from the initial beam direction and sent back to the detector via a third fiber optic cable. The circuitry in the control unit analyzes these signals from the flow probe and converts them into color results using programmed calibration sets. Haze results are determined in the insertion probes using loss of transmission.



An optional Welker Insertion Device assists with probe insertion and retraction under high pressures.

SPECIFICATIONS

Performance

- **Reproducibility:** (dependent on installation)
 - Saybolt:* ± 1.3
 - Haze:* ± 0.2
 - ASTM:* ± 0.25
- **Ambient Temperature:** 10° to 50°C (50 to 120°F); weather protection required; no direct sunlight

Sample Requirements

- **Sample Pressure:**
 - Insertion Probes:* Up to 50 psig (3.5 bar g); Welker Insertion Device recommended for higher pressures; custom probes can handle up to 1500 psig (103 bar g)
 - Flow Cells:* Up to 500 psig (34.5 bar g)
- **Fast Loop and Sample Conditioning:** Not required for insertion probes; Sample Conditioning System and Flow Cell recommended for samples with particulate or free water
- **Sample Flowrate:** Laminar flow through probe, typically 2 to 5 L/minute (0.5 to 1.3 gal/min)
- **Sample Temperature:**
 - Insertion Probes:* Up to 150°C (300°F) with standard probes; custom probes can handle up to 400°C (750°F)
 - Flow Cells:* Up to 150°C (300°F) with standard cells; custom cells can handle up to 300°C (570°F)

Signal Outputs

- **Analog Outputs:** Up to three isolated 4–20 mA analog outputs (typically 1 output for color, 1 output for haze, 1 output for reference voltage)
- **Alarm Contacts:** Three programmable Opto-closure Contacts
- **Local Display:** 3.5" x 3" Backlit LCD display

Area Classification

NEC Class 1, Div 1, Groups C & D

Atex   II 2 G / Ex d IIC T6

Sealing glands for fiber optics, electrical and signal connections supplied separately

Dimensions & Weight

| | H | W | D | units |
|--|-----|-----|-----|--------|
| • Control Unit | 260 | 197 | 215 | mm |
| 10 kg (22 lbs) | 10 | 8 | 9 | inches |
| • Probe | | | | |
| Weight and dimensions vary with specific probe configuration | | | | |
| • Fiber Optics | | | | |
| 5 meters (195 inches) standard; available in custom lengths | | | | |

Optional Accessories

- **Welker Insertion Device** assists with probe insertion and retraction under high pressures

Due to PSPI's commitment to continual product development, specifications are subject to change without notice.

For more information, please contact us:

[ExpotechUSA](#)
[10700 Rockley Road](#)
[Houston, Texas 77099](#)
[USA](#)

[281-496-0900 \[voice\]](#)

[281-496-0400 \[fax\]](#)

E-mail: sales@expotechusa.com

Website: www.ExpotechUSA.com