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PAC

Cambridge Viscosity

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2014.1

Cambridge Viscosity Summary

- Founded 1984 as Cambridge Applied Systems
  - Changed named to Cambridge Viscosity in 2006
  - Joined PAC in Feb. 2012
- Located near Boston/Cambridge, MA
- The Leader In Small Sample Viscosity
  - Serving High Value Markets Worldwide
  - Blue Chip Customer Base
- Proprietary Technology
- Approx. 10,000 Systems Sold Worldwide

Leader in Small Sample Viscosity

Four Major Markets

1. Oil & Gas Exploration
2. HPI
3. Coating & Chemicals
4. BioTech/Life Sciences

Position in Each

- Gold Standard for Reservoir Fluid Lab Analysis
- Preferred In-line Viscometer (Exxon, Chevron, Petrobras, …)
- Leading Performance Materials Control
- Premier Early Stage Drug Discovery & Device Processing

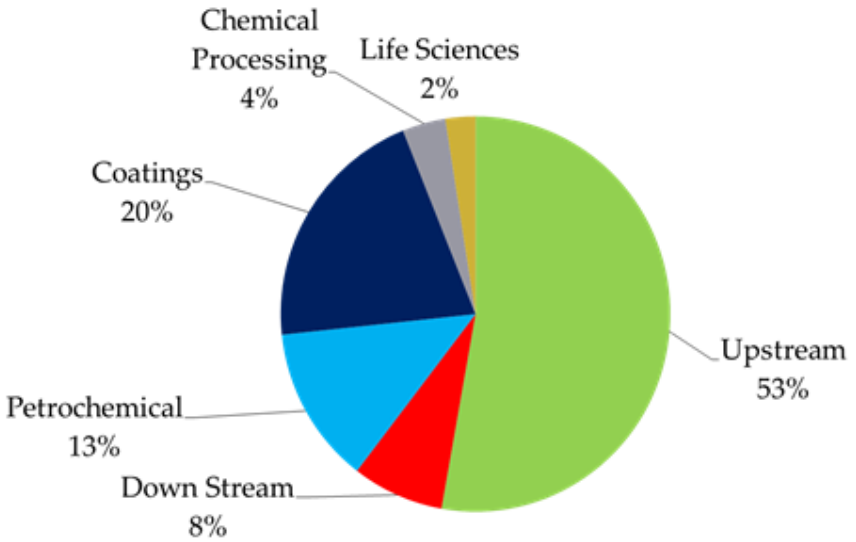



We do big things in small places

Diverse Applications / Regions

Applications:

- 53% in Oil Exploration
- 21% in Refining & Oil Analysis
- 24% in Coatings & Chemicals
- 2% in Biotech & Life Sciences



Geography

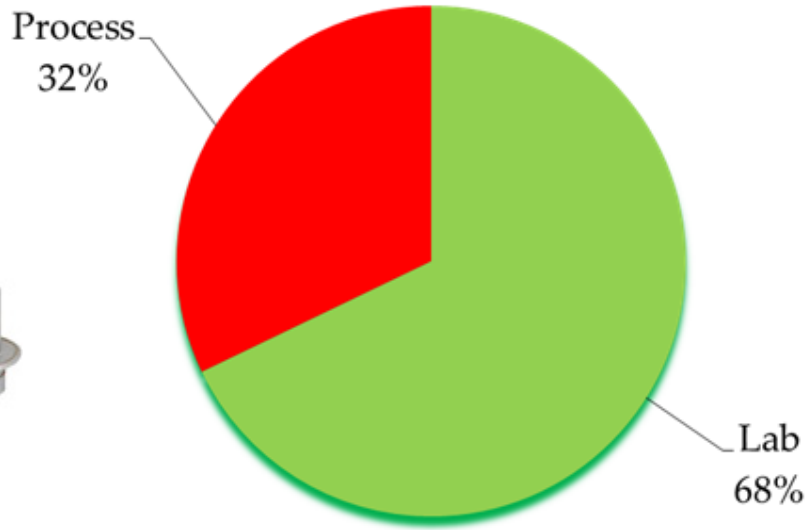
- More Than 50% of Sales Outside United States

Where CVI Viscometers are Used

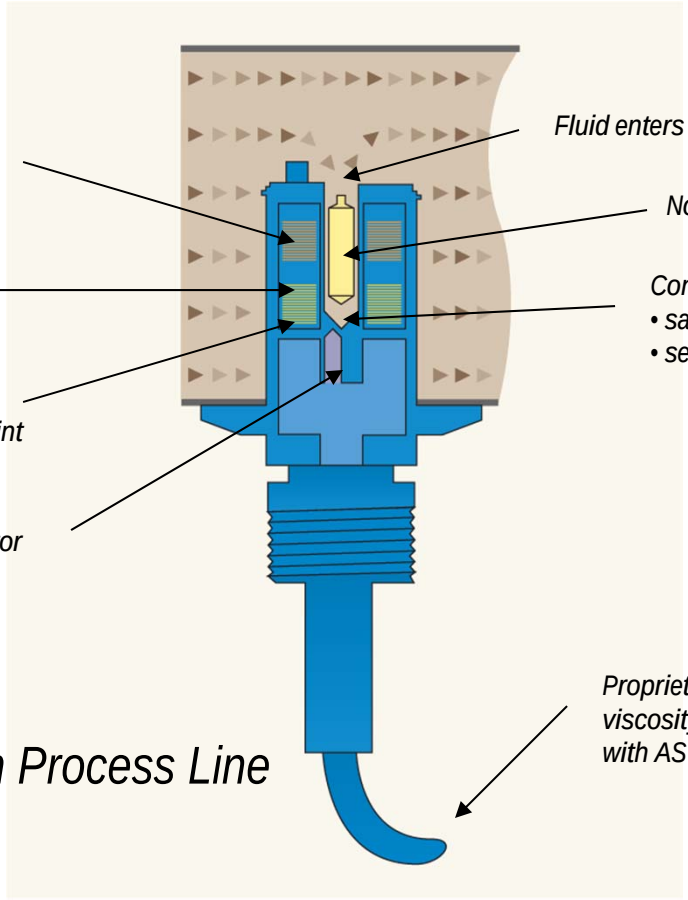
Cambridge Viscosity Applications:

- Laboratory: R&D and QC
  - Where sample volumes are small
  - Where precision is needed
  - Where operator to operator variation is a problem
  - Where higher pressure and temperature analysis is required
- In-Process: Process Control, Quality Control & Troubleshooting
  - In-Line/In-Tank
    - Where there are small diameter process loops
    - Where precision is required
    - Where there are size constraints-can be installed anywhere
    - Where a robust and reliable instrument is needed
    - Where there are high temperature or pressure requirements

CVI Sales by Lab vs. Process



Core: Oscillating Piston Measurement Technique



Lead coil sets up magnetic field to drive the piston

Trailing coil tracks piston electro-magnetically

Coils switch when piston moves by detect point

Temperature detector

Fluid enters measurement chamber

No seals, one moving part

Constant piston motion keeps
- *sample fresh*
- *sensor clean*

Proprietary electronics measure absolute viscosity from piston cycle time. Complies with ASTM D7483

Sensor Shown in Process Line

Strengths of the Oscillating Piston Technique

- Accurate and Repeatable (ASTM D7483)
- Rugged and Reliable
- Simple to Use
- Low Maintenance
- Easy to Clean – Self Cleaning
- Stable - Holds Calibration for Very Long Time
- Small Volume

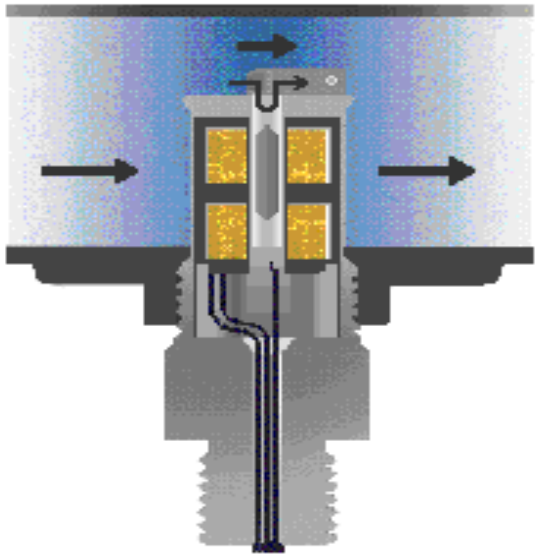
Solid Patent and Regulatory Position

Patent Estate

- Fast Recovery Viscometer Awarded 2003
- Expanded Capability Viscometer Awarded 2009

ASTM Standard D7483 based on CVI Technology

ISO 9001/2008 Compliant



Process Systems

VISCOpro 1600
Viscosity Monitoring

VISCOpro 2000
Single Channel Controller

VISCOpro 8000
Multi-Channel Controller

300 Series Sensors

301 311 322 372 392 393

500 Series Sensors

501 571

Laboratory Systems

VISCOlab 3000

Sample Size: <1 ml
Temperature controlled
40C to 180C
0.2cP to 20,000cP

VISCOlab 4000

Sample Size: <2 ml
Ambient to 100C
Optional -40C to 110C
0.2cP-10,000cP

VISCOlab 5000

Sample Size: <75 microliters
Temperature Controlled
5C to 95C
0.5cp to 200cP

Laboratory Systems

VISCOlab PVT for high pressure/temperature analysis

- Integrated system:
  - Viscosity
  - Temperature
  - Pressure
- Small sample size: 6 ml
- High pressures: up to 20,000 psi
- High temperatures: 190C
- Off-gassing incorporated
- Accurate: ± 1%
- Easy to use
- Manages corrosive fluids: H_2S, brine
- Options for ultra high pressures & temperatures

VISCOlab PVT is the Gold Standard for Upstream Viscosity Analysis

Blue Chip Customer Base