



solidpartners
provensolutions

Full Range of Analyzers for Real-time Process Optimization
and Control



PAC

www.paclp.com

PAC On-line Solutions

U.S.A.

PAC, LP | 8824 Fallbrook Drive | Houston, Texas 77064
T: +1 800.444.TEST | O: +1 281.940.1803 | F: +1 281.580.0719
sales.usa@pacip.com | service.usa@pacip.com

FRANCE

BP 70285 | Verson | 14653 CARPIQUET Cedex
T: +33 231 264 300 | F: +33 321 266 293
sales.france@pacip.com | service.france@pacip.com

GERMANY

Badstrasse 3-5 | P.O.Box 1241 | D-97912 Lauda-Königshofen,
T: +49 9343 6400 | F: +49 9343 640 101
sales.germany@pacip.com | service.germany@pacip.com

SINGAPORE

61 Science Park Road | #03-09/10 The Galen
Singapore Science Park III | Singapore 117525
T: +65 6412 0890 | F: +65 6412 0899
sales.singapore@pacip.com | service.singapore@pacip.com

NETHERLANDS

P.O.Box 10.054 | 3004 AB Rotterdam
Innsbruckweg 35 | 3047 AG Rotterdam
T: +31 10 462 4811 | F: +31 10 462 6330
sales.netherlands@pacip.com | service.netherlands@pacip.com

RUSSIA

Shabolovka Street | 34, Bldg. 2 | 115419 Moscow
T: +7 495 617 10 86 | F: +7 495 913 97 65
sales.russia@pacip.com | service.russia@pacip.com

CHINA

Room 1003, Sunjoy Mansion | No. 6 RiTan Rd.
Chao Yang District | Beijing 100020
T: +86 10 650 72236 | F: +86 10 650 72454
sales.china@pacip.com | service.china@pacip.com

INDIA

1508 | Dev Corpora | Pokhran Road No.1
Eastern Express Highway | Thane (W) - 400 601
T: +91-22-6700 4848 | F: +91-22-4228 4950
sales.india@pacip.com | service.india@pacip.com

MIDDLE EAST

A1 Quds Street, A1 Tawar road | LIU#H13 Dubai Airport Freezone
Near Dubai Airport (terminal 2) | P.O.Box #54781 | Dubai, UAE
T: +971 04 2947 995 | F: +971 04 2395 465
sales.middleeast@pacip.com | service.middleeast@pacip.com

SOUTH KOREA

#621 World Vision Building | 24-2, Youido-dong
Seoul 150-010
T: +82 2785 3900 | F: +82 2785 3977
sales.southkorea@pacip.com | service.southkorea@pacip.com

THAILAND

26th Floor, M. Thai Tower | All Seasons Place
87 Wireless Road | Lumpini, Phatumwan | Bangkok 10330
T: +66 2627 9410 | F: +662627 9401
sales.thailand@pacip.com | service.thailand@pacip.com

PAC Authorized Representatives are also located in most
countries worldwide. For more information visit www.paclp.com

PAC IMPROVES PRODUCTION THROUGH REAL-TIME PROCESS OPTIMIZATION AND CONTROL

PAC has achieved global recognition over the years with its advanced laboratory analysis equipment and technologies, which provide reliable and accurate results with high levels of automation. Today, PAC is bringing these proven methodologies to the area of process analytics. Even though lab and process are essentially two different worlds, these technologies are transferable within the plant.

Primary process applications include nitrogen for catalyst protection and online sulfur. Overall customer benefits when using process instrumentation include:

- Increased speed and accuracy due to the real-time nature of the analysis rather than sampling and lab testing
- Decreased cost of ownership versus lab
- Increased productivity due to less interruption of production, sampling, or process anomalies
- Improved distillation analysis for blending operations

Process analytics allow the customer greater control over the process since there is less time between sampling; typical lab analysis is only run up to 4 times a day, while, for example, analysis within the process could be completed every 30 minutes. Process optimization and production control are significantly improved.

FULL RANGE OF ONLINE SOLUTIONS

PAC offers a full range of on-line instruments for distillation, sulfur/nitrogen, viscosity, flash point, and reid vapour pressure (RVP) analyses by recognized PAC brands Antek, ISL, PSPI, and Cambridge Viscosity. These brands have long histories of providing innovative, highly dependable, and exceptionally accurate instrumentation.

PAC's on-line analytical instrumentation provides highly accurate results with little operator interaction due to their high level of automation. This results in significant improvements with process optimization and production control.



Full Range of Analyzers for Real-time Process Optimization and Control

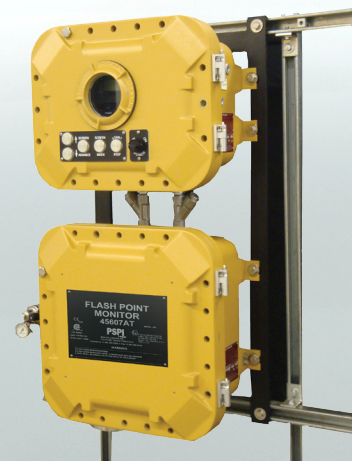
- Distillation
- Sulfur/Nitrogen
- Reid Vapour Pressure (RVP)
- Viscosity
- Flash Point

Copyright 2015/1 PAC L.P. All rights reserved 00.00.160

PSPI FLASH POINT

Flash Point Range	10° to 121°C (50° to 250°F)
Method	Correlates to: ASTM D56, ASTM D93, DIN EN ISO 2719, IP 34, DIN 51755, DIN EN ISO 13736, IP 170

- Performance not affected by sulfur presence
- Handles samples with viscosities up to 220 cSt (1000 SSU) at 38°C (100°F)
- Analyzer software configuration can be modified without opening the explosion-proof enclosure
- Variety of signal outputs available



Flashpoint

PSPI VAPOR PRESSURE

RVP Range	1 to 22 psi
Method	Correlates to: ASTM D323, ASTM D4953, ASTM D5191, ASTM D6378, EN 12, EN 13016, IP 69, IP 394, IP 402, IP 481, ISO 3007

- Fast Analysis with ultrasonic sample throughput
- Excellent Repeatability of ± 0.05 psi
- Integral heating/cooling system
- No need for auxiliary air conditioning or coolant systems
- Monitor automatically returns sample to process stream



RVP 44800

ANTEK 6200, 6000 SERIES

Measurement	200 ppb (lower detection limit) to % levels
Method	Sulfur: 6200, 6000 S and NS D5453, D6667; Nitrogen: 6200, 6000 N and NS D4629, DIN#38409, TEIL 2

- Fast, precise measurement of liquid, LPG, and gas samples
- 1 minute, high speed version available for sulfur analysis in pipeline applications where response time is critical
- Total sulfur, total bound nitrogen, or both
- Sensitivity from 200 ppb to % levels
- Excellent reproducibility and linearity
- Fast cycle time: 2.5 to 5 minutes per stream, programmable



6200

ISL PHYSICAL DISTILLATION - MICRODIST

Range	Full distillation curve 20-400 °C (68-752°F)
Method	Direct correlation to: - ASTM D86 - ASTM D7345 - IP 123

- Full distillation curve in less than 10 minutes
- Auto-regeneration of the cell minimizes maintenance; no flask removal required
- Excellent Performance:
 - Repeatability ± 1.5 °C
 - Accuracy: equal or better than ASTM D86, D7345
- Multi Stream Capability



MicroDist

CAMBRIDGE VISCOSITY

ViscoPro 2100 Process Viscometer

Viscosity Range	0.25-10,000cP (0.25-5cP, 0.5-10cP, 1-20cP, 2.5-50cP, 5-100cP, 10-200cP, 25-500cP, 50-1,000cP, 100-2,000cP, 250-5,000cP, 500-10,000cP)
Analysis Performance	$\pm 1.5\%$ of reading in CV1 software package $\pm 0.5\%$ of reading in CV2 software package Accuracy $\pm 1\%$ Full Scale* Correlates to ASTM D7483 & D445 * \pm of 5% of full scale 500-10,000 Range

- Easy to install viscometer for almost any refinery, petrochemical, or coatings application
- The proven oscillating piston method delivers unmatched benefits:
 - Insensitivity to the outside environment
 - Long-term calibration
 - Extremely durable due to no mechanical linkages
 - Highly robust, able to handle heavy samples
- Small sample size requirements enable easy installation and also reduces waste



ViscoPro 2100