ANOTHER DIMENSION

APPLICATIONS:

Volatility

LIQUID PETROLEUM PRODUCTS

METHODS:

ASTM D 86 (0, 1, 2, 3, 4)
ASTM D 850
ASTM D 1078
ASTM D 189
ASTM D 4530
ISO 3405
IP 123
JIS K2254
NF M 07-002

ADVANTAGES:

- ***Stand-alone or PC controlled operation***
- ***Multi-analyzer networking capabilities***
- ***Unique creation aid function sets up distillation program in minutes for unknown products***
- ***Ergonomic, user friendly design***
- ***Easy to operate and maintain***
- ***Sophisticated safety features***

ALAN® ready NETWORKING

Automated Distillation Analyzer

AD86 5G2

The AD86 5G2 makes distillations easier than ever! This **fully automated, independent instrument** performs distillation of petroleum products at atmospheric pressure in strict accordance with standard test methods. Its innovative design provides stand-alone operation or multi-instrument networking under Windows-based ALAN® management software. Reliable safety features offer peace of mind while a **unique Creation Aid Program** and **automatic self-learning capabilities** guarantee precise, dependable results from even inexperienced users.

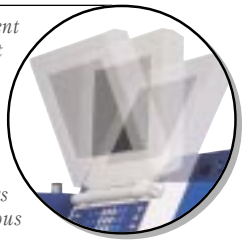
ISL's AD86 5G2 is designed with customer satisfaction and years of quality performance in mind.

A PAC COMPANY

AD86 5G2 Automated Distillation Analyzer

Safety features include a heating chamber with low voltage, high efficiency heating element and an automatic fire extinguishing system based on enhanced ultraviolet principles. A liquid trap prevents fire risk on the bench, while a drain tube facilitates easy cleaning.

Very easy to use, the instrument features a graphic display that easily adjusts to an ideal working position and provides real time graphic and numeric display of test progress. A dedicated alphanumeric keypad with programmed function keys provides easy, instantaneous menu access.



A special diagnostic program operates in the background of each analyzer allowing permanent system control and easy troubleshooting, minimizing downtime. With fewer moving parts, ISL's simplified assembly approach allows easy maintenance access and prolongs life of individual parts.

A uniquely designed cooling system instantaneously adjusts condenser bath and receiver chamber temperatures. No down time or system refuse. The test starts immediately on any selected product group. A moisture-proof receiver chamber specially designed for group 0 testing assures perfect operation at low temperatures.

SIMPLE, VERSATILE TESTING

- Simply press the *Test* key to initiate a test run… no prior computer experience necessary
- Follows exact test method requirements
- Each analyzer locally stores 40 distillation programs and saves previous 16 runs
- Results output directly to LIMS and/or graphic printer
- Optional device automatically detects presence of vapor temperature probe
- Dry point detected by visual determination or with automatic detector for ASTM D 850, D 1078 testing; sophisticated software analyzes liquid temperature profile and detects evaporation of last drop in bottom of flask
- ASTM D 189, D 4530 sample preparation kit available for carbon or micro-carbon residue testing

SMART ASSISTANCE

- Unique ***Creation Aid*** feature helps inexperienced operator easily create a perfectly fitted distillation program
  - In minutes, determines preheating levels required for unknown products, saving hours of trial and error development
  - Intuitively learns from testing experience ways to improve and simplify performance
- Automatically controls & optimizes power output on heating element, ensuring identical conditions test after test
- Daily programmable cooling system conditioning; instantaneous condenser cooling
- Software-managed stepped ("soft") start-up thwarts electrical current spikes when instrument is powered up

FEATURE RICH CALIBRATIONS

- Automatic, programmable and traceable to help you meet exacting quality assurance requirements
- Date/time stamped and frequency tagged
- Instrument can be automatically declared out of service if calibration date is overdue
- QA-format printed calibration reports

SAFE, RELIABLE OPERATION

- Low voltage, high efficiency heating element
- Automatic fire extinguishing system w/manual override
- In event of fire, heating automatically shuts off, built-in siren sounds, and a signal can be sent to an external safety system via the alarm connection
- Tests activate only if receiver is properly installed and chamber door is securely closed

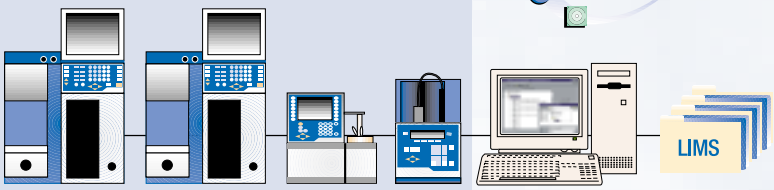
— *stand alone or PC controlled…*

Centralize operation and data management of up to 20 AD86 5G2's or 31 ISL ALANready networked instruments using ISL's custom Windows-based ALAN® software. The ALAN® "command center" computer can be positioned next to your instruments or in a separate office up to nearly a mile (1200 meters) away. Plus, this versatile interface allows you to select from multiple languages including English, French, Spanish, Portuguese and Russian.

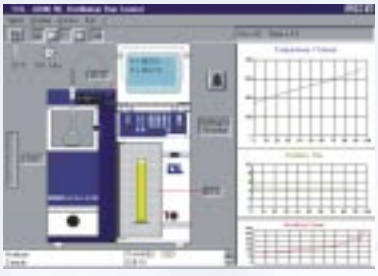
STAND-ALONE OPERATION • FULL PC CONTROL • MULTI-ANALYZER NETWORKING • LIMS RESULT EXPORT

Enhance your stand-alone AD86 5G2 analyzer's capabilities with ISL's custom Windows®-based interface, Automatic Laboratory Analyzer Network (ALAN®), a true 32-bit multitasking program. It provides PC-based operation control and data management *plus* it allows you to combine multiple instruments into a single network. With local data storage capabilities and advanced 2-way communication between the PC and networked analyzers, reliable transmission and processing of your results is guaranteed.

Network up to **20 AD86 5G2's**
or up to 31 ISL ALAN*ready* instruments!



REAL-TIME OPERATION STATUS



Full PC control of all networked instuments; initiate test directly from PC

Real-time test and operation details
- temperature scales
- heating powers
- distillation rates
- and more

Distillation program editor

Built-in calibration and quality manager

CUSTOM VIEWS OF RESULTS

Easy view customization in graphic and numeric formats; criteria filters and queries sort and narrow results

Custom printed reports in minutes

Backup and restore functions

Quick comparison against pre-defined product specifications

Compare up to 20 results

Automatically calculates Repeatability and Reproducibility

DEFINABLE EXPORT TO LIMS

Define unique data transfer paths and variable masks, managing data by
- product type
- program
- instrument

User can manually validate results prior to LIMS export

Conversion/transmission progress monitor tracks data flow, alerting to any error

Compatible with any LIMS software

Guaranteed 0% loss of data

AD86 5G2: Designed to satisfy all your requirements

SPECIFICATIONS

Ordering Information	**Model AD86 5G2** delivered with all accessories necessary to immediately begin testing. Includes 125 ml flask, temperature probe, ASTM probe centering device, 100ml receiver, drip tip, 38mm and 50mm plates, silicone condenser stopper, factory-filled cooling system, swabs, cable for PC link, backup disk of factory configuration settings, ISL UDS software, detailed documentation.
Standard Test Method	ASTM D 86 (Groups 0*, 1, 2, 3, 4); D 850*; D 1078*; D 189*; D 4530*; ISO 3405; IP 123; DIN 51751; JIS K2254; NF M 07-002 ** with optional accessories*
Distillation Rate	2 to 10 ml/min, programmable
Temperature Measurements	
Vapor	0 to 400ºC with ±0.1ºC accuracy (temperature range is usually limited by cracking point of hydrocarbons) *Calibration:* Glass Pt100 probe sensor with calibration certificate; automatic calibration with 21-point probe offset correction table
Condenser Bath	0 to 65ºC with ±0.1ºC accuracy; proportional heating rate of condenser bath programmable *Calibration:* Metal Pt100 incorporated probe sensor with automatic calibration procedure
Receiver Chamber	0 to 30ºC with ±0.1ºC accuracy *Calibration:* Metal Pt100 incorporated probe sensor with automatic calibration procedure
Ambient	Built-in sensor with automatic correction against reference thermometer
Other Measurements	
Sample Volume	0 to 100 ml with 0.1 ml accuracy; level following automatic optical-mechanical system; precision stepper drive *Calibration:* Automatic 2-point calibration at 5ml and 100ml (ASTM D 86-99 item 9.2.1); special glass receiver made from calibrated glass
Barometric Pressure	500–900 mmHg with 1mmHg accuracy; built-in barometric pressure gauge *Calibration:* Automatic correction against reference barometer
Dry Point	Manually recorded by user via keypad; optional automatic dry point detector (thermocouple) available (see Accessories, below)
Operation	
User Interface	Adjustable graphic LCD display (SVGA 640 x 480 pixels) with screen saver; solvent-proof alphanumeric keypad with dedicated function keys; PC control available using ALAN® (see Accessories, below)
Calibration & Diagnostics	Automatic calibration routine with programmable frequency and printed reports; automatic diagnostic on all analyzer functions
Heating System	Automatically computes initial heating levels setting; low mass, low voltage (1 KW) heating element; user-configured maximum power setting for added safety; air cooled at end of test
Condenser System	Factory sealed, CFC-free internal heating & cooling system; programmable temperature from 0º to 65ºC with temperature ramping during test; instantaneous condenser cooling
Receiver Chamber	Programmable temperature from 0º to 30ºC; insulated for tests under group 0 conditions; moisture proof design; "receiver in place" and "door open" detectors; 200ml liquid spill pan for easy cleaning
Safety	Enhanced fire detection with automatic CO_2 extinguisher system; built-in siren and external siren connector for relay to laboratory safety system; historical error file, which can be viewed or printed
Results Management	
Documentation	Recovered and evaporated results can be reported in ºC or ºF; automatic barometric correction (can be disabled by user). Local display of complete standard distillation report and distillation curve. Print pre- or user-defined 40 or 80 column reports to external printer via parallel port; data export to external PC via RS232C or RS485 link. Optional ALAN® software for Windows-based data acquisition and LIMS transfer (see Accessories, below)
Data Memory	Analyzer locally retains 16 complete distillation test results; unlimited storage when connected to PC with ALAN®
Specifications Memory	Up to 40 distillation programs; unlimited storage when connected to PC with ALAN®
Physical	
Ambient Conditions	Operation: 0 to 40ºC (32 to 104ºF) / Storage: -20 to 40ºC (-4 to 104ºF)
Electrical Requirements	230V or 115V; 1.5 Kw; 50Hz or 60 Hz (specify upon ordering)
Dimensions/Weight	544mm (W) x 720mm (D) x 795 mm (H) / (21.5 x 28.5 x 32 inches); 84 kg (185 pounds)
Accessories	
ALAN® Software	Automatic Laboratory Analyzer Network: Enables multi-analyzer networking with centralized operation and data management
Certified Reference Materials	Satisfy ISO 31, 34 & 35 standards and meet traceability requirements for ISO/NAMAS accreditation; contact your PAC representative for details
Automatic Dry Point Detector	Automatically detects dry point for ASTM D 850 and D 1078 solvent testing
Carbon/Micro-Carbon Residue Testing Kit	Prepares samples for ASTM D 189 and D 4530 carbon/micro-carbon residue testing

Due to continuing product development, specifications subject to change at any time without notice

CE

FOR ADDITIONAL INFORMATION:

AMERICAS:

PAC — PETROLEUM ANALYZER COMPANY L.P.

3234 Pasadena Freeway Pasadena, Texas, USA

Phone: 800.444.TEST [713.590.7260] | Fax: 713.590.7266

sales@paclp.com | www.paclp.com

EUROPE, ASIA, AFRICA, MIDDLE EAST, AUSTRALIA:

INSTRUMENTATION SCIENTIFIQUE DE LABORATOIRE

BP 70285 - VERSON - 14653 CARPIQUET Cedex - FRANCE

Phone: (33) 2 31 26 43 00 | Fax: (33) 2 31 26 62 93

sales@isl-france.com | www.isl-france.com

YOUR LOCAL REPRESENTATIVE:

 | B-02-AD865G2-4M | Printed in USA

PAC