## **Benchmark in Atmospheric Distillation Testing**

## **OPTIDIST**<sup>™</sup>





 The Optimal Solution in Distillation Testing
User-friendly, straightforward operation with superior precision from the first run Unparalleled versatility for significant laboratory time and cost savings · Enhanced built-in instrument safety features • In compliance with ASTM D86 (group 0,1,2,3,4), D1078, D850, EN ISO3405, ISO 918, IP123, IP195, DIN51751, JIS K2254, NFN 07-002

## **OPTIDIST™, THE BENCHMARK IN ATMOSPHERIC DISTILLATION TESTING**

With eighty years of combined experience between the companies Walter Herzog and ISL in designing and manufacturing automatic distillation equipment, they directed PAC to the development of the most revolutionary automated distillation analyzer ever built. OptiDist<sup>™</sup> is the State-of-the-Art Optimal Solution for performing atmospheric distillation, offering the most precision and ease of use ever seen. The versatile design enables multi-methods and non-standard capability and therefore can easily be adapted for different applications. The testing and results are in full compliance with all atmospheric distillation methods.

## EASY TO USE, ONE BUTTON STRAIGHTFORWARD OPERATION

Only the OptiDist<sup>™</sup> enables truly "one button," straightforward operation. The easy to use distillation analyzer with advanced Man Machine Interface (MMI) features, such as the built-in Optimizer, contributes to a trouble-free operation requiring less operator expertise. Without preliminary trials and manual heater settings, the operator selects the test method and starts the distillation by just pressing the "Start" button.

- **MISTAKE PROOF UNIT**
- With one hand quickly install the flask with automatic detection
- Intelligent Vapor Probe memorizes calibration data and does not require manual adjustment in the flask neck
- Automatic base plate detection
- Self-positioning heater lift





HPara

2 4

Start a test in only three steps:

- 1. Enter sample number
- 2. Select product (e.g distillation group
- 3. Push startbutton

FOC NOR

Frudact.

Start

**AUTO C2** 

SampleZ-2

The user does not have to enter individual heater parameters per sample.

#### **CORROSION RESISTANT RECEIVER CHAMBER**

- Automatic charge volume measurement for precise sample volume
- Automatic alarm for condenser cleaning

### QUICK AND EASY FLASK INSTALLATION IN LESS THAN 10 SECONDS!

Operators no longer need to deal with distillation flask issues, such as difficult installation and risks of breaking off the arm when setting it into the baseplate. The Optidist enables the operator to install the flask (1 and 2) and the self-positioning heater lift adjusts the settings automatically, using only one hand and all within seconds!







## SUPERIOR PRECISION FROM THE FIRST RUN

The OptiDist<sup>™</sup> automatically sets the optimal distillation conditions for any sample through the unique heating optimizer technology. It delivers up to two times better precision for all common distillation samples. No more precious time is lost on repeating tests; you get perfect results from the first run, even for "unknown" samples! The following example shows a precision study for ethanol blends in which units with and without the Optimizer technology were compared. The study shows a significant improvement in precision performance for units with the Optimizer.

Boiling Curve of a Typical

Gasoline E10





Due to the azeotropic behavior of ethanol blends, the previous generation of instruments cannot maintain the distillation rate within 4 to 5 ml/min. The units with advanced Optimizer technology can maintain the distillation rate much better since the Optimizer technology considers the liquid temperature as an additional regulation parameter. The study shows the results are within the method limits of 4-5 ml per minute.

## ADVANCED, BUILT-IN SAFETY FEATURES

The OptiDist assures perfect repeatability of distillation conditions without compromising safety. The optimized heating prevents critical overheating of the distillation flask, improves flask life-time, and protects from potential fires. The Optidist has a built-in fire extinguisher to further increase safety.

The VOC- blower reduces volatile organic compound (VOC) emissions before the operator opens the receiver chamber and protects the operator from exposure to harmful sample vapours.

## STATE OF THE ART OPTIDIST TECHNOLOGY

## FULLY AUTOMATED REGULATION WITH UNIQUE OPTIMIZER

- Fully automatic initial heat regulation; no sample specific heat parameters required
- Fully automatic final heat adjustment for the last 5 ml to distillate
- Automatic residue and loss calculation
- Perfect results on the first test, even for "unknown" samples

### CRUDE ANALYSIS WITH BOOST HEATER

The incorporated boost heater is a unique OptiDist feature that allows running crude oil samples according to GOST 2170 part B.

## SIGNIFICANT LABORATORY TIME AND COST SAVINGS

	A Typical distillation analyzer	The Herzog OptiDist
Operator Training Cost savings	Complicated operation requires system users to be extensively trained.	High level of automation makes the system mistake proof; No extensive operator training required.
Laboratory efficiency	2 - 3 attempts are required to have the correct initial heating setting to meet the IBP and 5% with the first test as required by the method	The Optimizer ensures perfect results starting with the first run without time-consuming and costly re-work
Time Savings	Analysis time is 135 minutes	Analysis time is 35 min; time-saving of 60%!
Sample Volume Savings	200 - 300 ml sample volume required	Only 100 ml required for a full distillation test



# solidpartners provensolutions

#### 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@paclp.com | service.usa@paclp.com

#### FRANCE

BP 70285 | Verson | 14653 CARPIQUET Cedex T: +33 (0) 231 264 300 | F: +33 (0) 321 266 293 sales.france@paclp.com| service.france@paclp.com

#### GERMANY

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

#### The 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@paclp.com | service.netherlands@paclp.com

#### RUSSIA

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

#### INDIA

1036 Regus | Trade Center, Level 1 Bandra (E) - 400 051 | Mumbai T: +91 22 40 700 447 / 700 | F: +91 22 40 700 800 sales.india@paclp.com | service.india@paclp.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@paclp.com | service.middleeast@paclp.com

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

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

#### HERZOG BY PAC

www.paclp.com

Herzog, originally established in 1937, is a long-established comprehensive line of laboratory instruments for testing distillation, flash point, vapor pressure, bitumen testing, cold flow properties, viscosity and other physical properties of materials.

## **MULTIPLE UNITS NETWARE OPERATION**

Users can choose to have the OptiDist operate as a stand-alone unit or benefit from the using it in a PC-controlled netware with HLIS or ALAN:

- All instruments can be controlled by a single PC or at the unit
- · Centralized database for results, products,
- methods, and reports
- Centralized user administration · Easy and remote database access
- · Data Analysis can be reported through one shared printer or transferred through a shared LIMS gateway



### **SPECIFICATIONS**

ac

**A**lcor

herzog

Ordering Information	OptiDist <sup>™</sup> , a compact self-contained instrument with factory filled CFC-free cooling system, delivered with 125ml flask, 100ml receiver cylinder, vapor probe with centering device, heater plates 38 and 50mm, flask connection silicone tube, receiver cap and condenser cleaner	
Standard Test Methods	ASTM D86 (group 0,1,2,3,4), D1078, D850, IP195, IP123, DIN51751, NFM07-002, EN ISO3405, JIS K2254, ISO918; ASTM D189, D524, D4350. EN ISO 10370* *OptiDist can prepare the 10% bottom residue for EN ISO 10370	
Operation User Interface Heating System	Large graphic TFT-LCD color touch-screen with solvent-proof protection Low mass and low voltage, self-positioning heating system Unique Optimizer function for fully automatic initial heat settings and heating regulation; detectors for heater plate, vapor probe and centering device	
Condenser System Receiving Chamber	temperature range from 0 to 65°C (32 to 149°F); programmable constant temperature, temperature ramping or special temperature profile; instantane- ously ready at switch on Temperature range from 0 to 40°C (32 to 104°F); corrosion proof design; programmable temperature or automatic adjustment to sample charge tem- perature; compatible with 100ml and 200ml receiver cylinders	
Measurements Vapor Temperature	Range: 0 to 450°C (32 to 842°F), accuracy Pt 100 IEC 751 probe Class A Built in calibration memory with 10 point calibration table and automatic probe ID detection; calibration history; optional calibration certificate Optical measuring system compatible with samples producing smoke in the receiver; range 0 to 103% charge volume; resolution: 0.03ml, accuracy: ± 0 1ml	
Sample Volume Ambient Pressure		
	Built-in pressure sensor, range to 70 to 110 kPa A (500 to 800 mmHg) Calibration: Single point against reference barometer	
Safety	Built in fire extinguisher with 2 fire sensors	
User Errors Prevention	Detector for heater base plate type, Detector for vapor probe and centering device Detectors for "receiver in place" and "receiver chamber door open" Detector for "condenser cleaned"	
Connectivity	3 USB for external printer, barcode reader and memory stick; RS232C serial port for LIMS connection; Ethernet RJ45 port for LIMS connection and unit networking; Connection to external PC with HLIS or ALAN software	
Operating Requirements	Temperature 10 to 35°C (50 to 95°F); relative humidity up to 80% at 35°C (95°F) Multi Voltage 100 to 240V; 1400 W	
Dimensions and Weight	44cm W * 57cm D * 65cm H (17,3" * 22,4" * 25,6"); 68kg (150lb)	
Options and Accessories	Built-in ticket printer; External printer; Barcode reader; External status indica- tor; Ambient temperature sensor; Automatic dry point kit for 200cc; Automatic dry point kit for 125cc; Crude oil testing kit for GOST 2170 part B; 200cc measuring cylinder kit for determination of 10% distillation residue; VOC	
	reduction kit; Doctor Box for instrument diagnostics; CRM reference materials	

#### Copyright 2012/1 PAC L.P. All rights reserved 820-736

ANTEK **Cambridge Viscosity** 

PSP

USA · FRANCE · GERMANY · NETHERLANDS · UAE · RUSSIA · CHINA · SINGAPORE · SOUTH KOREA · THAILAND · INDIA

Petro@pec