

APPLICATIONS:

Volatility

LIQUID PETROLEUM PRODUCTS
SOLVENTS



HDA 627

HDA 628

Automatic Distillation Analyzers

ADVANTAGES:

- **Highly repeatable distillation results**
- **Reliable digital volume detection unaffected by ambient light**
- **Smart, powerful PC-controlled operation and data management**
- **Detects dry point for testing of solvents and other difficult materials**
- **Simple to operate and maintain**

HDA 627 AND HDA 628

HDA 628's integrated computer system conducts all programming, operation, and diagnostic activities. The HDA 627, which excludes computer and monitor, provides an economic means of expanding the distillation system as your testing needs grow.

Just **point and click** to choose test programs and begin distillations. An **extensive reference database** contains sample distillation programs for many materials. For samples containing single boiling point components (i.e. RFGs, oxygenates), Herzog Laboratory Information System (HLIS) incorporates "**follow the heat curve**"—a unique feature that graphically displays heater temperature versus recovered volume, and allows manual override of heater settings throughout distillation. Modified programs can be stored and automatically applied to similar samples, making it possible to **stay "on method" with the most difficult fuels.**

METHODS:

- ASTM D 86 (0, 1, 2, 3, 4)**
- ASTM D 850**
- ASTM D 1078**
- DIN 51751 (0, 1, 2, 3, 4)**
- ISO 3405 (0, 1, 2, 3, 4)**

HDA 627 & HDA 628

Automatic Distillation Analyzers



Modular cabinet sections lift off quickly—no tools required—for easy cleaning and service access.

Herzog's 40 years of leadership designing and manufacturing automatic distillation equipment culminates with their development of the most sophisticated ADAs ever built. They've combined robust electrical and mechanical systems that are the platform for all Herzog HDA analyzers, with an integrated, advanced computer complete with monitor, MS Windows® operating system, and HLIS control software.

Laboratory distillations of petroleum products are fundamental to process control and product specification. The standard test methods require precise control of conditions including sample heating, temperature detection, condenser temperature, and recovery volume measurement. Automation of this process optimizes productivity and accuracy.

ULTIMATE FLEXIBILITY, PERFORMANCE

- Initiate tests with only a few clicks
- Contains only ½ liter of heat transfer fluid, enabling rapid temperature change
- Condenser temperatures can be changed between extremes of ASTM method D 86 groups 0 and 4 within 5 minutes, independent of receiver temperature
- Ramping condenser temperature (for products with wide boiling range) prevents wax formation as heavy components condense
- Enables receiving compartment temperature control at setpoints from 0° to 60°C with programmed ramping during distillations
- Digital stepper motor and infrared sensor combine for ultra-precise volume measurement; unaffected by ambient light
- Transparent receiver door allows convenient viewing of the recovery
- Custom distillation curves record results at additional volume and temperature points or stop testing at a specific volume/temperature point

SAFE, RELIABLE OPERATION

- Automatically detects method or safety violations
- Detects and extinguishes fire
- Low mass, low voltage sample heater meets CE safety requirements
- Withstands aggressive solvents & extensive operation
- Error logs automatically signal problems, providing convenient reports for verification & troubleshooting
- Expert sales and service from PAC's worldwide network of factory trained authorized representatives
- Quality construction and reliable operation backed by a limited parts and service warranty
- Intensive customer training at your site or ours

A "smart" thermocouple sensor detects evaporation of the sample's last drop from the flask bottom. Herzog's new HLIS software can "learn" to detect dry point on difficult materials by memorizing thermocouple response at an operator indicated dry point determination.

Full color, active matrix display. Easily control HLIS software using a hand held trackball or by touching the screen. The system also supports standard mice, keyboards and a virtual software-keypad.

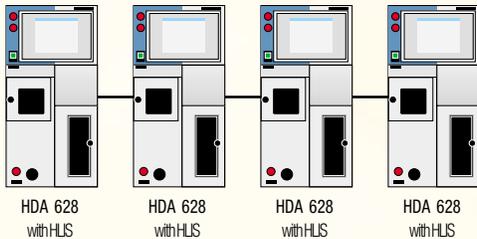
Highly reliable recovery volume measurement is achieved with a precision stepper motor, which advances an optics carriage in 0.05 ml increments as the graduate fills, maintaining precise alignment with the meniscus. The system is digital and unaffected by ambient light.



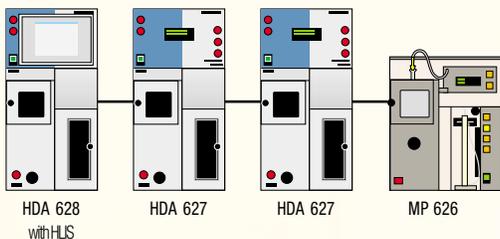
Compact footprint: 40 cm

VERSATILE CONFIGURATIONS FOR ANY BUDGET

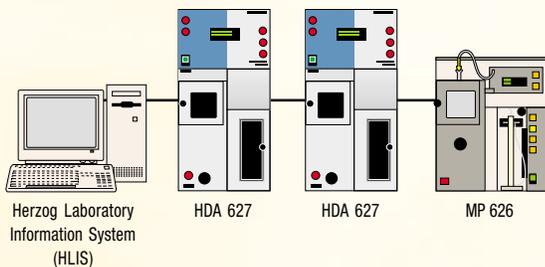
- A** Stand alone or networked 628s with central or independent storage of program and results. Network up to 16 distillation units.



- B** "Master control" HDA 628 with economical add on stills, including HDA 627s and existing Model MP 626s. Network up to 16 distillation units.



- C** PC with HLIS and economical 627s and 626s. Use up to 16 existing MP 626 stills and programs with HLIS network and new HDA 627s.



POWERFUL PC-DRIVEN CONVENIENCE WITH HLIS

- Controls and monitors up to 16 units from a single computer or central HVU 628, enabling quick view of operation status and measurement values
- Network ready; automatic or on-demand data transfer to external computer, network, or LIMS
- Incorporates built-in electronic calibration, self-test, and system diagnostics for reliable operation
- Sophisticated Windows®-based database management organizes test parameters and results for easy retrieval
- Scroll through complete database or filter records by specific criteria
- Password protection with individual access profiles
- Easily upgrades as technology advances



Conforming to CE safety requirements, the HDA's extra responsive low mass, low voltage electric flask heater enables the uniform distillation rate that is critical to repeatable distillation results.

HLIS... COMPUTER-CONTROLLED FUNCTIONALITY

Distillation Rate Control

The system analyzes each distillation and suggests ideal initial heater settings, offering the option to automatically save these new settings in the distillation program. A micro-processor provides superior temperature control.



Database Functions

Quickly view distillation programs & results on-screen, narrowing searches to records meeting specific criteria such as sample ID, data range or product group. An error logging system monitors system and operator performance.



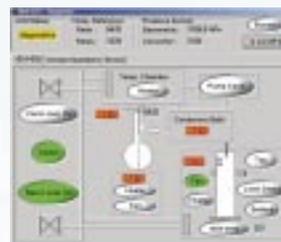
Calibrations

All calibration functions are included (e.g. pressure sensor, vapor thermometer, etc.). From this screen, you can also verify volume measurement.



Diagnostics

Displays the status of all mechanical and electrical systems for verifications of proper performance & routine preventive maintenance.



HDA 627 and HDA 628: Smart analysis, complete flexibility

SPECIFICATIONS

Ordering Information	Model HDA 628 Stand-Alone Distillation Analyzer with integrated PC and HLIS (see below); includes color, active matrix touch screen Model HDA 627 Add-On Distillation Analyzer for operation with HDA 628 or host PC with HLIS for Windows®; 2 line LCD display
Standard Test Methods	ASTM D 86: groups 0, 1, 2, 3, 4 ASTM D 850 ASTM D 1078 DIN 51751: groups 0, 1, 2, 3, 4 ISO 3405: groups 0, 1, 2, 3, 4
HLIS for Windows®	Herzog Laboratory Information System. Factory installed (628 only). Provides graphic display of operating parameters and distillation results, including pre-heat stage. Context sensitive help screens. Operates up to 16 Herzog automatic distillation analyzers with central measurement program and test results storage and database management. All data collected/stored by HLIS automatically transmits by RS 232 to external LIMS. User may customize output format using preferred field delimiters. System PC can function as workstation on LAN and export data in ASCII format.
Performance	
Sample Temperature Measurement	Auto calibrating sample thermometer circuit with integrated precision fixed resistors; 10 point on-screen calibration
Condenser Temperature Control	Achieves operating temperature within 5 minutes (0° to 60°C); liquid jacket, mechanical refrigeration and electric heat independent of receiver; programmable for temperature ramping during distillations
Distillation Rate Control	Automatic—proven algorithm controls temperature at flask bottom; low mass, low voltage heater conforms to CE safety specifications; "Follow the heat curve" software function permits manual adjustment; distillate receiver provides independent temperature control (0°C to 60°C) with programmable temperature ramping during distillations
Volume Measurement	
Mechanized Measurement	Digital infrared meniscus follower, unaffected by ambient light; precision stepper motor, resolution to 0.05 ml; calculated as function of motor steps, confirmed by optical detector; self-calibrating
Visual Measurement	Transparent door for convenient viewing of distillate receiver
Dry Point Detection (solvent tests)	"Smart" thermocouple sensor detects evaporation of last drop and "learns" from operator indication of visual dry point observation
Data Output	Serial transmission of all data with selectable field delimiters; LAN compatible; exports to any printer with Windows® drivers
Diagnostics & Calibration	Real time status display and control for all mechanical and electrical systems locally or with optional PC network; 10 point on-screen calibration of resistance thermometer; recovery volume calibration with dry reference graduate
Utility Requirements	
Electrical	115/230 VAC, 2300 watts, 50/60 Hz
Gas	External CO ₂ supply for fire extinguisher
Dimensions	40 cm W x 83 cm D x 62 cm H (15.7" W x 32.7" D x 24.4" H)
Weight	60 kg (132 lbs)



Due to continuing product development, specifications subject to change at any time without notice.
All Herzog products are  compliant.

FOR ADDITIONAL INFORMATION:

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