

Fully Automated Distillation of Petroleum Products including Biofuels

OptiDist - the Optimal Solution

The evaporating characteristics of hydrocarbons have an important effect on their performance. The D86 distillation method allows characterizing the tendency of a fuel to vaporize.

Eighty years combined experience of the companies Walter Herzog and ISL in designing and manufacturing automatic distillation equipment, directed PAC in the development of the most revolutionary automated distillation analyzer ever built.

OptiDist is the State-of-the-Art Optimal Solution for performing atmospheric distillation offering highest precision and ease of use ever seen. Only the OptiDist enables truly "one button" straightforward operation. To start a test you just select the boiling group of the sample and push the Start Button.

Superior Precision from the First Run

The OptiDist fully automatically sets the optimal distillation conditions for Initial Heating, Distillation and Final Heating for any sample through the unique heating optimizer technology. It delivers up to 2 times better precision for all common distillation samples. You get perfect results from the first run even for "unknown" samples!

Enhanced Instrument Features

The optimizer technology assures perfect repeatability of distillation conditions without any compromise. The optimized heating protects flask material from critical overheating, improves flask life-time and prevents from potential fire. The operator also benefits from the environmental-friendly design by the drastically reduced VOC emission.

Unparalleled Versatility

The versatile design enables multi-methods and non-standard capability and can easily be adapted for different applications. OptiDist can be run as Stand Alone Unit or it can be linked together with several units to a Server-PC. OptiDist offers flexible and customized test report with enhanced communication features to LIMS, any printer or a centralized database on a Server-PC with ALAN or HLIS software.

Methods

ASTM D86, D1078, D850
EN ISO 3405, ISO 918
IP 123, IP 195, DIN 51 751
JIS K2254, NF M07-002

Main Features

- Easy to use mistake proof unit
- Quick connection for flask
- Self positioning heater lift
- Automatic heater base plate detection
- One button straight forward operation
- Superior precision from the first run
- Measuring of the Charge Volume
- Enhanced instrument features
- Reduced VOC emission
- Stand Alone Unit or networked with a PC
- Compatible with HLIS or ALAN
- Customized Printer Reports
- Built in or external Printer
- Flexible LIM communication
- Small Foot Print









Specification






<p>General Information</p>	<p>OptiDist is a compact self-contained instrument with factory filled CFC-free cooling system, delivered with all accessories to immediately begin testing. It includes 125ml flask, 100ml receiver, vapor probe with centering device, heater plates 38 and 50mm, flask connection silicone tube, receiver cap and condenser cleaner</p>
<p>Standard Test Methods</p>	<p>ASTM D86 (group 0,1,2,3,4), IP123, DIN 51751, NF M07-002, EN ISO 3405, JIS K2254, ASTM D850, D1078, IP195, ISO 918</p>
<p>10% Distillation Residue</p>	<p>OptiDist can create the 10% Distillation residue with 100 or 200ml sample which can be used for Carbon Residue Measurement according to the following methods: ASTM D189, D524, D4530, EN ISO 10370</p>
<p>Operation</p> <p>User Interface</p> <p>Flask Heating System</p> <p>Distillation Rate</p> <p>Condenser System</p> <p>Receiving Chamber</p>	<p>Large graphic TFT-LCD color touch-screen with solvent-proof protection</p> <p>Low mass and low voltage, self-positioning heating system</p> <p>Unique Optimizer function for fully automatic initial heat settings, distillation rate regulation and final heating regulation; to start test select the group and push start button; automatic residue calculation</p> <p>Distillation Rate regulation 2 to 10 ml/min</p> <p>Temperature range from 0 to 65°C (32 to 149°F); programmable constant temperature, temperature ramping or special temperature profile; instantaneously ready at switch on; automatic cooling liquid level detection</p> <p>Temperature range from 0 to 40°C (32 to 104°F); corrosion proof design; programmable temperature or automatic adjustment to sample charge temperature; compatible with 100ml and 200ml receiver cylinders</p>
<p>Measurements</p> <p>Vapor Temperature</p> <p>Sample Volume</p> <p>Ambient Pressure</p>	<p>Range : 0 to 450°C (32 to 842°F); Accuracy: Pt 100 probe IEC 751 Class A Built in calibration memory with 10 point calibration table and automatic probe ID detection; optional calibration certificate</p> <p>Optical measuring system compatible with samples producing smoke in the receiver cylinder; Range: 0 to 103% of charge volume; Resolution: 0,03ml; Accuracy: ± 0,1ml</p> <p>Built-in pressure sensor; Range: 70 to 110kPa (500 to 800 mmHg) Calibration: Single point against reference barometer; memory for calibration history</p>
<p>Fire Extinguisher and Reduction of VOC emission</p>	<p>Built in fire extinguisher with 2 fire sensors</p> <p>Drastically reduced emission of VOC (Volatile Organic Compounds)</p>
<p>User Error Prevention</p>	<p>Detector for heater base plate type, detectors for vapor probe and centering device, detectors for “receiver cylinder in place” and “receiver chamber door open”, detector for “condenser cleaned”</p>





<p>Software functions</p>	<p>Operation as Stand Alone Unit or in a net ware with several units linked to a PC Connection to external PC with HLIS or ALAN; User defined Start procedure with quick start or start guide; Result data base for 100 results; QC data base for 5 samples and 250 results; Product data base for 200 products with 33 specification points each; Customized reporting on display, printer and LIMS Measuring of the charge volume; automatic receiver temperature setting to the room temperature; automatic Diagnostic Function with 32 Alarms and message history</p>
<p>Calculations</p>	<p>Calculated Cetane Index, acc. D 4737 and D 976 Driveability Index acc. D 4814</p>
<p>Connectivity</p>	<p>3 * USB for external printer, barcode reader and memory stick RS232C serial port for LIM connection Ethernet RJ45 port for unit networking and connection to an external PC with ALAN or HLIS Connectors for Ambient Temp. Sensor, Status indicator and for Unit Diagnostic</p>
<p>External Connections Fire extinguisher gas VOC vent</p>	<p>Connection for Fire extinguishing gas CO₂; Gas pressure 7±0,5 bar; Gas Flow rate 30 to 35 liters/s; Average volume used to extinguish a fire 150 liters; time to extinguish takes between 2 and 4 seconds Connection with hose nozzle with inside diameter of 8 mm Built in Blower and connection for VOC vent</p>
<p>Operating Requirements</p>	<p>Temperature 10 to 35°C (50 to 95°F); Relative humidity up to 80% at 35°C (95°F) Multi Voltage 100 to 240V; 1400W</p>
<p>Dimensions and Weight</p>	<p>44cm W * 57cm D * 65cm H (17,3" * 22,4" * 25,6"); 68kg (150lb)</p>
<p>Options & Accessories</p>	<p>Built-in Ticket Printer (only factory installation) External printer Barcode Reader External status indicator Ambient temperature sensor Automatic dry point kit for 200cc Automatic dry point kit for 125cc Crude Oil testing capability (only factory installation) Reduction of VOC emission (only factory installation) 200cc test kit for 10% Distillation Residue Doctor Box CRM reference materials</p>

OptiDist basic unit and factory installed options

Ord.-No.	Description																																	
0101-004-001	<p>OptiDist Automated Atmospheric Distillation Analyzer 100-240V AC, 50/60Hz, 1400W Acc. to ASTM D 86, ISO 3405, IP 123, DIN 51 751, NF M07-002, JIS K2254 for boiling groups 0 - 4 Acc. to ASTM D 850, D 1078, IP 195. With Optimizer for fully automated heater regulation Stand alone unit with Colored Touch Screen and possibility to connect to a PC with HLIS or ALAN With low voltage heater flask heater and fire extinguisher With factory filled sealed cooling system and with built-in CFC free cooler compressor. Accessories included:</p> <table border="1" data-bbox="363 703 1142 1352"> <tr> <td>8013-004-00X</td> <td>Documentation CD</td> </tr> <tr> <td>2002-004-001</td> <td>OptiDist Measuring Cylinder 100ml with brass base</td> </tr> <tr> <td>2201-004-001</td> <td>OptiDist Flask 125ml</td> </tr> <tr> <td>2001-004-008</td> <td>OptiDist Vapor Probe Stopper for 100ml, 125ml and 250ml flask</td> </tr> <tr> <td>3801-110-001</td> <td>OptiDist Vapor Probe with calibration certificate calibrated at 50°C and 250°C</td> </tr> <tr> <td>3002-004-1031</td> <td>OptiDist Vapor Probe wire guide</td> </tr> <tr> <td>3003-004-1007</td> <td>OptiDist Vapor Probe holder</td> </tr> <tr> <td>3002-004-1013</td> <td>OptiDist Heater Base Plate 50 mm opening</td> </tr> <tr> <td>3002-004-1014</td> <td>OptiDist Heater Base Plate 38 mm opening</td> </tr> <tr> <td>2007-004-002</td> <td>OptiDist Silicone hose for flask connection</td> </tr> <tr> <td>3004-004-1002</td> <td>Rubber Cap for Measuring Cylinder</td> </tr> <tr> <td>2000-004-002</td> <td>OptiDist Condenser Cleaner</td> </tr> <tr> <td>3001-004-1065</td> <td>OptiDist Receiver Chamber Liquid Vessel</td> </tr> <tr> <td>1700-000-007</td> <td>Ethernet Cable 3m</td> </tr> <tr> <td>3002-000-1002</td> <td>Hose connection piece</td> </tr> <tr> <td>5201-000-001</td> <td>Set of hexagonal wrenches</td> </tr> </table>	8013-004-00X	Documentation CD	2002-004-001	OptiDist Measuring Cylinder 100ml with brass base	2201-004-001	OptiDist Flask 125ml	2001-004-008	OptiDist Vapor Probe Stopper for 100ml, 125ml and 250ml flask	3801-110-001	OptiDist Vapor Probe with calibration certificate calibrated at 50°C and 250°C	3002-004-1031	OptiDist Vapor Probe wire guide	3003-004-1007	OptiDist Vapor Probe holder	3002-004-1013	OptiDist Heater Base Plate 50 mm opening	3002-004-1014	OptiDist Heater Base Plate 38 mm opening	2007-004-002	OptiDist Silicone hose for flask connection	3004-004-1002	Rubber Cap for Measuring Cylinder	2000-004-002	OptiDist Condenser Cleaner	3001-004-1065	OptiDist Receiver Chamber Liquid Vessel	1700-000-007	Ethernet Cable 3m	3002-000-1002	Hose connection piece	5201-000-001	Set of hexagonal wrenches	
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0101-004-003	<p>Same as 0101-004-001 but with built in Reduction of VOC emission and with Crude Oil testing capability After the test VOCs (volatile organic compounds) are removed from the receiver chamber, through an outlet pipe on the back of the unit, with a built in blower Accessories included:</p> <table border="1" data-bbox="363 1749 1142 1823"> <tr> <td>2201-004-005</td> <td>OptiDist Flask 250ml</td> </tr> </table>	2201-004-005	OptiDist Flask 250ml	 																														
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0101-004-004	<p>Same as 0101-004-001 but with built in Ticket Printer, with Reduction of VOC emission and with Crude Oil testing capability After the test VOCs are removed from the receiver chamber, through an outlet pipe on the back of the unit, with a built in blower Accessories included:</p> <table border="1" data-bbox="363 2033 1142 2101"> <tr> <td>2201-004-005</td> <td>OptiDist Flask 250ml</td> </tr> </table>	2201-004-005	OptiDist Flask 250ml	 																														
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Accessories (can be installed in the field)

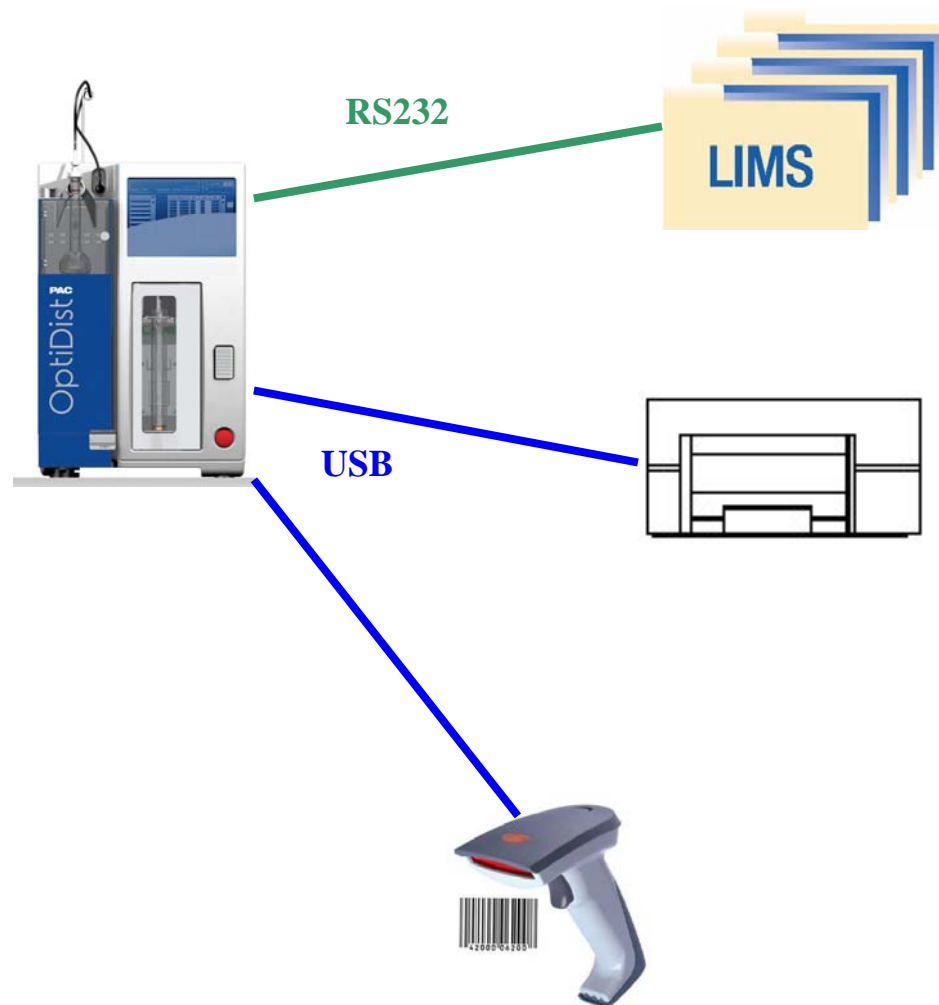
Ord.-No.	Description									
2000-000-001	<p>Status Indicator Beacon The Status Indicator Beacon is a light signal which is connected to the back of the unit. The operator can monitor the status of the unit while working away in the lab.</p> <p>Green: Ready to start a test Yellow: The distillation is running Yellow blinking: User input is required Red: There is an Error</p>									
1200-004-002	<p>External printer A4 100-230 VAC If the printer is connected directly to OptiDist it must support PCL5 emulation language (or above such as PCL6 or variants such as PCL5e)</p>									
1700-000-001	<p>USB printer connection cable</p>									
1209-004-007	<p>OptiDist Dry Point Kit, automatic for 125ml flask To run automatic Dry Point with 125ml flask acc D86 you need the OptiDist Dry Point sensor for the 125ml flask. This Dry Point Sensor is used instead of the Vapor Probe Stopper. The Vapor Probe has to be inserted into the Dry Point sensor.</p> <p>Accessories included:</p> <table border="1" data-bbox="363 1261 1142 1462"> <tr> <td data-bbox="370 1261 592 1339">2001-004-016</td> <td data-bbox="592 1261 1142 1339">OptiDist Dry Point Sensor and Vapor Probe Stopper for 125ml flask</td> </tr> <tr> <td data-bbox="370 1339 592 1406">3001-004-2027</td> <td data-bbox="592 1339 1142 1406">Dry Point Sensor holder</td> </tr> <tr> <td data-bbox="370 1406 592 1462">3001-004-1078</td> <td data-bbox="592 1406 1142 1462">Probe adjustment tool for Dry Point sensor</td> </tr> </table>	2001-004-016	OptiDist Dry Point Sensor and Vapor Probe Stopper for 125ml flask	3001-004-2027	Dry Point Sensor holder	3001-004-1078	Probe adjustment tool for Dry Point sensor			
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1209-004-000	<p>OptiDist D1078 Kit for manual Dry Point If you have to measure Dry Point only a few times a year OptiDist can offer a way to manually detect the Dry Point. In this case you have to watch when the flask bottom is dry and push a button on the screen. OptiDist is then automatically memorizing this vapor temperature as the Dry Point temperature.</p> <p>Accessories included:</p> <table border="1" data-bbox="363 1709 1142 2027"> <tr> <td data-bbox="370 1709 592 1776">2201-004-004</td> <td data-bbox="592 1709 1142 1776">OptiDist Flask 200 ml</td> </tr> <tr> <td data-bbox="370 1776 592 1865">2001-004-018</td> <td data-bbox="592 1776 1142 1865">OptiDist Vapor Probe Stopper for 200ml flask</td> </tr> <tr> <td data-bbox="370 1865 592 1944">3002-004-1015</td> <td data-bbox="592 1865 1142 1944">OptiDist Heater Base Plate 32 mm central opening</td> </tr> <tr> <td data-bbox="370 1944 592 2000">3001-004-1078</td> <td data-bbox="592 1944 1142 2000">Probe adjustment tool for Dry Point sensor</td> </tr> </table>	2201-004-004	OptiDist Flask 200 ml	2001-004-018	OptiDist Vapor Probe Stopper for 200ml flask	3002-004-1015	OptiDist Heater Base Plate 32 mm central opening	3001-004-1078	Probe adjustment tool for Dry Point sensor	
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1209-004-001	<p>OptiDist D1078 Kit for automated Dry Point To run automatic Dry Point with 200ml flask acc D1078 you need the OptiDist Dry Point sensor for the 200ml flask. This Dry Point Sensor is used instead of the Vapor Probe Stopper. The Vapor Probe has to be inserted into the Dry Point sensor.</p> <p>Accessories included:</p> <table border="1" data-bbox="368 533 1142 790"> <tr> <td data-bbox="368 533 592 566">2201-004-004</td> <td data-bbox="596 533 1142 566">OptiDist Flask 200 ml</td> </tr> <tr> <td data-bbox="368 573 592 607">2001-004-017</td> <td data-bbox="596 573 1142 607">OptiDist Dry Point Sensor and Vapor Probe Stopper for 200ml flask</td> </tr> <tr> <td data-bbox="368 613 592 647">3002-004-1015</td> <td data-bbox="596 613 1142 647">OptiDist Heater Base Plate 32 mm central opening</td> </tr> <tr> <td data-bbox="368 654 592 687">3001-004-2027</td> <td data-bbox="596 654 1142 687">Dry Point Sensor holder</td> </tr> <tr> <td data-bbox="368 694 592 728">3001-004-1078</td> <td data-bbox="596 694 1142 728">Probe adjustment tool for Dry Point sensor</td> </tr> </table>	2201-004-004	OptiDist Flask 200 ml	2001-004-017	OptiDist Dry Point Sensor and Vapor Probe Stopper for 200ml flask	3002-004-1015	OptiDist Heater Base Plate 32 mm central opening	3001-004-2027	Dry Point Sensor holder	3001-004-1078	Probe adjustment tool for Dry Point sensor	
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1209-004-003	<p>OptiDist D850 Kit for automated Dry Point To run automatic Dry Point with 200ml flask acc D850 you need the OptiDist Dry Point sensor for the 200ml flask. This Dry Point Sensor is used instead of the Vapor Probe Stopper. The Vapor Probe has to be inserted into the Dry Point sensor.</p> <p>Accessories included:</p> <table border="1" data-bbox="368 1451 1142 1709"> <tr> <td data-bbox="368 1451 592 1485">2201-004-004</td> <td data-bbox="596 1451 1142 1485">OptiDist Flask 200 ml</td> </tr> <tr> <td data-bbox="368 1491 592 1525">2001-004-017</td> <td data-bbox="596 1491 1142 1525">OptiDist Dry Point Sensor and Vapor Probe Stopper for 200ml flask</td> </tr> <tr> <td data-bbox="368 1532 592 1565">3002-004-1032</td> <td data-bbox="596 1532 1142 1565">OptiDist Heater Base Plate 25 mm central opening</td> </tr> <tr> <td data-bbox="368 1572 592 1606">3001-004-2027</td> <td data-bbox="596 1572 1142 1606">Dry Point Sensor holder</td> </tr> <tr> <td data-bbox="368 1612 592 1646">3001-004-1078</td> <td data-bbox="596 1612 1142 1646">Probe adjustment tool for Dry Point sensor</td> </tr> </table>	2201-004-004	OptiDist Flask 200 ml	2001-004-017	OptiDist Dry Point Sensor and Vapor Probe Stopper for 200ml flask	3002-004-1032	OptiDist Heater Base Plate 25 mm central opening	3001-004-2027	Dry Point Sensor holder	3001-004-1078	Probe adjustment tool for Dry Point sensor	
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1209-004-005	<p>OptiDist ASTM D189, D4530, ISO 10370 Kit for 10% Distillation Residue with 200ml sample OptiDist can create the 10% Distillation Residue for the Carbon Residue Test with 200ml sample if the distillation is stopped at 89 vol. %</p> <p>Accessories included:</p> <table border="1" data-bbox="368 1921 1142 2092"> <tr> <td data-bbox="368 1921 592 1955">2002-004-007</td> <td data-bbox="596 1921 1142 1955">OptiDist Measuring Cylinder 200ml with brass base</td> </tr> <tr> <td data-bbox="368 1962 592 1995">2201-004-005</td> <td data-bbox="596 1962 1142 1995">OptiDist Flask 250ml</td> </tr> <tr> <td data-bbox="368 2002 592 2036">3001-004-2025</td> <td data-bbox="596 2002 1142 2036">Drip Tip expansion for 200ml Measuring Cylinder</td> </tr> </table>	2002-004-007	OptiDist Measuring Cylinder 200ml with brass base	2201-004-005	OptiDist Flask 250ml	3001-004-2025	Drip Tip expansion for 200ml Measuring Cylinder					
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Ord.-No.	Description	
1209-004-006	<p>Ambient Temperature sensor kit The Ambient Temperature sensor can be used to measure the room temperature and use this temperature as the receiver chamber temperature. This will avoid sample volume errors caused by thermal expansion if the charge temperature is different to the receiver chamber temperature. The sensor can be installed to the back of the unit</p>	
1700-000-007	<p>Ethernet Cable 3m to connect the OptiDist to the Router</p>	
1700-000-010	<p>Ethernet Router to link 7 OptiDist to a PC. If more than 7 OptiDist need to be connected to the PC, the Net can be expanded by the Ethernet Hub</p>	
1700-000-011	<p>Ethernet Hub with 8 ports to extend the Ethernet for more than 7 OptiDist connected to a PC</p>	
1000-004-001	<p>Pt100 Probe Simulator Box 0 to +400°C with 6 fixed temp. points, accuracy better 0,2%, with cable</p>	
1001-004-001	<p>Doctor Box for easy unit diagnostic without opening the unit. The user can easily check fuses or voltages by just plugging the Doctor Box to the unit</p>	
1700-000-004	<p>Barcode reader can be used to enter sample number</p>	
1700-000-006	<p>RS 232 Cable for LIMS connection of OptiDist</p>	
1700-000-002	<p>USB Hub to connect more than 2 USB devices to OptiDist</p>	<p>NO PICTURE</p>

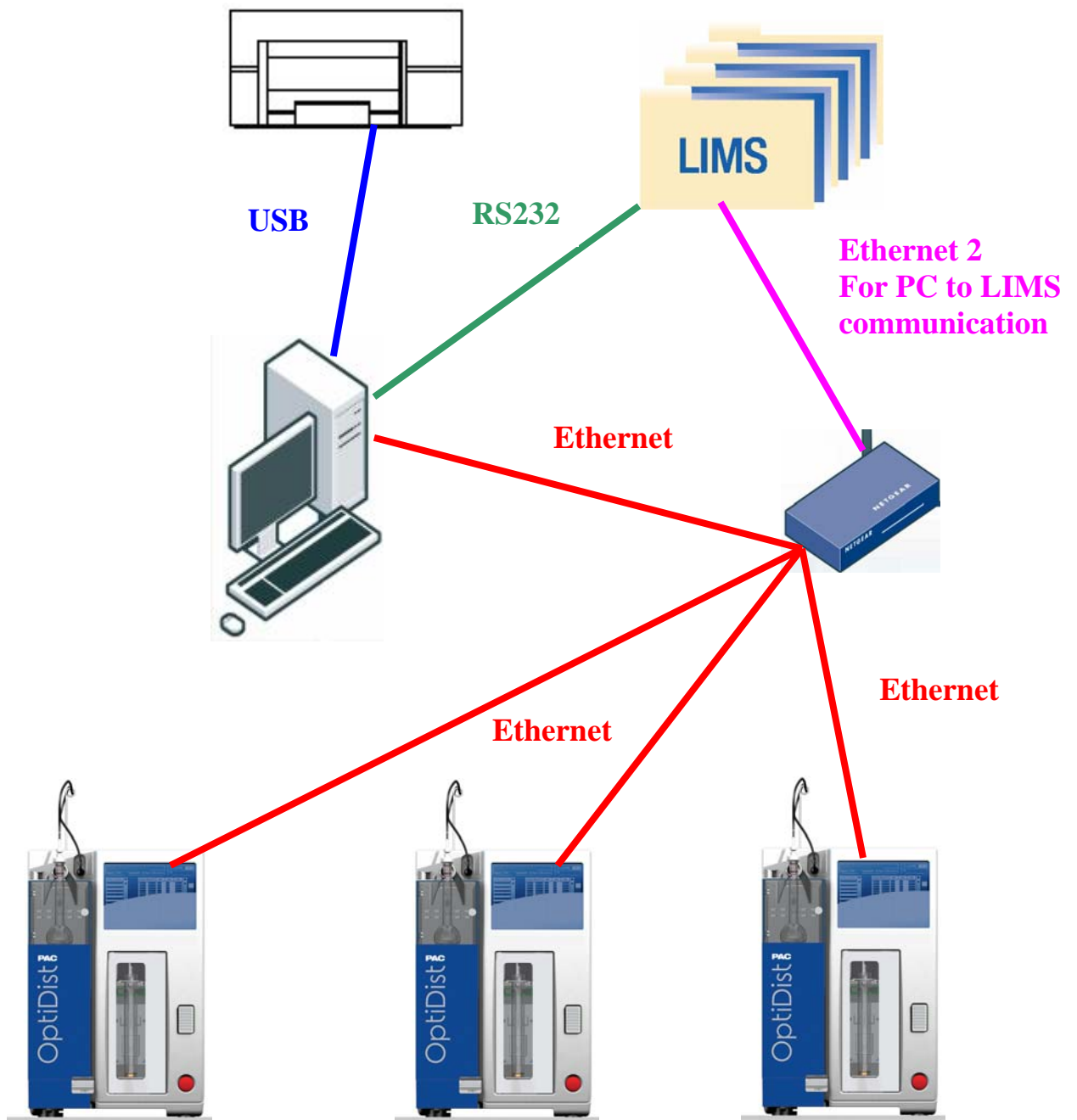
OptiDist used as Stand Alone Unit

1. OptiDist can operate as Stand Alone Unit without external PC.
2. OptiDist can be connected directly to the LIMS by RS232.
3. OptiDist can have a built in ticket printer
4. OptiDist can be connected to an external printer by USB. **The USB printer must support PCL5 emulation language (or above such as PCL6 or variants such as PCL5e)**
5. OptiDist can use a Barcode reader for data input



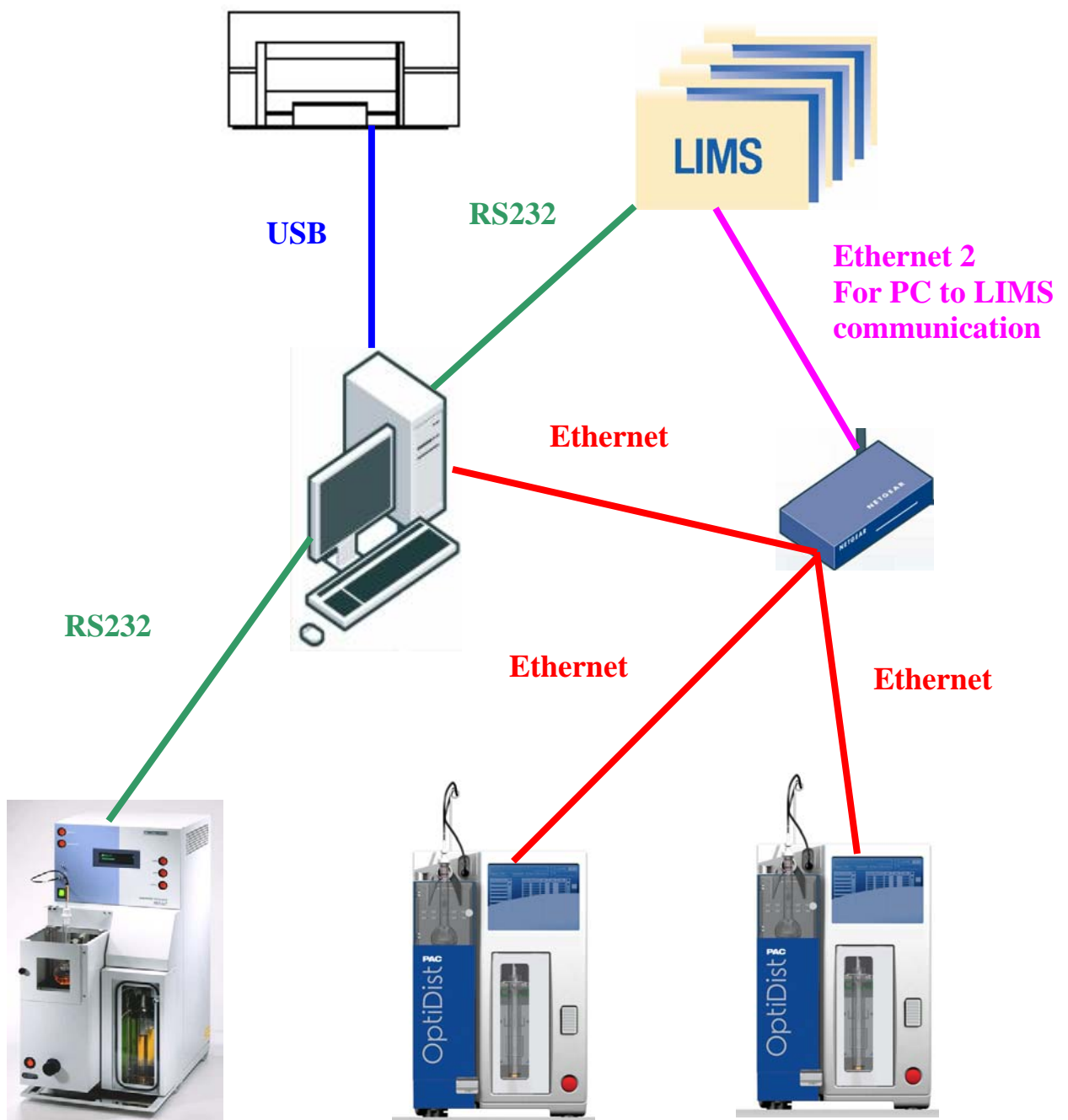
OptiDist with HLIS or ALAN

1. OptiDist can operate in a net with several OptiDist units linked to a Server PC with HLIS or ALAN Software. The OptiDist units have to be connected to the Server PC through a Router. This Router must be a DHCP Server. The OptiDist units and the Server PC are DHCP Clients and will be automatically detected by the Router. There is no user setting necessary for the connection.
2. OptiDist can be connected to the LIMS via PC with ALAN or HLIS by RS232 or by the Ethernet 2 connection. **The Ethernet 2 connection has to be done from an IT specialist in the LAB**
3. The printer connected to the PC by USB port can be any printer which is supported by the Operating system of the PC.



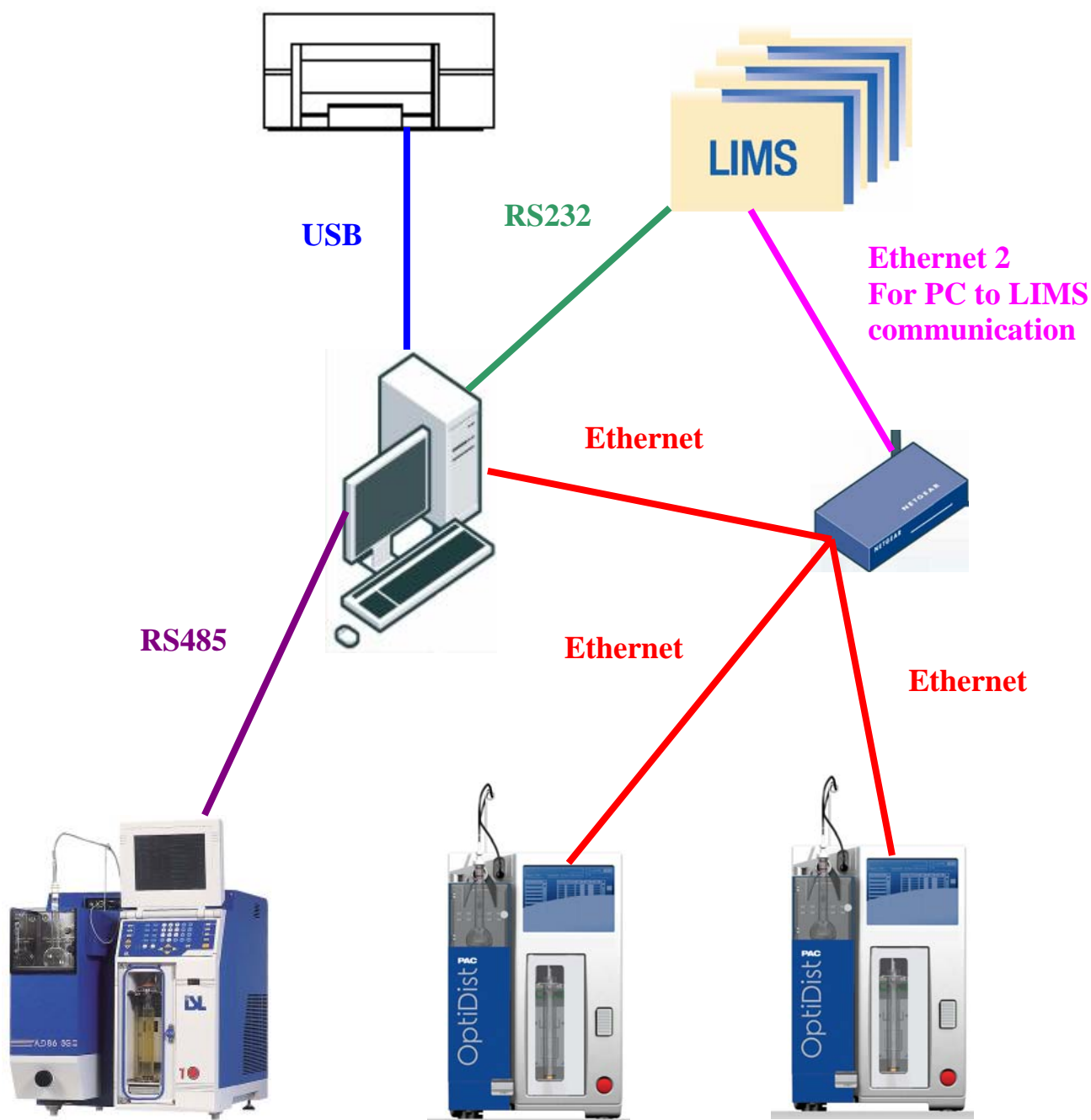
OptiDist and HDA 627 with HLIS

1. The HDA627 units are connected by RS232 to the PC with HLIS software
2. The OptiDist units have to be connected to the Server PC through a Router. This Router must be a DHCP Server. The OptiDist units and the Server PC are DHCP Clients and will be automatically detected by the Router. There is no user setting necessary for the connection.
3. OptiDist can be connected to the LIMS via PC with ALAN or HLIS by RS232 or by the Ethernet 2 connection. **The Ethernet 2 connection has to be done from an IT specialist in the LAB**
4. The printer connected to the PC by USB port can be any printer which is supported by the Operating system of the PC.



OptiDist and AD86 5G with ALAN

1. The AD86 5G can be connected to the PC with ALAN software by the RS485 port
2. The OptiDist units have to be connected to the Server PC through a Router. This Router must be a DHCP Server. The OptiDist units and the Server PC are DHCP Clients and will be automatically detected by the Router. There is no user setting necessary for the connection.
3. OptiDist can be connected to the LIMS via PC with ALAN or HLIS by RS232 or by the Ethernet 2 connection. **The Ethernet 2 connection has to be done from an IT specialist in the LAB**
4. The printer connected to the PC by USB port can be any printer which is supported by the Operating system of the PC.











Upgrade Kits for ALAN and HLIS

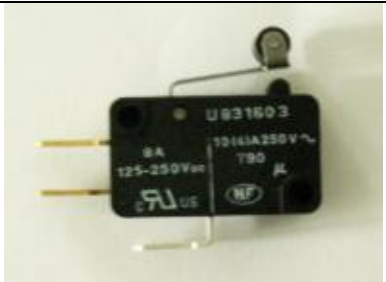


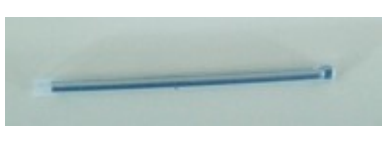



Order N°	Description									
1210-004-002	<p>ALAN PC Software Kernel + OptiDist module This kit is necessary if no ALAN software exists</p> <p>Accessories included:</p> <table border="1" data-bbox="400 488 651 633"> <tr> <td data-bbox="400 488 651 521">1700-000-007</td> <td data-bbox="651 488 1102 521">Ethernet Cable 3m</td> </tr> <tr> <td data-bbox="400 521 651 555">1700-000-010</td> <td data-bbox="651 521 1102 555">Router to link 7 OptiDist to a PC</td> </tr> <tr> <td data-bbox="400 555 651 589">7050-004-030001</td> <td data-bbox="651 555 1102 589">Software on CD</td> </tr> <tr> <td data-bbox="400 589 651 633"></td> <td data-bbox="651 589 1102 633">Dongle</td> </tr> </table>	1700-000-007	Ethernet Cable 3m	1700-000-010	Router to link 7 OptiDist to a PC	7050-004-030001	Software on CD		Dongle	
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1700-000-010	Router to link 7 OptiDist to a PC									
7050-004-030001	Software on CD									
	Dongle									
1210-004-003	<p>ALAN PC software OptiDist module This kit is necessary if ALAN software already exists</p> <p>Accessories included:</p> <table border="1" data-bbox="400 857 651 1003"> <tr> <td data-bbox="400 857 651 891">1700-000-007</td> <td data-bbox="651 857 1102 891">Ethernet Cable 3m</td> </tr> <tr> <td data-bbox="400 891 651 925">1700-000-010</td> <td data-bbox="651 891 1102 925">Router to link 7 OptiDist to a PC</td> </tr> <tr> <td data-bbox="400 925 651 958">7050-004-030005</td> <td data-bbox="651 925 1102 958">Software on CD</td> </tr> <tr> <td data-bbox="400 958 651 1003"></td> <td data-bbox="651 958 1102 1003">Dongle</td> </tr> </table>	1700-000-007	Ethernet Cable 3m	1700-000-010	Router to link 7 OptiDist to a PC	7050-004-030005	Software on CD		Dongle	
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1700-000-010	Router to link 7 OptiDist to a PC									
7050-004-030005	Software on CD									
	Dongle									
1210-004-000	<p>HLIS 32 PC-software HDÁ 628 and OptiDist module This kit is necessary if no HLIS 32 software exists</p> <p>Accessories included:</p> <table border="1" data-bbox="400 1205 651 1373"> <tr> <td data-bbox="400 1205 651 1238">1700-000-007</td> <td data-bbox="651 1205 1102 1238">Ethernet Cable 3m</td> </tr> <tr> <td data-bbox="400 1238 651 1272">1700-000-010</td> <td data-bbox="651 1238 1102 1272">Router to link 7 OptiDist to a PC</td> </tr> <tr> <td data-bbox="400 1272 651 1305">7050-004-020001</td> <td data-bbox="651 1272 1102 1305">Software on CD</td> </tr> <tr> <td data-bbox="400 1305 651 1373"></td> <td data-bbox="651 1305 1102 1373">Dongle</td> </tr> </table>	1700-000-007	Ethernet Cable 3m	1700-000-010	Router to link 7 OptiDist to a PC	7050-004-020001	Software on CD		Dongle	
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1700-000-010	Router to link 7 OptiDist to a PC									
7050-004-020001	Software on CD									
	Dongle									
1210-004-001	<p>HLIS 32 PC-software OptiDist module This kit is necessary if HLIS 32 software already exists</p> <p>Accessories included:</p> <table border="1" data-bbox="400 1574 651 1742"> <tr> <td data-bbox="400 1574 651 1608">1700-000-007</td> <td data-bbox="651 1574 1102 1608">Ethernet Cable 3m</td> </tr> <tr> <td data-bbox="400 1608 651 1641">1700-000-010</td> <td data-bbox="651 1608 1102 1641">Router to link 7 OptiDist to a PC</td> </tr> <tr> <td data-bbox="400 1641 651 1675">7050-004-020005</td> <td data-bbox="651 1641 1102 1675">Software on CD</td> </tr> <tr> <td data-bbox="400 1675 651 1742"></td> <td data-bbox="651 1675 1102 1742">Dongle</td> </tr> </table>	1700-000-007	Ethernet Cable 3m	1700-000-010	Router to link 7 OptiDist to a PC	7050-004-020005	Software on CD		Dongle	
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1700-000-010	Router to link 7 OptiDist to a PC									
7050-004-020005	Software on CD									
	Dongle									








Spare Parts

Order N°	Description	Qty	Pictures
4001-300-000	Touch Screen for TFT Display	1	
4002-200-000	TFT Display	1	
4002-200-001	Back Light Inverter for TFT Display	1	
4004-200-000	Back Light for TFT Display	1	
3003-004-1007	OptiDist Vapor Probe holder and gauge for Probe adjustment	1	
3001-004-1065	OptiDist Receiver Chamber Liquid Vessel	1	
3002-004-1031	OptiDist Vapor Probe wire guide	1	
3002-000-1002	Hose connection piece for fire extinguisher gas	1	

Order N°	Description	Qty	Pictures
3801-000-000	OptiDist Heater Temperature Sensor	1	
3203-400-001	OptiDist Flask Heater	1	
2006-004-001	OptiDist Receiver Chamber Heater	1	
2003-004-006	OptiDist Condenser Heater	1	
3304-500-000	Power Supply	1	
3204-400-001	DC-AC Converter for Cooling Compressor (600W)	1	





Order N°	Description	Qty	Pictures
2101-330-000	CPU Board	1	
2101-110-008	Fire Detection Board	1	
2101-340-001	Control Board	1	
2101-110-006	Heater Control Board	1	
2101-320-002	MMI board	1	
1109-200-001	Fuse 7A	10	
1109-200-000	Fuse 2A	10	
3301-151-30A	Fuse 30A	1	

Order N°	Description	Qty	Pictures
3704-100-000	Switch for Receiver Door or Base Plate detection	1	
3707-400-002	SSR Relays	1	
3107-001-0602	Spring for Base Plate	1	
3002-004-2009	Short plunger for Heater Lift	1	
3002-004-2010	Long plunger for Heater Lift	1	
2001-004-009	OptiDist Heater lift block	1	
3800-000-005	OptiDist Fire Sensor	1	

Order N°	Description	Qty	Pictures
3801-300-002	OptiDist Temperature Sensor for Receiver Chamber	1	
3800-000-003	OptiDist Temperature sensor for Condenser	1	
3801-400-000	OptiDist Optimizer	1	
3301-230-001	OptiDist over temperature switch for Receiver Chamber	1	
3301-230-000	OptiDist over temperature switch for Condenser	1	
3800-000-004	Light barrier	1	
3800-000-001	OptiDist IBP Light barrier	1	







Order N°	Description	Qty	Pictures
3800-000-002	OptiDist Volume measuring Light barrier	1	
3704-300-002	OptiDist Emergency Stop button	1	
3704-400-004	OptiDist Main switch	1	
3804-300-000	OptiDist Liquid Level detector for cooling liquid	1	
3602-000-0003	Blower right side	1	
3602-000-0000	Blower back power supply	1	
3602-000-0002	Blower for Receiver Chamber	1	
3602-000-0005	Blower for Oven	1	

Order N°	Description	Qty	Pictures
2001-004-012	OptiDist Cooling Compressor	1	
2304-142-002	OptiDist Liquid Pump for Receiver chamber	1	
2304-142-003	OptiDist Liquid Pump for Condenser	1	
2307-212-034C01	OptiDist Solenoid valve	1	
2307-211-127C01	OptiDist Solenoid valve	1	
3601-000-0001	OptiDist Stepper Motor complete	1	
3106-103-30001	Tooth belt for volume measuring system	1	

Order N°	Description	Qty	Pictures
2001-004-006	OptiDist Volume Measuring System complete	1	
3602-000-0001	VOC blower	1	
3003-004-1009	OptiDist Receiver Chamber door	1	
3103-001-001	OptiDist Oven door	1	
2407-000-001N	Plastic joint	1	
5201-000-001	Set of hexagonal wrenches:1,5; 2; 2,5; 3; 4; 5 mm	1	
5202-004-001	OptiDist IBP Light barrier Adjustment Tool	1	

Consumables

Order N°	Description	Qty	Pictures
3801-110-001	OptiDist Vapor Probe with calibration certificate 50°C and 250°C	1	
3801-110-001-3C	OptiDist Vapor Probe calibrated at customer points	1	
2001-004-008	OptiDist Vapor Probe Stopper for 100 ml, 125 ml and 250ml flask	1	
2001-004-018	OptiDist Vapor Probe Stopper for 200ml flask	1	
2001-004-016	OptiDist Dry Point Sensor and Vapor Probe Stopper for 125ml flask	1	
2001-004-017	OptiDist Dry Point Sensor and Vapor Probe Stopper for 200ml flask	1	
2201-004-003	OptiDist flask 100ml	1	
2201-004-001	OptiDist flask 125ml	1	
2201-004-004	OptiDist flask 200 ml	1	
2201-004-005	OptiDist flask 250 ml	1	

Order N°	Description	Qty	Pictures	
2007-004-002	OptiDist Silicon Hose for Flask connection	1		
2002-004-001	OptiDist Measuring Cylinder 100ml with brass base	1		
2202-004-001	OptiDist Measuring Cylinder tube 100ml	1		
	O-Ring set Viton 19,8 * 3,6 for 100ml Measuring Cylinder	2		
	Consist of: 2401-036-019801			Viton O-Ring 19,8 * 3,6
2002-004-008	Solvent resistant OptiDist Measuring Cylinder 100ml with brass base	1		
	O-Ring set for 100ml solvent resistant Measuring Cylinder	2		
	Consist of: 2401-036-019800			Silicone PFA O-Ring 19,8 * 3,6
	2401-036-019801			Viton O-Ring 19,8 * 3,6

Order N°	Description	Qty	Pictures
2002-004-007	OptiDist Measuring Cylinder 200ml with brass base	1	
2202-004-002	OptiDist Measuring Cylinder Tube 200ml	1	
	O-Ring set Viton 30,8 * 3,6 for 200ml Measuring Cylinder		
	Consists of: 2401-036-030801 Viton O-Ring 30,8 * 3,6	2	
3002-004-1013	OptiDist Heater Base Plate ø50mm	1	
3002-004-1014	OptiDist Heater Base Plate ø38mm	1	
3002-004-1015	OptiDist Heater Base Plate ø32mm	1	
3002-004-1032	OptiDist Heater Base Plate ø25mm	1	

Order N°	Description	Qty	Pictures
3004-004-1002	Rubber Cap for Measuring Cylinder	1	
	O-Ring set for Vapor Probe Stopper for 100ml, 125ml and 250ml flask Consist of:		
	2401-026-012100 Silicone PFA O-Ring	2	
	3003-004-1006 Stopper End	1	
	O-Ring for Vapor Probe Stopper for 200ml flask Consists of:		
	2401-036-019801 Viton O-Ring 19,8 * 3,6	1	
2000-004-002	OptiDist Condenser Cleaner	1	
1106-004-000	Boiling Stones for atmospheric distillation	1	
1111-004-000	Cooling liquid 1 liter	1	NO PICTURE
1101-004-000	Printer paper for built in ticket printer	1	
1101-000-000	Paper for external A4 printer	1	NO PICTURE
1310-010-010301	Certified Reference Material with certificate, ASTM D86 distillation, diesel fuel, approx. 255 ml	1	

SERVICE



CAUTION! The spare parts mentioned in this list must be replaced by PAC authorized service technicians. For any replacement only genuine PAC parts must be used.