G8 HPLC ANALYZER

Gold Standard Accuracy by Ion-Exchange HbA1c

First HPLC Analyzer to Aid in Diagnosis of Diabetes
HbA1c analysis in 1.6 minutes

Direct determination of stable HbA1c

Less than 2% CVs

Compact footprint - 21”w x 20”d x 19”h

Simple touch-screen operation

Automated daily maintenance

Flexible tube sizes
Evolution at its best... Faster, Easier, Smaller

G8 HPLC ANALYZER

Contributing to team-based diabetes care and improvements in patient services

The significance of HbA1c for monitoring the glycemic status in the control of diabetes has increased with the continuing rise in the number of people with the disease.

From Tosoh, a world leader in HPLC technology, comes the latest model of glycohemoglobin analyzers: the Tosoh Automated Glycohemoglobin Analyzer HLC-723G8.

Providing fast HbA1c results, with CVs of less than 2%, the G8 is the perfect solution for improving diabetic patient care.
**Diabetes Control and Complications Trial**

Ion-exchange HPLC is the gold standard for HbA1c measurement. Ion-exchange HPLC was used in the DCCT* study undertaken in the United States.

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**Feature Enhancements**

A new calibration check function utilizes a pop-up window to display standard values during calibration. Features also include a flag check function with user-selectable levels, buffer monitoring and an automatic prime function. Tosoh designed GB functions from the user perspective, enhancing overall safety and convenience of operation.

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**Gold Standard Technology**

Ion-exchange HPLC is the gold standard for HbA1c measurement. Ion-exchange HPLC was used in the DCCT* study undertaken in the United States.

*Diabetes Control and Complications Trial*
The instrument has a footprint of ~ 20 square inches and weighs only 75 lbs. The G8's compact size makes it an easy fit into any location.

A variety of different sized tubes can be loaded continuously. The operator can also run primary and secondary tubes in the same rack. The G8 easily adapts to changing laboratory workloads by offering a choice of either a 90 sample loader or a 290 sample loader. With the optional LA model linked via a sample belt line, no workload is too large.

Fast
The time to first result is 3.5 minutes. Analysis time is only 1.6 minutes.

Accurate and Precise
The G8 provides direct determination of stable HbA1c (SA1c) with less than 2% CVs.

Simple Operation
- Touch screen
- Direct primary tube sampling/cap-piercing
- Automatic start-up
- No sample pre-treatment

Compact Benchtop Size
The instrument has a footprint of ~ 20 square inches and weights only 75 lbs. The G8's compact size makes it an easy fit into any location.

Flexible
A variety of different sized tubes can be loaded continuously. The operator can also run primary and secondary tubes in the same rack. The G8 easily adapts to changing laboratory workloads by offering a choice of either a 90 sample loader or a 290 sample loader. With the optional LA model linked via a sample belt line, no workload is too large.
SPECIFICATIONS

**Analytes**  
HbA1c (SA1c), HbF, HbA1 (Total A1)

** Principle**  
Ion-exchange high performance liquid chromatography

**Sample requirement**  
Whole blood or diluted blood (Preserved with EDTA)

**Sampling volume**  
Whole blood: 4 µL

**Throughput**  
1.6 minutes per sample

**Data storage**  
On-board memory: up to 800 samples

**Main unit**

**Sampling**  
Cap-piercing of primary sample tubes

**Whole blood**  
Automatic dilution by Hemolysis and Wash solution in the dilution port

**Column oven**  
Thermomodule in aluminum block

**Column connection**  
Finger-tight type

**Detector unit**  
LED colorimetric detector

**Sample loading units**

**Sample loading capacity**  
G8-90SL: 90 samples plus one STAT sample

G8-290SL: 290 samples plus one STAT sample

**Sample holding**  
10 samples/rack

**Sample vial**  
12-15 mm x 75-100 mm primary tubes and Tosoh vials

**Barcode specifications**  
NW-7, CODE39, ITF, CODE128, JAN, CODEP 2 of 5, Industrial 2 of 5

**System control/Data processing**

**Display & Input**  
Liquid crystal display touch panel

**Output**  
Thermal printer (roll paper), SmartMedia or LIS

**Communication**  
RS-232C standard serial (bi-directional)

**Operating temperature**  
15 - 30 °C

**Power requirement**  
AC 100 - 240 V, 50/60 Hz, 180 VA

**Dimensions/Weight**

**90SL model:**

W 21” (530 mm) x D 20” (515 mm) x H 19” (482 mm)

75 lbs (34.0 kg)

**290SL model:**

W 44” (1120 mm) x D 21” (530 mm) x H 19” (482 mm)

114 lbs (51.5 kg)

PART NUMBERS/DESCRIPTION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>021560</td>
<td>HLC-723G8 (Main Unit)</td>
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<tr>
<td>021561</td>
<td>G8-90SL (90 Sample Loader)</td>
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<td>021562</td>
<td>G8-290SL (290 Sample Loader)</td>
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<td>021955</td>
<td>TSKgel G8 Variant HSi (Analysis Column)</td>
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<td>021956</td>
<td>G8 Variant Elution Buffer HSi No. 1 (S)</td>
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<td>021957</td>
<td>G8 Variant Elution Buffer HSi No. 2 (S)</td>
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<td>021958</td>
<td>G8 Variant Elution Buffer HSi No. 3 (S)</td>
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<td>018431US</td>
<td>HSi Hemolysis &amp; Wash Solution (L)</td>
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<td>018767</td>
<td>Hemoglobin A1c Calibrator Set</td>
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<tr>
<td>9922133</td>
<td>Hemoglobin A1c Control</td>
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**PERFORMANCE DATA**

**SAMPLE CHROMATOGRAM**

**INTRA-ASSAY PRECISION**

<table>
<thead>
<tr>
<th>Whole blood (Low)</th>
<th>Number of Replicates</th>
<th>Mean (HbA1c%)</th>
<th>Standard Deviation</th>
<th>Coefficient of Variation (%)</th>
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<tbody>
<tr>
<td></td>
<td>20</td>
<td>5.07</td>
<td>0.05</td>
<td>0.93</td>
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<tr>
<td>Whole blood (Medium)</td>
<td>20</td>
<td>7.39</td>
<td>0.03</td>
<td>0.42</td>
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<tr>
<td>Whole blood (High)</td>
<td>20</td>
<td>13.54</td>
<td>0.06</td>
<td>0.44</td>
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**INTER-ASSAY PRECISION**

<table>
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<th>Whole blood (Low)</th>
<th>Number of Replicates</th>
<th>Mean (HbA1c%)</th>
<th>Standard Deviation</th>
<th>Coefficient of Variation (%)</th>
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<td>20</td>
<td>5.01</td>
<td>0.03</td>
<td>0.61</td>
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<tr>
<td>Whole blood (Medium)</td>
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<td>7.04</td>
<td>0.05</td>
<td>0.70</td>
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<tr>
<td>Whole blood (High)</td>
<td>20</td>
<td>12.18</td>
<td>0.04</td>
<td>0.36</td>
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</table>

**SA1c% CORRELATION**

**REPRODUCIBILITY**

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