



TOSOH

# G8 HPLC ANALYZER

Gold Standard Accuracy by Ion-Exchange HbA1c



PRECISE CHROMATOGRAPHIC DETAIL

**TOSOH BIOSCIENCE, INC.**

G8 TOSOH AUTOMATED GLYCOHEMOGLOBIN ANALYZER HLC-723G8



# G8 HPLC ANALYZER

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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





TOSOH

**G8** HPLC ANALYZER

*Evolution at its best...  
Faster, Easier, Smaller*

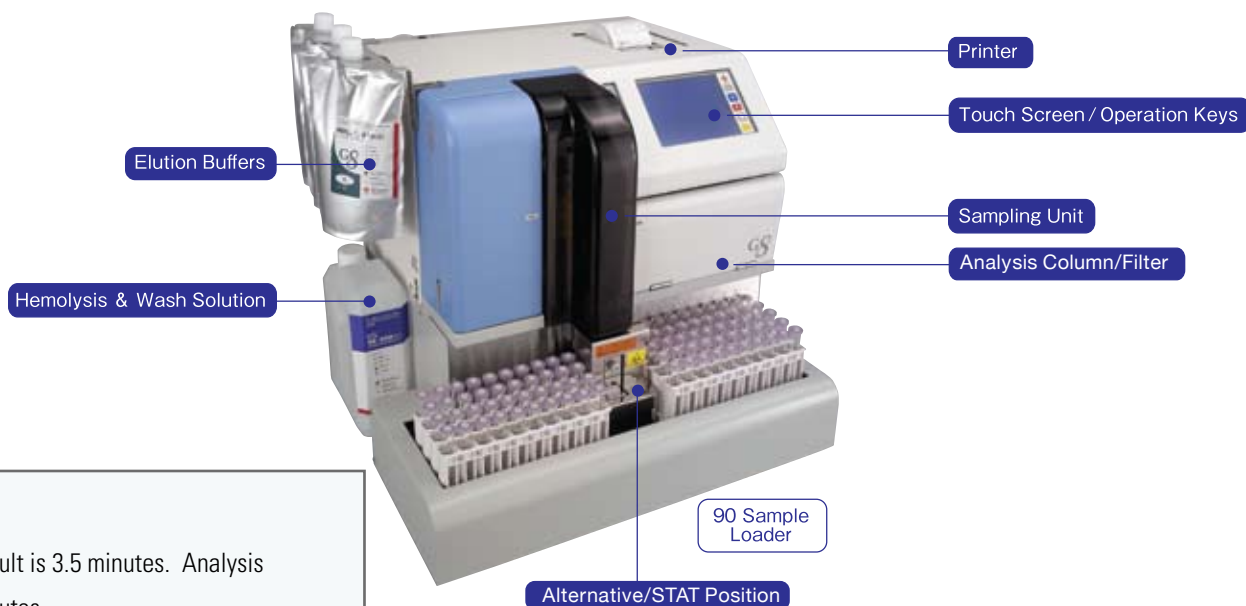
## **Contributing to team-based diabetes care and improvements in patient services**

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.

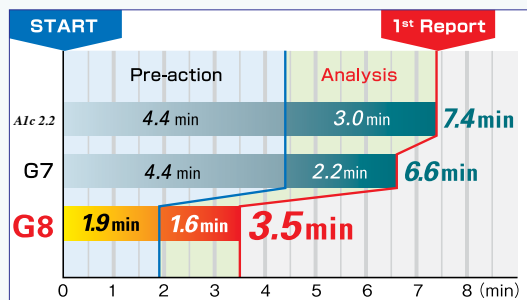
Providing fast HbA1c results, with CVs of less than 2%, the G8 is the perfect solution for improving diabetic patient care.





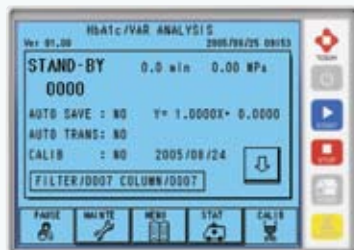
## Fast

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



## Simple Operation

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



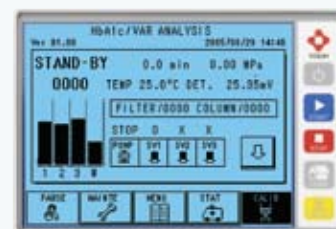
Main screen (first screen)

## 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 G8 functions from the user perspective, enhancing overall safety and convenience of operation.



Standard value input screen



Main screen (second screen)

## Gold Standard Technology

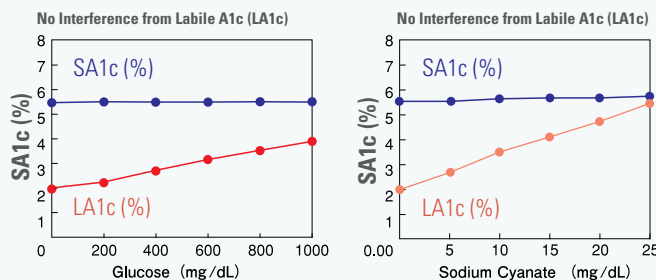
Ion-exchange HPLC is the gold standard for HbA1c measurement. Ion-exchange HPLC was used in the DCCT\* study undertaken in the United States.

*\*Diabetes Control and Complications Trial*



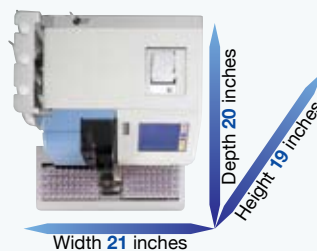
## Accurate and Precise

The G8 provides direct determination of stable HbA1c (SA1c) with less than 2% CVs. Through Tosoh's development of a non-porous ion exchange HPLC column, HbA1c results are not clinically affected by the presence of most hemoglobin variants or hemoglobin derivatives.



## Compact Benchtop Size

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.



## 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 Visible two-wavelength absorption
Sample requirement	Whole blood or diluted blood (Preserved with EDTA)
Sampling volume	Whole blood: 4 µL Diluted blood: 80 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
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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, COOP 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	<b>90SL model:</b> W 21" (530 mm) x D 20" (515 mm) x H 19" (482 mm) 75 lbs (34.0 kg) <b>290SL model:</b> W 44" (1120 mm) x D 21" (530 mm) x H 19" (482 mm) 114 lbs (51.5 kg)

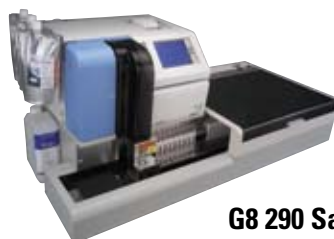
## PART NUMBERS/DESCRIPTION

021560	HLC-723G8 (Main Unit)
021561	G8-90SL (90 Sample Loader)
021562	G8-290SL (290 Sample Loader)
021955	TSKgel G8 Variant HSi (Analysis Column)
021956	G8 Variant Elution Buffer HSi No. 1 (S)
021957	G8 Variant Elution Buffer HSi No. 2 (S)
021858	G8 Variant Elution Buffer HSi No. 3 (S)
018431US	HSi Hemolysis & Wash Solution (L)

018767	Hemoglobin A1c Calibrator Set
992133	Hemoglobin A1c Control



**G8 90 Sample Loader**



**G8 290 Sample Loader**

### Analysis Column



### Elution Buffers (Variant Analysis Mode) and Hemolysis & Wash Solutions



### HbA1c Calibrator Set

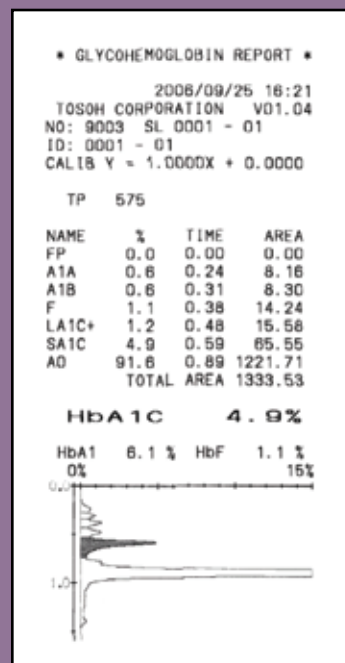


### HbA1c Control

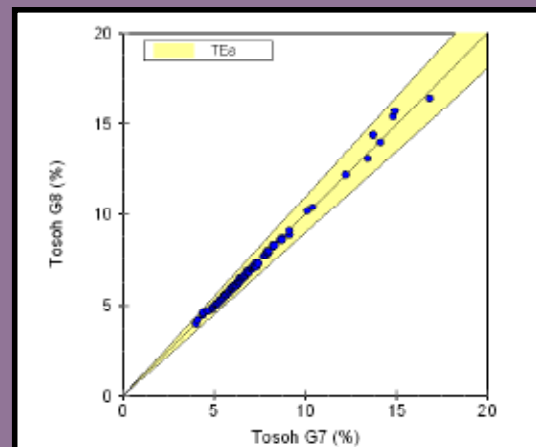


## PERFORMANCE DATA

### SAMPLE CHROMATOGRAM



### SA1c% CORRELATION



### REPRODUCIBILITY

#### INTRA-ASSAY PRECISION

	Number of Replicates	Mean (%HbA1c)	Standard Deviation	Coefficient of Variation (%)
Whole blood (Low)	20	5.07	0.05	0.93
Whole blood (Medium)	20	7.39	0.03	0.42
Whole Blood (High)	20	13.54	0.06	0.44

#### INTER-ASSAY PRECISION

	Number of Replicates	Mean (%HbA1c)	Standard Deviation	Coefficient of Variation (%)
Whole blood (Low)	20	5.01	0.03	0.61
Whole blood (Medium)	20	7.04	0.05	0.70
Whole blood (High)	20	12.18	0.04	0.36



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