QBC STAR™

Dry Hematology Analyzer

Fast, Simple CBC Analysis Designed for the Point of Care

QBC® Diagnostics

Innovative Solutions for a Healthier World

Reach for the STAR

The 2013 QBC STAR hematology analyzer expands and advances the unique capabilities of previous generation STAR analyzers. While still retaining the fast and simple 3-step process for which the STAR is known, the 2013 STAR adds universal connectivity for easy interfacing to your LIS or directly to a PC, USB ports for simple peripheral connections and updated and improved electronics. It does all of this in a lighter and quieter package.

Features and Benefits:

Simple, Single Button Operation

At the push of a single button, the QBC STAR produces an accurate CBC with the 9 most-requested parameters, making it the most user-friendly hematology analyzer available today.

No Liquid Reagents

All of the QBC STAR's stains and reagents are contained within a single tube that is easily filled from a simple finger stick, heel stick, or venous draw. It uses no liquid reagents, and requires minimal user cleaning and maintenance.

Rapid Startup and Results

Plug in the QBC STAR, and it is ready to provide results without user calibration. Complete sample processing and analysis takes just 7 minutes, offering results quickly for your patients.

Laboratory Information System Connectivity

Interfacing the QBC STAR to a Laboratory Information System is simple and easy through the Ethernet port provided as standard on every instrument allowing complete access to test results and electronic health records.

Flexibility for Your Point of Care

The QBC STAR's dry hematology is used around the world in urgent care centers, pediatric offices, military bases and a variety of other settings. Visit our "Where It's Used" section on our website to find out why the QBC STAR is the perfect fit for your lab.

How it Works

The dry hematology approach of the QBC STAR is unique among hematology analyzers. Here's how this patented technology delivers results:

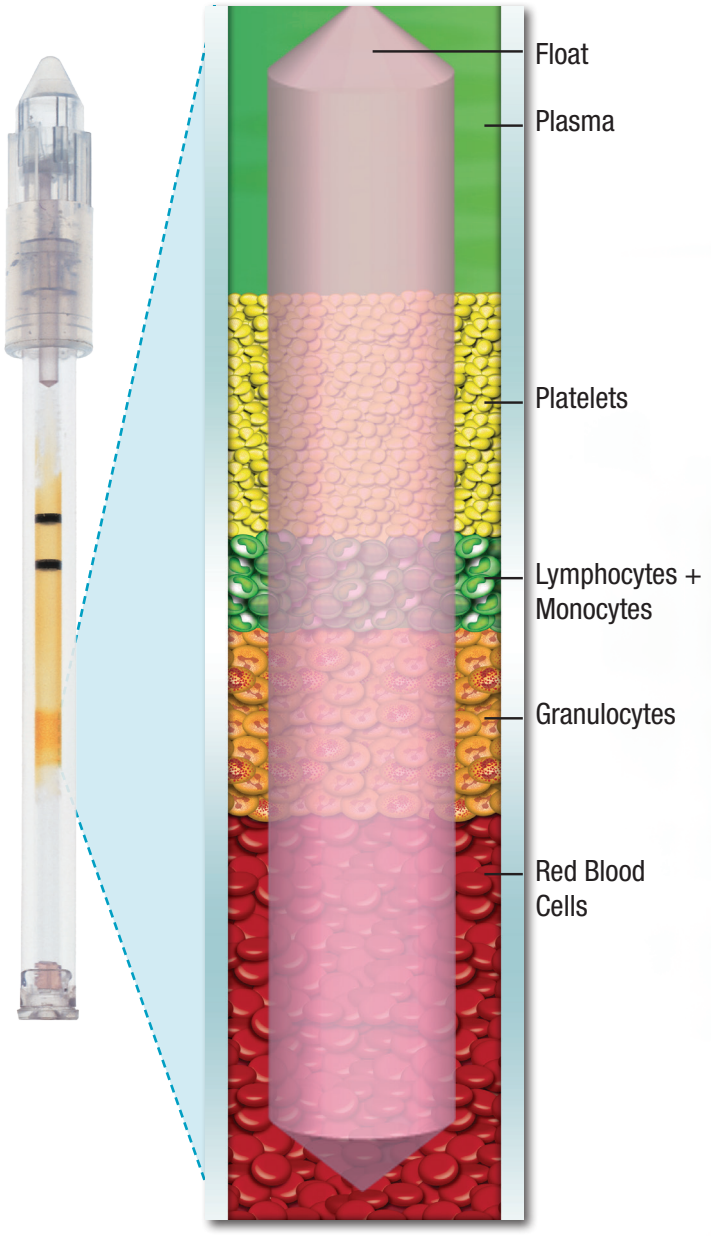
The Tubes

The QBC STAR's breakthrough technology begins with its unique blood collection tubes. These high-grade tubes are internally coated with all necessary stains and reagents and are easily filled with just 65µL of blood from finger sticks, heel sticks, or venous draws.

Centrifugation

The QBC STAR's internal centrifuge rotates the sample at 11,000 RPM for approximately 5 minutes. Due to their varying densities, the different components of blood will separate into layers during this process, as seen in the illustration to the right.

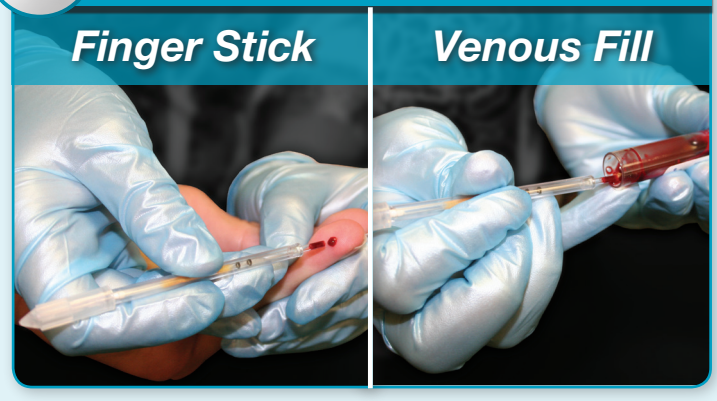
What is the float? *Due to its specific density, the precision float stretches out the platelet, lymphocyte and monocyte, and granulocyte layers to make these small layers more easily measurable*. The precise specific density of the float also allows for the direct measurement of the hemoglobin concentration in the red blood cells.



Simple Analysis

The QBC STAR ease of use is unmatched among hematology analyzers.

1. Collect Sample

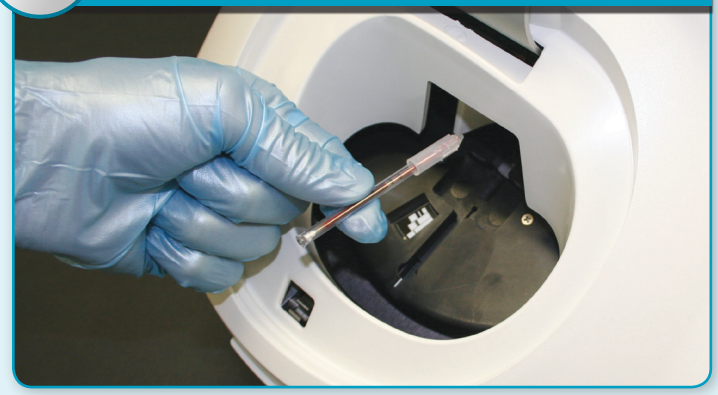


Parameters and Operating Ranges

The QBC STAR measures and reports a 9-parameter complete blood count with the ranges found below:

Parameter	Range
Hematocrit (Hct)	15-65%
Hemoglobin (Hgb)	5-20 g/dL
Mean Corpuscular Hemoglobin Concentration (MCHC)	25-37.3 g/dL
White Blood Cell Count (WBC)	1.6-99.9 x 10^9/L
Granulocyte Count (Gran #)	0.8-70 x 10^9/L
Granulocyte % (Gran %)	1-99%
Lymphocyte and Monocyte Count (Lymph/Mono #)	0.8-99.9 x 10^9/L
Lymphocyte and Monocyte % (Lymph/Mono %)	1-99%
Platelet Count (Plt)	20-999 x 10^9/L

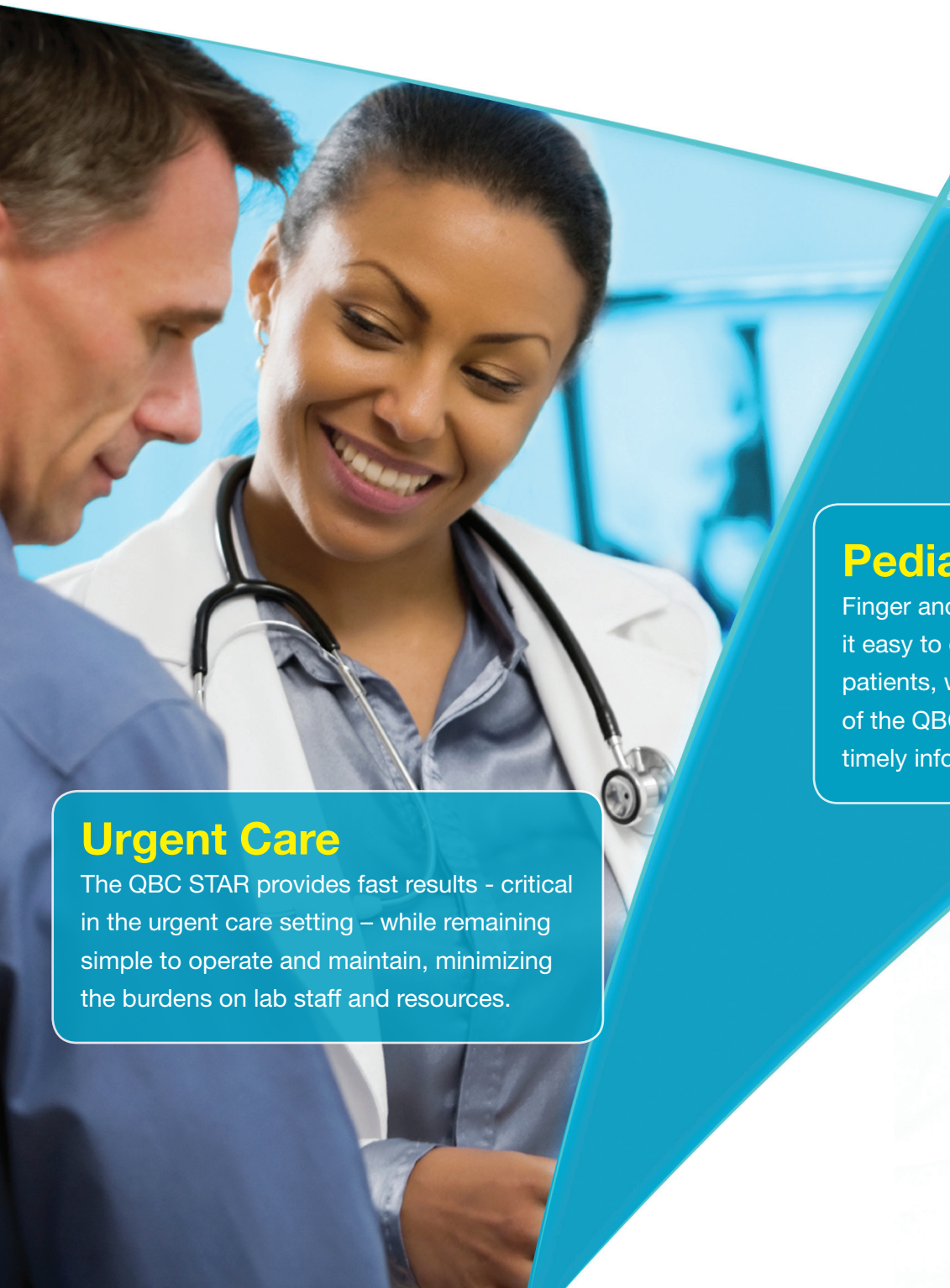
2. Place Tube Into Analyzer



3. Press Start

WHERE IT'S USED

The QBC STAR is the perfect hematology analyzer for a variety of point-of-care settings whose unique needs have traditionally not been met by wet analyzers:



Urgent Care

The QBC STAR provides fast results - critical in the urgent care setting – while remaining simple to operate and maintain, minimizing the burdens on lab staff and resources.

Pediatrics

Finger and heel stick samples make it easy to obtain samples from young patients, while the speed and ease of use of the QBC STAR make it easy to provide timely information for nervous parents.

At Sea

The U.S. Navy and major cruise lines have embraced the QBC STAR's dry hematology for its low maintenance requirements and simple operation. Additionally, unlike short-lived liquid reagents, QBC hematology tubes are individually packed with a long shelf life ideal for voyages at sea.

Blood Banking

The QBC STAR is ideal for point-of-care testing, providing a hematocrit, hemoglobin, and platelet count as well as other commonly required CBC parameters. It does all of this in minutes through its easy-to-use dry hematology approach.

Where else can you find the QBC STAR?

U.S. Embassies, Drilling and Mining Sites, Remote Research Centers, University Health Clinics, Field Hospitals, and more

QBC STAR™
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Table 1

Accuracy comparing the QBC STAR system with the Coulter® STKS or Sysmex™ K1000.

Parameter	Correlation Coefficient	Slope	Intercept	QBC Mean	Cell Counter Mean	Range of Values	Number of Samples
Hematocrit (%)	0.983	0.973	2.572	36.5	34.8	15.7-61.7	646
Hemoglobin (g/dL)	0.984	0.982	0.387	12.1	12.0	5.2-18.5	638
Platelet (x 10^9/L)	0.962	0.935	17.701	244	242	23-913	558
WBC (x 10^9/L)	0.974	1.124	-0.936	10.4	10.1	1.6-92.9	535
Granulocyte (x 10^9/L)	0.972	0.991	0.152	7.0	7.0	0.8-45.0	535
Lymph/Mono (x 10^9/L)	0.987	1.206	-0.419	3.3	3.1	0.8-89.9	535

Table 2

Accuracy comparing the QBC STAR system against the international microhematocrit reference method.

Parameter	Correlation Coefficient	Slope	Intercept	QBC Mean	Reference Mean	Range of Values	Number of Samples
Microhematocrit (%)	0.986	1.023	-0.650	36.5	36.3	15.7-61.9	646

Table 3

Precision data on typical within-run precision tests in the QBC STAR system are shown in the two tables below. The precision data represent the analysis of eleven whole blood specimens, each assayed in replicates of ten.

Parameter	Mean Value	Mean % CV
HCT (%)	41.7	2.0%
HB (g/dL)	14.0	1.9%
PLT (x 10^9/L)	235	6.0%
WBC (x 10^9/L)	6.0	6.4%

Parameter	Range	Max S.D.
GRAN (%)	38-79	3.2
LYMPH/MONO (%)	21-63	3.2

General Specifications

Dimensions	W16” x D16.3” x H16.3” 40.6 cm x 41.4 cm x 41.4 cm
Weight	19 lbs. (8.6 kg)
Noise	<70 db @ 3 ft
Sample Volume	70 µL
Display	LCD Display Resolution 160x160
Printout	58 mm thermal recorder paper

Electrical Specifications Power Pack

Voltage Input	90 - 264 VAC
Frequency	50 - 60 Hz
Current Output	5.21 A (Peak)
Power Output	48 VDC

Connectivity

USB	3 external Ports
Ethernet (Wired)	RJ45

Operating Environment

Non-Operating Temperature Requirements	-2 °F to 149 °F (-20 °C to 65 °C)
Operating Temperature Requirements	16 °C – 32 °C unrestricted (at > 32 °C use may be limited by instrument temperature shutdown or some results may be suppressed)
Humidity	10%-95% non-condensing

Ordering Information

STAR Dry Hematology Analyzer 429001
STAR Dry Hematology Analyzer
(*For use outside the U.S.A.*)..... 429002
STAR Tubes (Bag of 20) 429011
STAR Tubes (Box of 100) 429625
1 Year Extended Service Agreement..... 000012

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For more information about the QBC STAR, please visit: www.qbcdiag.com/qbcstar

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Form. 542 Rev. D