

## Advanced Model BR2 Bilirubin Stat-Analyzer

The only bench top instrument that provides accurate determinations of total and direct bilirubin in neonates using a single sample



The Advanced® BR2 Bilirubin Stat-Analyzer™ system provides fast, accurate results for both total and direct Bilirubin levels in neonates requiring only a 30µL serum or plasma sample. It determines total bilirubin by spectrophotometric analysis and direct bilirubin using a modified version of the proven Malloy-Evelyn method. Because of its compact, portable design and ease of use, it is ideally suited for pediatric physician offices, satellite labs, hospital stat labs, or pediatric research laboratories.





## Benefits of Total and Direct Serum Bilirubin

The American Academy of Pediatrics recommends total serum bilirubin (TSB) and/or transcutaneous bilirubin (TcB) testing for the diagnosis and management of hyperbilirubinemia in newborns. Because phototherapy “bleaches” the skin, both visual assessment of jaundice and TcB measurements in infants undergoing phototherapy are not reliable. The ability of transcutaneous instruments to provide accurate measurements in infants from different racial groups is unreliable and requires additional study. In addition, the evaluation of direct serum bilirubin is not possible with TcB.

## Achieving Fast, Accurate Results for Total and Direct Serum Bilirubin in Neonates

### ADVANCED MODEL BR2 BILIRUBIN STAT-ANALYZER FEATURES AND BENEFITS

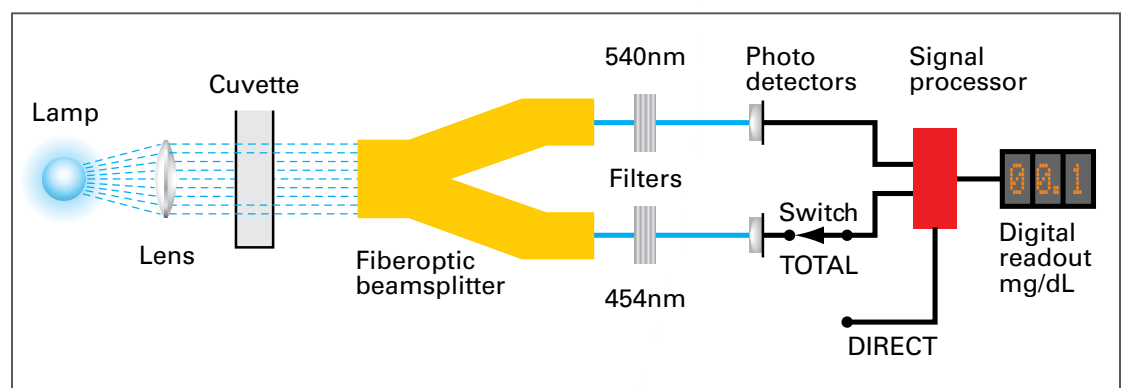
- **Fast and accurate test results** – Provides instantaneous results for total bilirubin, direct bilirubin results achieved in 2 minutes
- **Portable design** – Ideal solution for physician’s office, satellite laboratory, or mobile laboratory settings
- **Small sample size** – Requires only a single 30µl serum or plasma sample for both total and direct bilirubin analysis
- **Easy to use** – Directions are provided directly on instrument. Test kit provides everything required to run samples immediately
- **Low cost per test** – Provides economical benefit and low cost of ownership to any laboratory
- **Proven reliability** – Simple instrument design backed by service and support from a world-leading manufacturer of clinical laboratory equipment

### CLINICAL IMPLICATIONS

Bilirubin is a byproduct of the breakdown of hemoglobin by the liver. When hemoglobin is metabolized, insoluble bilirubin is produced. The insoluble (indirect) bilirubin is broken down into a water soluble (conjugated or direct) form. Direct bilirubin is then excreted. Most neonates have a degree of jaundice shortly after birth, because the liver is not fully developed. Most jaundice is benign, but because of the potential toxicity of bilirubin, newborn infants must be monitored to identify those who might develop severe hyperbilirubinemia, acute bilirubin encephalopathy, or kernicterus.

## Principles of Operation

The BR2 determines bilirubin levels through spectrophotometric analysis. A beam of light passes through the serum or plasma sample and is split into two beams. One detector measures absorbance at 454 nm and another detector measures absorbance at 540 nm. The two measurements are compared and total bilirubin is determined. Direct bilirubin is determined by the method of Malloy-Evelyn. This same sample is acidified and a diazo reagent is added. A color reaction with the direct bilirubin is induced, and direct bilirubin concentration is measured.



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## ABOUT ADVANCED INSTRUMENTS

Advanced Instruments, Inc. is a leading supplier of instrumentation for clinical, pharmaceutical, biotechnology, microbiology and food laboratories around the world. Quality, reliability, service and support have been the company's guiding principles since our founding in 1955. Our innovative application of technology helps healthcare organizations improve the quality of care and industrial companies enhance quality and productivity.

## Advanced Model BR2 Bilirubin Stat-Analyzer Specifications\*

Sample Size	30 µL
Sample Type	Serum or Plasma
Sample Capacity	Single sample, disposable cuvettes
Test Time	Total: Instantaneous Direct: 2 minutes
Units	mg/dL Bilirubin (also available in µmol/L) S.I. units for export only; 1 mg/dL bilirubin = 17.1 µmol/L
Range	0 to 30 mg/dL
Linearity	Within ±0.2 mg/dL from straight-line from 0 to 30 mg/dL
Resolution	±0.1 mg/dL
Repeatability	Within ±0.2 mg/dL over entire range
Drift	Zero: < 0.2 mg/dl after 30-minute warm up Calibration: < 0.2 mg/dL 24 hr after warm up
Hemolysis	No interference from HbO <sub>2</sub> levels up to 600 mg/dL
Turbidity	Negligible interference from turbidity associated with triglyceride (TGL) levels up to 500 mg/dL
Operating Conditions	Temperature 15°C to 32°C (59°F to 90°F); 5% to 80% relative humidity (noncondensing)
Storage Temperature	-40°C to +70°C (-40°F to +160°F)
Electrical Voltage	100 to 120 VAC (60 Hz) or 200 to 240 VAC (50Hz)
Power Consumption	15 W
Dimensions	7" H x 11" W x 13" D (18 cm x 28 cm x 33 cm)
Net Weight	9 lb (4 kg)
Shipping Weight	12 lb (5.5 kg)
Warranty	One-year limited warranty on workmanship and all parts except glass, plastic, and parts warranted by their makers

\*Specifications subject to change

## Advanced Model BR2 Bilirubin Stat-Analyzer Parts and Supplies

Part #	Description
B2A101	Total Bilirubin Test Kit, Reagents, and Cuvettes for 100 samples
B2A102	Total and Direct Test Kit, Reagents, and Cuvettes for 100 samples
B2A800	Disposable Cuvettes, 100/pkg.
BR25	BR2 User's Guide
BR25SM	BR2/BR2E Service Manual



Advanced Instruments supplies a full line of consumables and accessories to ensure optimal system performance.



The management system governing the manufacturing of this product is ISO 9001 and ISO 13485 registered.

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