DS2®
2-Plate ELISA Processing System

Compact.
Easy to Use.
Innovative.

A Perfect Combination

Pioneering Microplate Technology for more than 50 Years
About Dynex Technologies

Dynex™ is a leading manufacturer of microplate instrumentation, seamlessly integrating advanced detection with fully-automated sample handling, consumables and accessories. As of 2014, over 2,800 DSX® systems and 1,600 DS2® systems are in use worldwide in numerous applications including clinical diagnostics, drug discovery, biomedical research and industrial operations, among others. Headquartered in Chantilly, Virginia, Dynex has a proven track record of high quality products and excellent service and support.
DS2 Makes Automation Easy

Designed with full walkaway capability, DS2® quickly and easily processes two 96-well microplates and up to 12 different assays simultaneously. The system also features a user-friendly control system, chain of custody management and on-board instrument diagnostics.

DS2 delivers sample-in/results-out automation of microplate assays:

- Sample dilution and distribution
- Incubation, washing and reagent dispensing
- Reading with automatic data reduction and quality control
- Automatic barcode scanning

The flexible, open system design of the CE-marked DS2 is ideal for virtually any ELISA application, from clinical diagnostics, such as autoimmune and infectious disease to food safety and drugs of abuse testing. DS2 has the comprehensive capability needed to ensure the rigorous, repeatable analysis required to deliver the most accurate results.

Intuitive, Easy-to-Use DS-Matrix™ Software

Feature rich and groundbreaking in its process simulation and ease-of-use, DS-Matrix software powers DS2 allowing for rapid integration of this automation in the lab. The simple, graphical interface of DS2 can be operated by any lab technician with minimal training.

With over 1,600 DS2 systems in operation worldwide, hundreds of assays are already available for the DS2. Programming new assays is easy using the assay writer with its intuitive drag-and-drop icons.

Once you begin running your assay, the timeline and simulator show you exactly where you are in the process and how much time you have left.
Ingenious Hardware Design

Dynex™ designed DS2® for simplicity, efficiency and reliability. The system uses a multi-function robot arm that does everything from pipetting to operating the barcode reader. In addition, DS2’s vertical design and patented multi-plate carrier save space, enabling a minimal footprint, with maximum consumable storage:

- 216 sample tips
- 96 dilution vessels in convenient 8-way strips
- 20 reagent tips
- 8 large and 10 medium reagent bottles
- 24 standard/control bottles

Worry-Free System assures Accurate Results

The DS2 system prompts you if any additional action is required. For example, if you need to add more reagents or wash fluids, you can set up DS2 to alert you with an audible alarm and/or an email outlining the problem. Integrated self-diagnostics make troubleshooting easy. If needed, you can even send Dynex Technical Support a problem description from within the application, with the appropriate system information automatically attached.
Dynex Certified Consumables and Service

The DS2® system's innovations include more than just the instrument – the controlled system also includes the sample and reagent tips used. ONLY Dynex Certified Consumables are specifically designed and produced for Dynex instruments, ensuring proper tip fit with superior accuracy and performance. Beware of imitators who have tried and failed to replicate Dynex's CE-marked tips, leading to unreliable results.

Dynex is known for building robust systems built to last many years with frequent use, but regular maintenance and servicing are also essential to sustain peak performance. Dynex offers several tiers of service contracts to help keep your DS2 running like new for years to come. Contact Dynex or your authorized Dynex distributor for more details.

DS2 x 2 for even Greater Flexibility

The DS2 system can grow with you as your lab's throughput needs increase. Having two DS2 systems in your lab can provide you with even more benefits including:

- Double sample capacity – 200 samples and four plates
- Backup system – Ensure your assays keep running even when one system is undergoing maintenance or repair
- Small footprint – Greater throughput and flexibility in a footprint smaller than most self-contained four-plate systems
### DS2® Specifications

#### Physical Specifications
**Dimensions**
- Width: 54 cm (21 in)
- Depth: 68 cm (27 in)
- Height: 66 cm (26 in)
- Weight (net): 48 kg (105 lb)
- Shipping weight: 78 kg (170 lb)

#### Power Supply
- Voltage: 100 – 240 V auto-switching
- Frequency: 50/60 Hz
- Power consumption: <300 VA

#### General Specifications
- Number of plates: 2
- Sample capacity: 100 per load
- Continuous load: Yes
- Sample-tube size: 10 – 16 mm diameter
- Reagent-fluid capacity: 8 x 25 mL bottles
- Control-fluid capacity: 24 x 2 mL vials
- Dilution capacity: (96) 12 x 8 deep-well strips
- Sample-tip capacity: 216 tips
- Reagent-tip capacity: 20 tips
- Assays per plate: Up to 12
- Selftest at startup: Yes

#### Reader Specifications
- Dynamic range: -0.100 – 3.0 OD
- Spectral range: 405 – 690 nm
- Filter slots: 6
- Reading channels: 12 plus reference channel
- Reading modes: Single, dual
- Read time: <30 sec (single wavelength)
- Precision: <1% CV (2.0 OD)
- Accuracy: +/- 0.005 OD or 2.5% (whichever is greater)

#### Washer Specifications
- Manifold configuration: 8-way
- Dispense-volume range: 50 – 1000 µL
- Wash cycles: 1 – 9 (repeatable)
- Residual volume: <3 µL
- Super aspirate mode: Yes
- Wash-buffer capacity: 2 x 2 L
- Low-buffer alarm: Yes
- Soak time: 0 – 999 seconds
- Dispense pressure: Pre-set
- Rinse function: Input connector for user’s external bottle, any size
- Waste-water container: 1 x 1.5 L

#### Incubator Specifications
- Temperature range: Ambient + 4° C to 40° C
- Temperature uniformity: +/- 1° C across plate @ 37° C
- Shaking: Independent linear motion 14-20 Hz (periodic or continuous)
- Incubation time: Programmable
- Time to set temperature: <1 min
- Temperature monitoring: Yes

#### Pipetting Specifications
- Type: Disposable tips (2 types)
- Sample-tip range: Tip type 300 µL (10 – 250 µL dispense range)
- Reagent-tip range: Tip type 1,300 µL (20 – 1,000 µL dispense range)
- Maximum dilution: 1 to 5,000
- Serial dilutions: Yes
- Replicates: Up to 96 samples, standards and controls
- Precision, sample tip: <3% CV at any operating volume above 10ul (single shot mode)
- Precision, reagent tip: <3% CV at any operating volume above 20ul (single shot mode)

#### Process Security
- Liquid-level sensing: Yes (reagents, controls and samples)
- Level-sensor system: Pressure differential
- Clot detection: Yes
- Dispense-anomaly detection: Yes
- Tip detection: Yes
- Well-fill verification: Yes
- Alarms: Yes

#### Software
- Computer (not included): Current model desktop or laptop PC running MS Windows® Professional.
- Contact Dynex for current supported version(s) prior to purchase.
- Controlling software: DS-Matrix™
- Work protocols (assays): Unlimited
- Data processing: Quantitative and qualitative
- Levey-Jennings: Yes
- Westgard rules: Yes
- Process reporting: Event log + error log
- Automatic error recovery: Yes
- Password access control: Yes

#### Ordering Information
- 62000 DS2 System
- 62101 DS2 System w/Barcode Scanner
- 62700 Barcode Scanner

#### Consumables
- 62910 Deep-well strips (250/box)
- 62920 Reagent tubes, 15 mL (10/pack)
- 62930 Reagent tubes, 25 mL (250/box)
- 62940 Control vials w/caps (33/pack)
- 65910 Sample tips (432/box)
- 65920 Reagent tips (432/box)
- 65950 Reagent tubes, 25 mL (24/Pack)
- 66900 Reagent tubes, 100 mL (12/pack)
- 66910 Sample tips (432/box)
- 66940 Control vials w/caps (33/pack)

Dynex makes no representations, warranties, or performance claims with respect to the performance of DS2 for any specific application, including clinical application, or for the use of the DS2 system with any reagents, assays, or other products.

Specifications subject to change without notice.

* Factory calibration of the pipette module are carried out using a calibration fluid.

Dynex is a general purpose microplate processor. It is the customer’s sole responsibility to determine the DS2 system’s suitability for a particular application, including any clinical application, and validate the product for that use in compliance with all applicable legal requirements and policies.

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