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SUBJECT **NEW INSTRUMENT**

news

We announce the launching of the new member of the Biokit Elisa Instrumentation family: ***DS2***

The DS2 instrument is the new Biokit automated ELISA processor. The launch of this new instrument will complement the existing Biokit instrument, the Best 2000.

The DS2 starts a new generation of bioelisa instrumentation. A walk-away ELISA processing system, designed specifically for lower-throughput labs with higher performances, better flexibility and modularity.

Biokit has validated the complete bioelisa product range in the DS2 Instrument. Validation reports and assay files are available under request. Find attached a complete product information.

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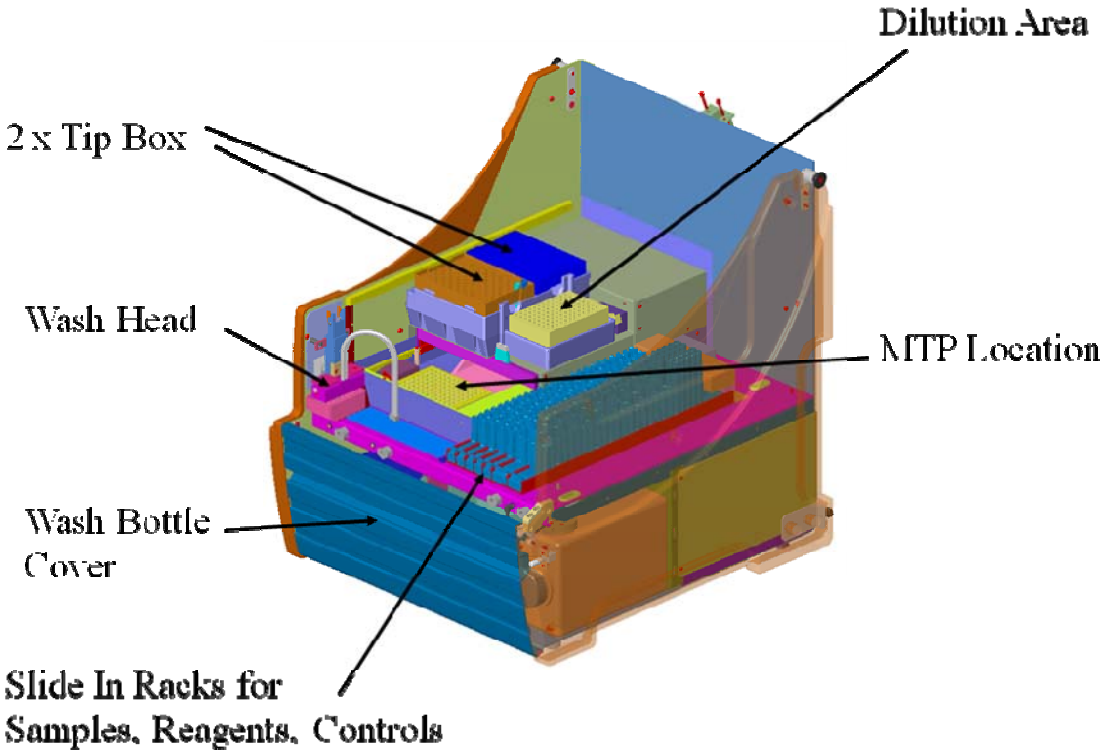
DS2 – ELISA INSTRUMENTATION

Characteristics

The DS2 instrument is a small footprint, fully automated 2-plate ELISA/EIA bench top analyser, . The DS2 is for laboratories that do not need 4-plate ELISA assay systems. It is a self-contained, results-oriented system whereby the user merely inserts the samples and consumables, and walks away. The results are presented automatically.

The instrument automates all the steps of the ELISA process:

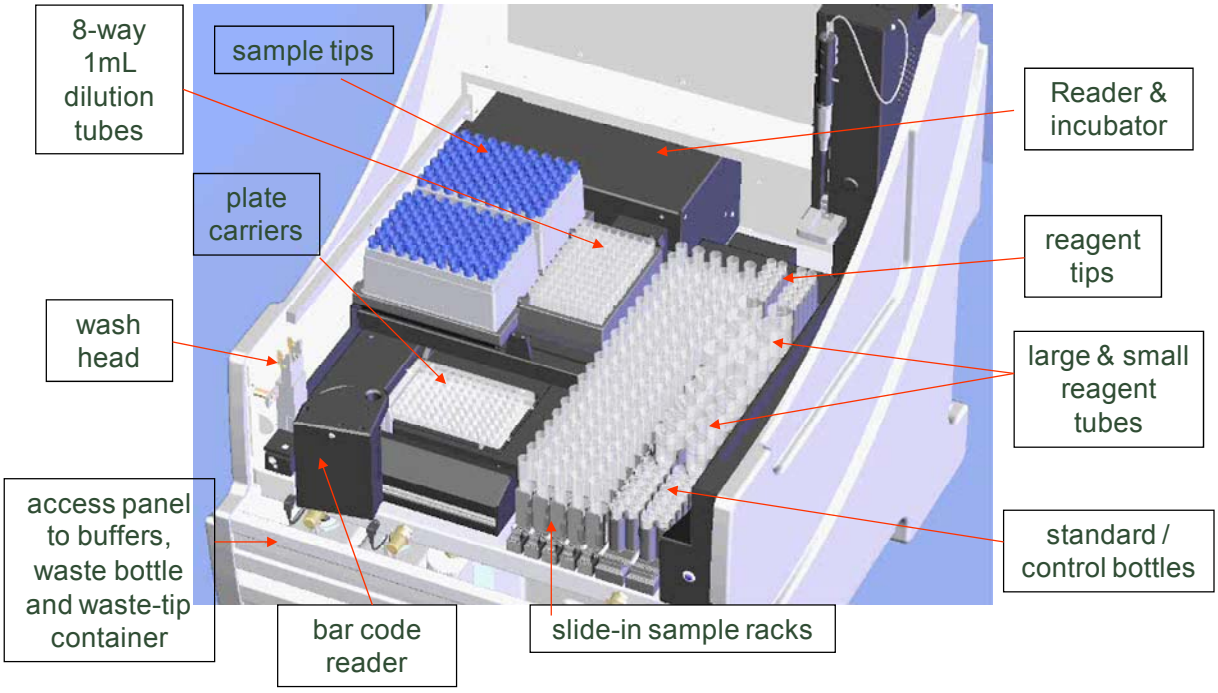
- Positive sample and plate barcode identification
- Sample, control and calibrator dilution and dispensing (disposable tip)
- Reagent dispensing
- Incubation (with or without shaking)
- Washing
- Reading
- Data reduction



System

Sample tubes

The sample rack is composed of 5 holders with a capacity for 20 sample tubes each (100 tubes total capacity). The allowed sample tubes sizes are diameters from 8 to 16 mm and depths from 40 to 100 mm..



Sample identification

The barcode scanner reads the barcode labels on the sample tubes as well as the positioning barcode labels on the sample tube racks.

Sample preparation

The instrument can automatically dilute samples, controls and calibrators. Pre-dilutions can take place in the deep well plates. One deep well plate is available for dilutions, thus allowing the system to reach dilution ratios of up to 1:5000. Samples, controls and calibrators can be diluted as many times as replicates needed, or only once for all replicates.

Sample tips

The working area holds 2 boxes for the disposable tips with a capacity for 108 tips each. That means up to 216 tips can be loaded into the system before work starts. The system allows the user to save tips by dispensing the samples in either serial or parallel runs.

Reagent rack

The reagent rack has 18 reagent positions. Standard Sarsted® vials of 25 ml and 15 ml are used by the system to reduce the cost of consumables. The vials have a conical base to minimise dead volume. The system dispenses the reagents using disposable 1,300 µl tips. The dispensing volume range is from 20 to 10 µl. The reagents rack also holds the 20 disposable tips available for dispensing reagents.

Control and standard rack

The control and standard rack has 24 bottle positions. The vial used is a standard Sarsted® 2 ml vial with a conical base to optimise the volume available.

Incubator module

The incubation chamber can hold up to two microplates during a run. During an incubation step, the reader sliding cover and incubator door are closed to ensure proper temperature equilibration.

Washer module

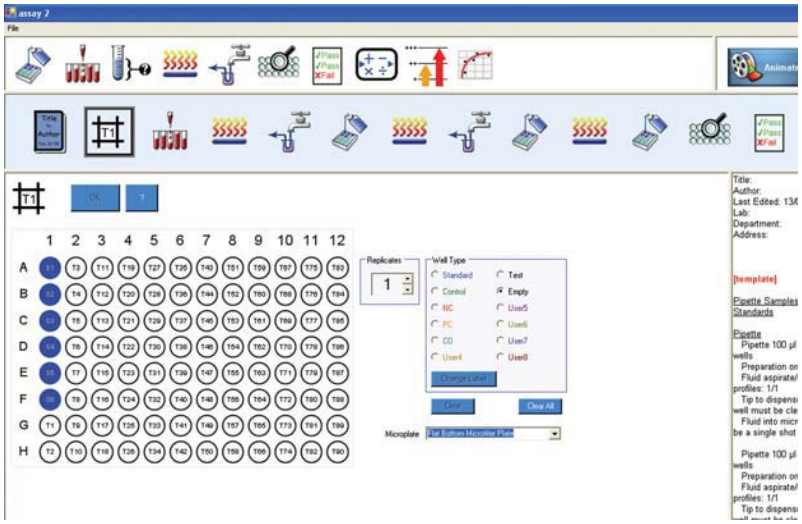
The washer module uses an 8-channel manifold. Two different washing buffers can be loaded simultaneously into the system. The instrument has 2 x 2 litre bottles for the buffers fitted with low wash buffer sensors. The instrument also incorporates a 1.5-litre bottle for waste, together with a full waste sensor.

Reader module

The absorbance reader module has a capacity for 6 filters in the range between 405 nm and 690 nm. The dynamic range of the reader is from 0 to 3.0 OD. The typical reading times are less than 30 seconds for a single wavelength reading and less than 50 seconds for dual wavelength readings.

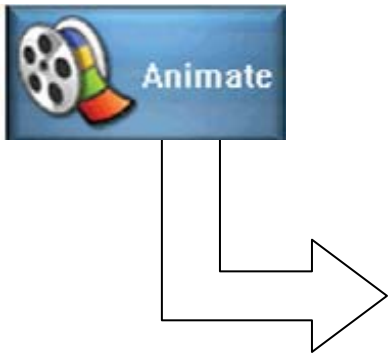
Software

Feature-rich and groundbreaking in its process simulation and ease of use, the DS-Matrix allows you to rapidly integrate laboratory automation with confidence. The simple, graphical interface means that any lab technician can use the DS2 with minimal training.

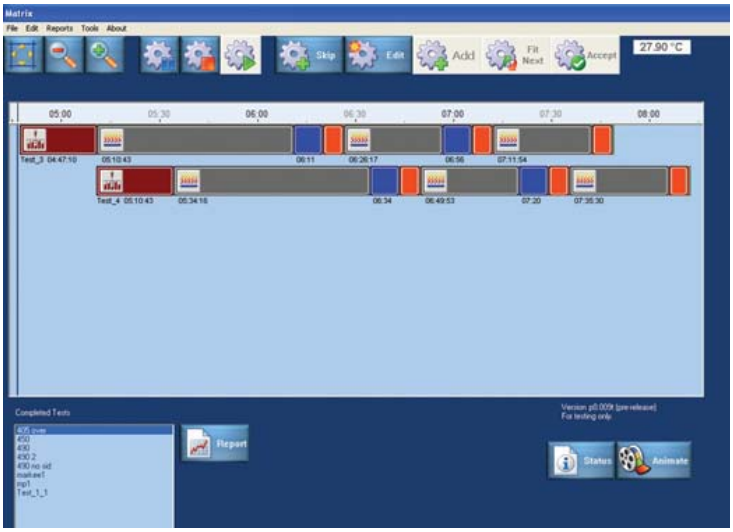


The assay wizard, with drag-and-drop icons, walks you through the entire programming process, prompting you step by step, making set-up of your assay a breeze. If you miss a critical process step in your assay, the DS2 will let you know before you can move on.

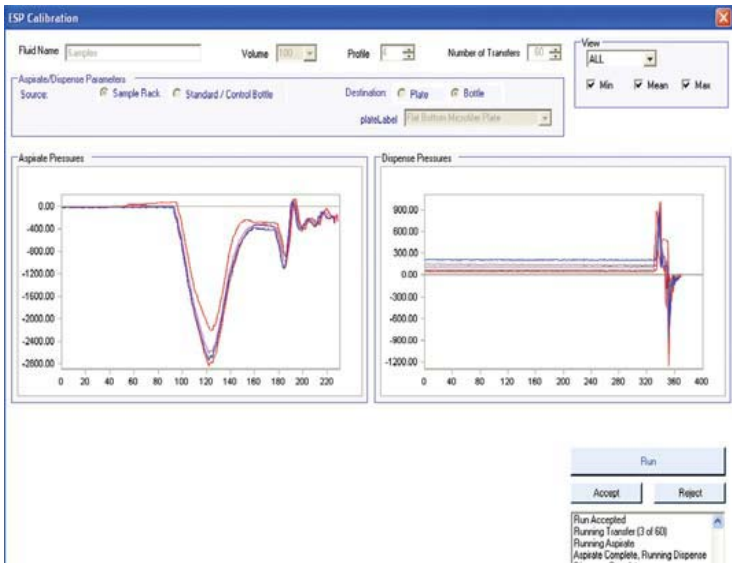
No need to waste precious reagents or consumables with multiple test runs to validate your assay. Activate the process simulator, and the system shows you a full animation of the assay steps you've outlined. If you want to adjust the assay parameters, you can visualize exactly how it will work before you implement the change.



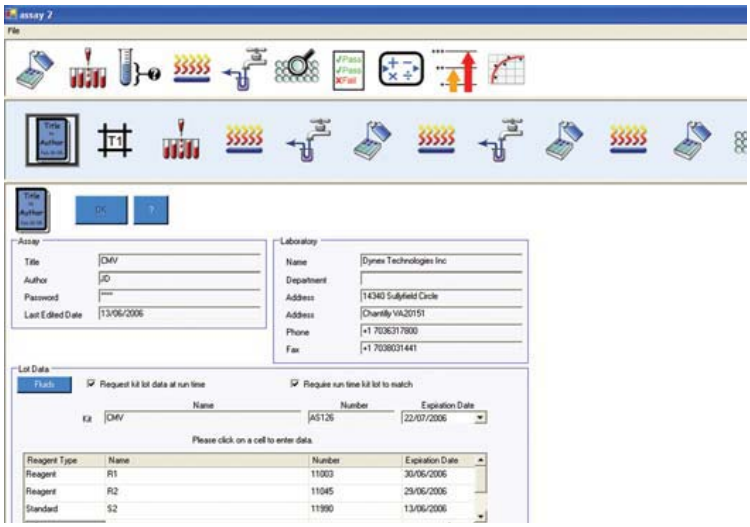
Once you begin running your assay, the process timeline and simulator show you exactly where you are and how much time you have left. These time estimates are continuously updated as more runtime information is available to the DS2



Patent pending ESP provides in-process verification of critical fluid and sample transfer.



The system enables recording and guaranteeing lot-specific data.



Technical Specifications

Physical Specifications

Dimensions

Width: 54 cm21 in

Depth: 68 cm27 in

Height: 66 cm 26 in

Weight (net): 48 kg105 lb

Shipping weight: 100 kg220 lb

Power Supply

Voltage: 100-240 V auto-switching

Frequency:50/60 Hz

Power consumption: < 300 VA

General Specifications

Microtiter plates:2

Sample capacity:100 per load

Continuous load:Yes

Sample-tube size:10-16 mm diameter / 40-100 mm height

Reagent-fluid capacity:8 x 25 mL bottles / 10 x 15 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

Power-on self-test:Yes

Reader Specifications

Dynamic range: 0 – 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) / <50 sec (dual wavelength)

Precision: <1% CV (<2.0 OD) / <1.5% CV (2.0 – 3.0 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 users' external bottle, any size

Wastewater 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

Temperature range: Ambient + 4° C to 40° C

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 (10 – 200 µL)

Precision, reagent tip: <3% CV (20 – 1,000 µL)

Process Security

Liquid-level sensing: Yes (reagents, controls, and samples)

Level-sensor system: Pressure differential

Clot detection: Yes

Foam 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® XP (Contact Biokit for current specs 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

Comparison

	DS2	Best 2000
Plates	2	4
Pipetting tip	Only disposable	Only disposable
Sample / Reagent tip	216 / 20	432 / 41
Dilution area	96	192
Incubation	2 x independent	4 x independent
Incubation range	Ambient +5º - 40º	Ambient +5º - 50º
Shaking incubation	Yes - Independent	Yes – Independent
Sample capacity	5 x 20	7 x 14
Reagent capacity	18	24
Standard / Control Capacity	24	33
Wash buffer bottles	2 +1 Rinse	4
Wash buffer bottles (volume)	2L + 0.5 L	2L
Barcode Scanning	Auto-Tube	Auto-Tube / Plate
Filters	6 (400 nm-850 nm)	6 (405 nm-690 nm)
Read Speed (seconds)	25/50	<Equiv>
Pipetting Speed	15 Minutes Full Plate	17 Minutes Full Plate
Pipetting Accuracy	+/-2%	+/-2%
Pipetting Precision (C.V.)	<3%	<3%
Pipetting (Dynamic) Range	10 µl-300 µl	5 µl-300 µl

Ordering Information

3710-0342 DS2 System

Consumables

3410-1278 Deep-well dilution strips (250/box)
3410-1279 Deep-well dilution strip holder
3410-0375 Reagent bottles w/caps, 25 mL (min. order 500/pack)
3410-0694 Reagent bottles w/caps, 15 mL (500/pack)
3410-0669 Reagent tips racked (4x108/box)
3410-0371 Sample tips racked (4x108/box)
3410-0374 Control vials w/caps (33/pack)
3800-0160 Control vials w/o caps (min. order 500/pack)
3800-0161 Cap for Sarsted tube – Green (min. order 500)
3800-3443 Cap for Sarsted tube – Black (min. order 500)
3800-3444 Cap for Sarsted tube – Clear (min. order 500)
3800-3445 Cap for Sarsted tube – Red (min. order 500)
3800-3446 Cap for Sarsted tube – Blue (min. order 500)

Spare Part List

3410-1200Assy, Reader, Ds2
3410-1201Assy, X Drive, Ds2
3410-1202Assy, Y Drive, Ds2
3410-1203Assy, Z And Pipette, Ds2
3410-1204Assy, Wash Head, Ds2
3410-1205Syringe Motor, Ds2
3410-1206Y Home Sensor, Ds2
3410-1207X Home Sensor, Ds2
3410-1208Plate Drive Home Sensor, Ds2
3410-1209Assy, Pump, Ds2
3410-1210Assy, Waste Bottle, Ds2
3410-1211Assy, Cover, Ds2
3410-1212Sample Tube Rack Assembly, Ds2
3410-1213Assy Dispense Bottle, Ds2
3410-1214Power Supply With 24v DC Output
3410-1215Assy, Pcb, Back, Board, Ds2
3410-1216Assy, Pcb, Switch Board, Ds2
3410-1217Assy, Pcb, Transition Brd, Ds2
3410-1218Assy, Reader Board, Ds2
3410-1219X Double Flex Cable, Ds2
3410-1220Y Double Flex Cable, Ds2
3410-1221X Encoder Cable, Ds2
3410-122240 Way Ribbon Cable, Ds2
3410-122350 Way Ribbon Cable, Ds2
3410-1224Barcode Cable, Ds2
3410-1225Z Drive Linear Rail
3410-1226Sf687zz Bearing, 7x14x5,Ss, Flng
3410-1227Smr105zz Bearing, 5x10x4, Ss
3410-1228Pulley, 20 Tooth, Ds2
3410-1229Pulley, Drive, 48 Tooth, Ds2
3410-1230Filter, 405 nm, Opsys Mr
3410-1231Filter, 450 nm, Opsys Mr
3410-1232Filter, 490 nm, Opsys Mr
3410-1233Filter, 620 nm, Opsys Mr
3410-1234Lc-014a-1-Mw Spring, 3.05x6.35
3410-1235Lc-038f-1-M Spring, 10.67x4.37
3410-1236Lcm-080d-16-S Spring, 7.5x13.8
3410-1237Cable Chain, X Drive, Ds2
3410-1238Cable Chain, Y Drive, Ds2

3410-1239Gas Spring, Tension, 225n, Ds2

3410-124018dre0707 Magnet, 3 mm X 3 mm Od

3410-1241Lc-016c-8-S Spring, Comprs, Ss

3410-12422050-6 Fitting, 3/16"X3/32" Barb

3410-1243S10506z530a 12v DC Pinch Valve

3410-1244Rt-152, Fitting, Reducer, "T"

3410-1245Pml 5094-Nf30 12v DC Pump

3410-1246L40-6, Fitting, "L", 5/32", Pp

3410-1247Fltp-1/4f-Le Vacuum Trap

3410-1248303ppb-3# Relief Valve, 3 Psi

3410-1249Pmcd160212 Fitting, 1/8" Barb,Pp

3410-1250Pmcd230212 Elbow Fitting, Barb

3410-1251Pump, Aspirate Mrw/Ds2

3410-1252Compressed Sponge, 30 mm Dia.

3410-1253L7394 Lamp 6v 20w 350 Lumens

3410-1254Motor, Axis Drive, Small, Ds2

3410-1255Motor, Axis Drive, Large, Ds2

3410-1256Clip-Plate Holder Ss Dl1000

3410-1257Clip-Plate Holder Ss (W-Dimple)

3410-1258Wire-Cleaning. 018"

3410-1259Wire-Cleaning. 040"

3410-1260Pmcx 16-04-12 Fitting

3410-1261Elbow Pmc-23-04-12

3410-1262O Ring Viton 75o Bs0008

3410-1263Purge Tray-Microtiter Form

3410-1264Encoder-Increm,Heds-5500-H14

3410-1265S10410z031a 12v DC Pinch Valve

3410-1266Switch-Vacuum Rs317-443

3410-1267Gs0400-016, Tubing, Sil. 4x7.2 mm

3410-1268P4meb4 Fitting, "L", 1/4nptx B.62515250318

3410-1269Calibration Tool, Ds2

3410-1270Calibration Collar, Ds2

3410-1271Calibration Plate, Ds2

3410-1272Ds2 Controller Pcb Assembly

3410-1273Optic Cube Fan Filter

3410-1274Optic Cube Fan Filter Upgr. Kit

3410-1275Ds2 Tubing Replacement Kit

3410-1276Z Eject Plate Harness/Sensor

3410-1277Waste Cap, Nalgene

3410-1280Scanner Module Assembly Ds2 62700

3410-1285Incubator Fixture Ds2, Ds2fix033

3410-1281Laser Scanner Not Whole As. Ds2 13500401