Earlier detection for a healthier future.

revvity

GSP® Newborn screening system

Brochure not for distribution in the US

Give life an exceptional start.

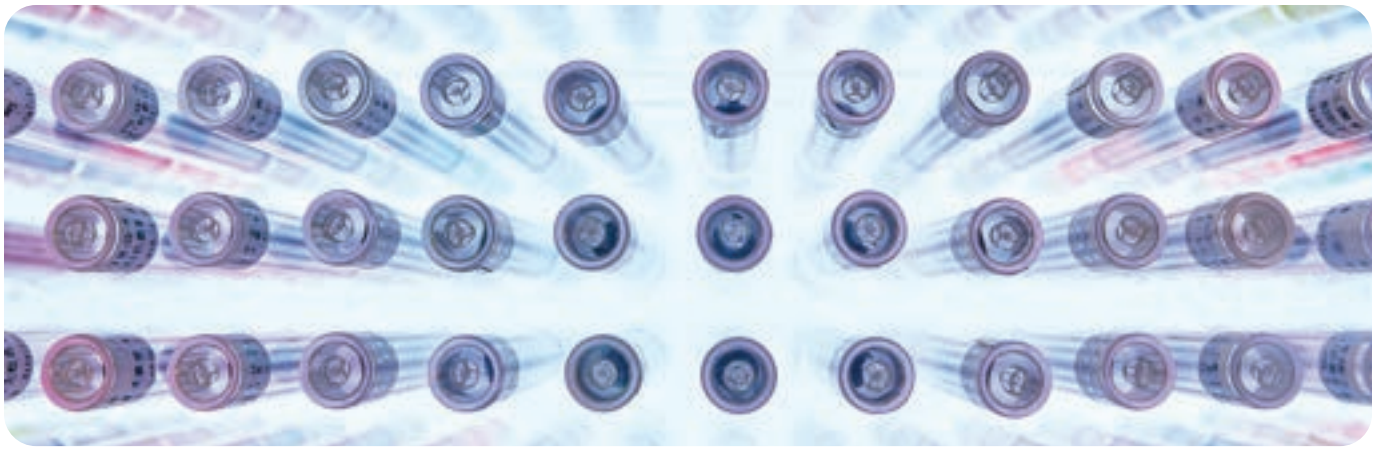
GSP — the most advanced solution for screening NBS disorders

Every life is exceptional and every child is unique. That's why your screening program should deliver exceptional performance when it matters most – at the beginning of a child's life.

Discover Revvity's most advanced, fully automated, high-throughput screening system with the lowest hands-on time for NBS disorders, ensuring outstanding screening accuracy.

Intuitively simple, easy-to-use system

- Fully automated solution, from plate to result, reducing error and hands-on time
- Designed for accurate and reliable dry blood spot (DBS) measurements
- *User friendly data management solution including quality-controlled result*
- Widest selection of neonatal screening assays



An extraordinary analyzer, unmatched in performance

Designed to enhance your screening program

Delivers more flexible workflows

The GSP instrument is optimized for continuous sample loading. The loaded plates are processed automatically or users can prioritize the order in which plates are processed.

Reduces the risk of errors

Plates, reagents, QC materials and lot specific QC certificate information are all barcoded to support improved traceability and ease of use.

Offers convenience of both reagent and water systems

GSP can be connected directly to a deionized water supply and waste line, so you no longer need to add water and drain the waste. The cooled reagent compartment also eliminates the need to unload reagents after assay runs and improves screening accuracy.

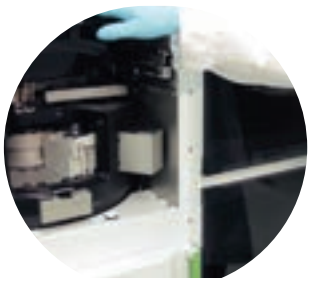
Intuitive and easy-to-operate

The GSP instrument is easy for laboratory staff to learn to use, and is controlled via an intuitive touch-screen interface. The instrument requires minimal user training and supports effective staff rotation.

Reliable, quality-controlled software analysis

The GSP Workstation software tracks your laboratory workflow effectively, so you obtain reliable, quality controlled results with maximum efficiency.

User-friendly at every stage



1 Loading reagents

Bulk reagent and kit loading on the fly

2 Generating worklists

Automated with Revvity punching device or creation on a GSP workstation computer

3 Plate loading and unloading

Automatic stacker with an auto-start procedure

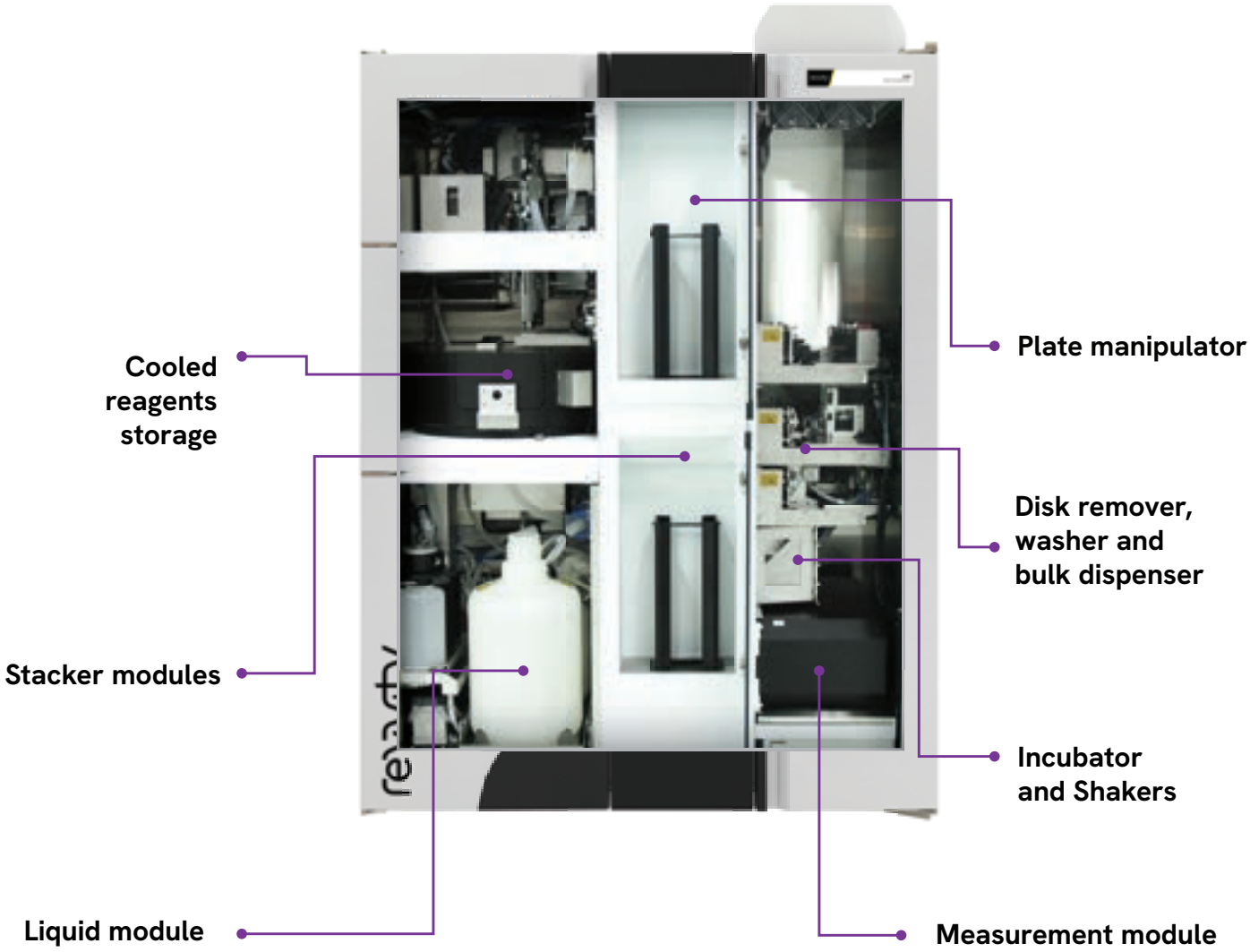
4 Checking instrument status

Touchscreen makes it easy for status checks and plate prioritization

5 Viewing results

GSP workstation provides checks on quality assurance, calibrations, notifications, and results

Seamless integration in one single unit



The GSP informatics system with four modules, improving workflow efficiency and quality management

The ISO 27001 certified GSP workstation comprises four modules, each designed to improve workflow efficiency and quality management.

- Kitlot editor
- Plate generator
- Result viewer
- Quality control program

Designed for dbs measurement

GSP is designed to measure reliably dried blood spot samples by using several control steps. The used control steps are specified in the assay protocol. In case a control step is not passed, a notification message is reported.

1. Elution control

Detects missing sample or poorly eluted disks in the wells. In case a missing disk is suspected, a notification message is reported.

2. New measurement technology

New measurement step avoids outliers caused by unspecific fluorescence and reduces variation in results. With GSP G6PD assay results are received even with floating disks.

3. Floating disk control

Detects floating disks that may influence screening results.

4. Disk detection

Detects the removal of disks in DELFIA assays from the wells before measurement.

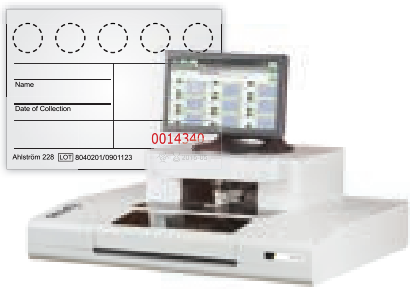
Complete solution. Exceptional advantages.

How GSP can help integrate your entire screening process

Neonatal screening is a highly complex workflow involving numerous process stages and continuous attention to quality control. Each link in the screening process must be as reliable and efficient as the next one.

By combining the GSP Newborn screening system with other Revvity products, you can manage your entire screening program, from sample preparation and collection to analysis and results management.

Revvity has an answer to every stage in the screening process



The devices shown here are available as standalone products. When interfaced, the devices together offer optimum screening performance and efficiency.

1 Sample collection and preparation

Revvity 226 Sample Collection Device is a 100% pure cotton linter filter paper optimized for DBS sampling.

When combined with Panthera-Puncher™9 or DBS Puncher you will get automatic worklist generation and transfer to GSP.

2 Analysis and measurement

The GSP instrument is the device of choice for medium to large laboratories. It uses several measurement techniques for screening of NBS disorders and it supports the widest range of analytes and assay techniques.

The GSP workstation software is designed to follow laboratory worksflow to obtain reliable, quality controlled results with maximum efficiency.

3 Result management and reporting

SpecimenGate® is Revvity's dedicated informatics for newborn screening laboratories.

- Connects punchers and analysis instruments seamlessly and gathers results into one database
- Enables punchers to identify specimen-specific requests and responds accordingly (Smart Positive ID)
- Historical result-based cutoff values (Cutoff analyzer)
- Demographic-based cutoffs (latter requires Screening Center)

Complete range of superior screening

GSP Neonatal kits are the industry standard for analytical performance and reliability. Each kit includes reagents, QC material and specific QC certificates. Barcoding reduces the risk of errors, and all calibrators and controls come in dried blood spot format.

Automation and environmental controls ensure that screening accuracy is clearly improved when compared with manual assays. This also reduces the need for additional sample runs and allows for more effective use of laboratory resources.

GSP Neonatal kits specifications

	GSP TSH	GSP T4	GSP 17-OHP	GSP IRT	GSP CK-MM	GSP BTD	GSP PKU	GSP TGAL	GSP GALT	GSP G6PD
Technology	DELFIA					Combination of DELFIA and Enzymatic	Enzymatic			
Assay duration	4 h 9 min	2 h 56 min	3 h 56 min	2 h 43 min	4 h 50 min	4 h 13 min	2 h 28 min	2 h 08 min	2 h 50 min	1 h 21 min
On board stability	14 days	14 days	14 days	14 days	14 days	14 days	4 days	7 days	48 hours	14 days
Measuring range	1.31 µU/mL blood (2.91 µU/mL serum) - 250 µU/mL blood (555 µU/mL serum)	0.81 µg/dL blood (1.61 µg/dL serum) - 15 µg/dL blood (30 µg/dL serum)	1.2 nmol/L blood (0.9 ng/mL serum) - 300 nmol/L blood (220 ng/mL serum)	9 ng/mL blood (20 ng/mL serum) - 500 ng/mL blood (1110 ng/mL serum)	6.8-8000 ng/mL	14.8-325 U/dL	68-1200 µmol/L blood (1.12-19.8 mg/dL)	64-2775 µmol/L blood (1.15-50 mg/dL)	2.5-25 U/dL blood	2.4-130 U/dL blood
Fully automated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Calibrators and Controls in DBS format	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Elution control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New measurement technology	*	*	*	*	*	*	✓	✓	*	✓
Floating disk control	*	*	*	*	*	*	*	*	✓	*
Disk detection control	✓	✓	✓	✓	✓	✓	*	*	*	*
Reagents, plates and QC materials barcoded	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
24 hrs valid calibration curve	✓	✓	✓	✓	✓	✓	✓		✓	✓
Reagents ready-to-use	✓	✓	✓	✓	✓	✓	2 reconstitution steps	2 reconstitution steps	1 reconstitution step	1 reconstitution step
Plates included	✓	✓	✓	✓	✓	✓	Prod. No. 4091-0010	Prod. No. 4091-0010	Prod. No. 4076-0010	Prod. No. 4076-0010

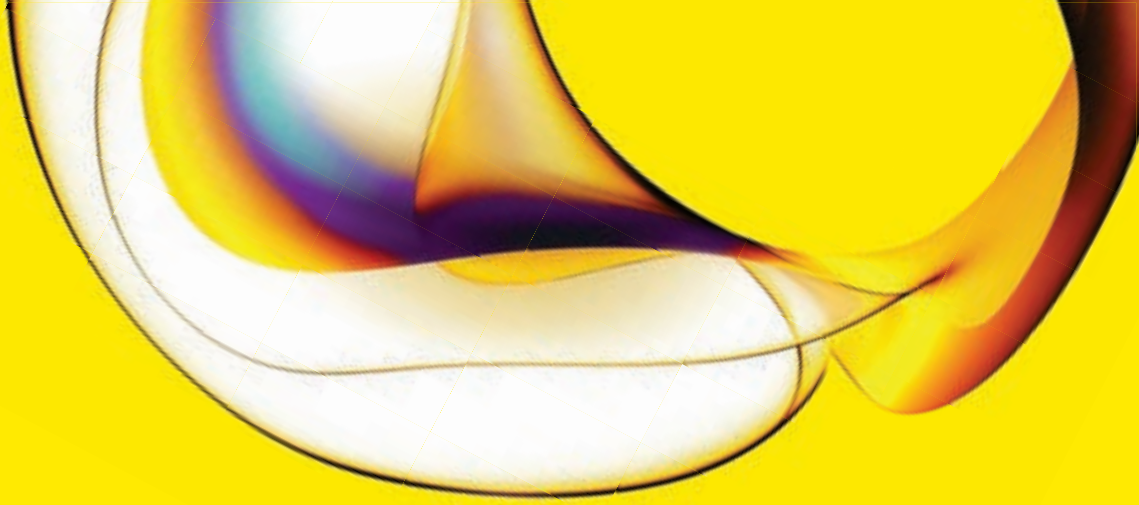
* The measurement /control step is not required for the specific assay

Instrument specifications

Physical dimensions	Height Width Depth Weight	1960 mm (77.2″) 1310 mm (51.6″) 760 mm (30.0″) 610 kg (1345 lb)		
Power requirements	Power consumption Mains voltage	1500 VA 100 - 240 V, 50 - 60 Hz		
Environmental conditions	Operating Temperature Temperature range Temperature range	18 - 30 °C 18 - 27 °C 28 - 30 °C	 Relative humidity Relative humidity	 10 – 80 % 10 – 65 %
Noise	< 60 dB			
The water used for preparing wash solution and for rinsing has to be deionized.				
Samples	Sample type Sample identification	Blood disks from dried blood spots punched into 96-well plates Barcode reader or keyboard input		
Loading	Continuous sample loading Continuous reagent loading Continuous bulk reagent loading			
Bulk Reagents				
Washing and rinsing	Wash solution Rinse water	Automatic dilution of Wash concentrate from a mains water line (deionized) or from an external bottle outside the instrument Automatic filling from a mains water line (deionized) or from an external bottle outside the instrument		
Liquid waste	Waste capacity	Automatic disposal if connected to a waste line OR manual disposal 16 L (15 plates)		

Performance specifications

Capacity	Sample capacity Reagent capacity Heated incubator module Shaking module Wash concentrate capacity Manual water filling or waste emptying Automatic water filling and waste emptying	 	26 plates (2496 wells) up to 13 reagent cassettes 12 plates 3 x 6 plates 2 liters 11 plates before user intervention required No restrictions
Low volume reagent pipette	Volume range Precision (CV%) Accuracy	5 - 50 µl < 1.5 % within ± 8 %	
High volume reagent pipette	Volume range Precision (CV%) Accuracy	25 - 200 µl < 1.5 % within ± 4 %	
Measurement unit	Measurement modes Signal with 1 nM Eu	TRF, FI, Abs 1 000 000 cps ± 17%	
Humidity	Plate storage area	< 60 %	
Temperature	Temperature inside the instrument Reagent storage temperature Heated incubator module	 	25 ± 2 °C 10 ± 2 °C 37 ± 1 °C



www.revvity.com

revvity

1096843 (763134)