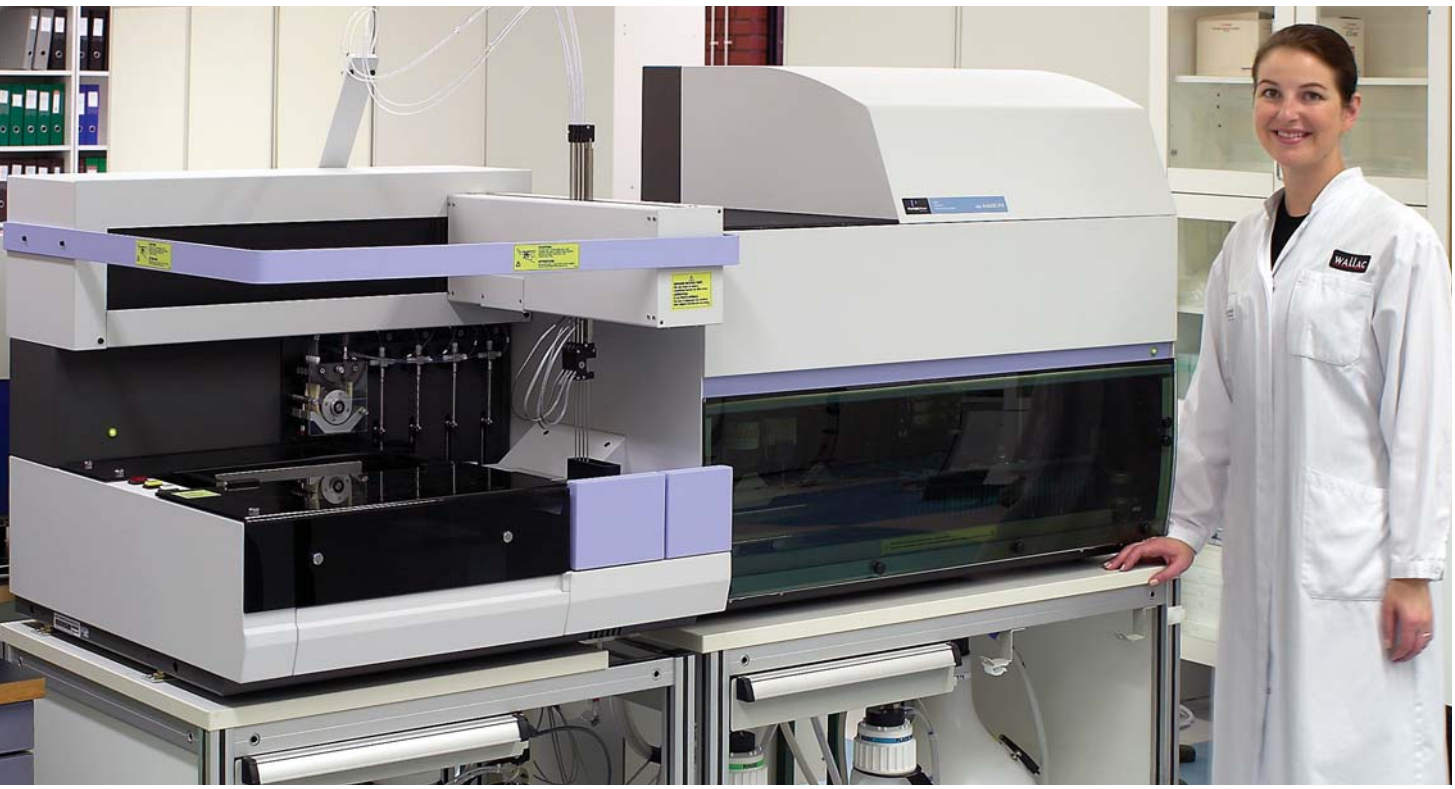
Reliable testing for a healthy future

The AutoDELFIA® immunoassay system for screening programs and routine diagnostics

PerkinElmer®
precisely.

AutoDELFIA® stands for quality in immunodiag



For screening programs, hospital laboratories and research projects

AutoDELFIA® leads the way in terms of results quality. Employing the proven DELFIA® chemistry, AutoDELFIA is a fully automatic system for sensitive and specific quantitation of the analytes most commonly requested for newborn screening programs, routine endocrinology testing and for research projects in a number of key areas.

gnostics testing

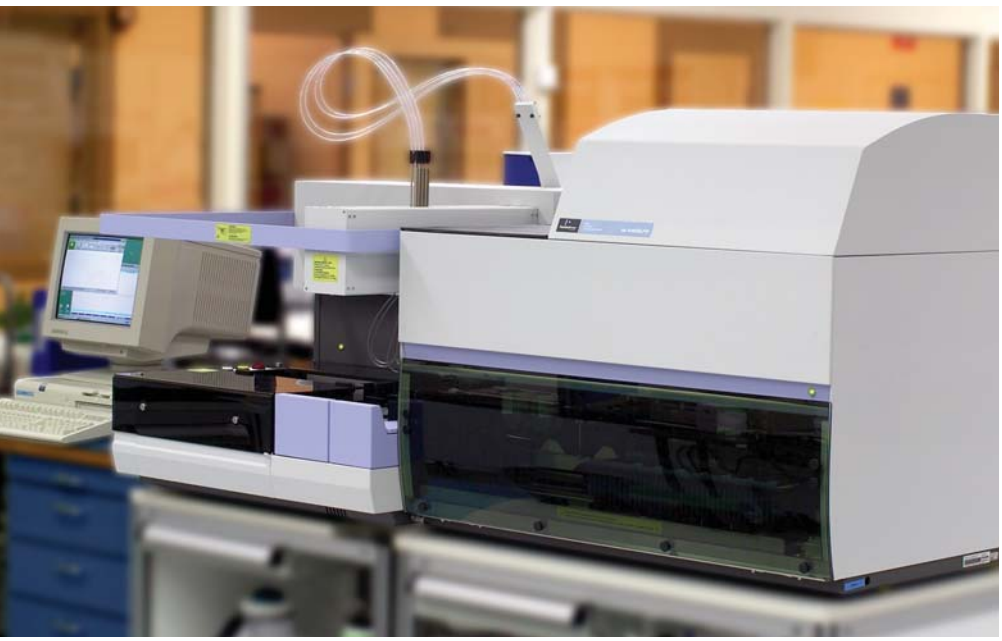
- **Serum sample testing or dried blood spot testing using sensitive DELFIA chemistry**
- **Loading capacity for serum samples is 432 sampling tubes**
- **Results for up to 8 different tests from one sample**
- **External PC with Windows-based Workstation software**
- **MultiCalc® software for LIS connection and comprehensive quality control**
- **Bar coding of reagents for convenience and security**
- **Some 40 proven AutoDELFIA kits (page 9) – panels for maternal health, neonatal screening, thyroid, fertility, oncology, anemia, diabetes and celiac disease**

PerkinElmer – the single-source supplier for your biochemistry testing

PerkinElmer provides innovative total solutions to identify and monitor the progression of human diseases. Our range of high quality products for genetic disease screening includes reagent kits, sample handling and measuring instruments, and data management software. In all regions of the world PerkinElmer products and systems are backed up with comprehensive expert support.

AutoDELFIA® is a key component in newborn screening programs worldwide. In 2004, more than 10% of the babies born in the world were screened using AutoDELFIA tests performed on the systems installed in more than 30 countries.

Walk away – and rely on the system to look after e



Within the AutoDELFIA Plate Processor all assay stages including measurement are performed automatically.

You simply load and start the instrument and then leave it to carry on alone. AutoDELFIA carries out all assay stages automatically. It will perform all operations according to the protocols of the desired assays and give final results either by analyte or by patient.

The Sample Processor unit accepts serum samples in primary or secondary sampling tubes. If sample dilution is needed, this is done automatically before the dispensing of sample, standard and control aliquots into microplates. The microplates are then automatically loaded into the Plate Processor unit.

For dried blood spots the Sample Processor is replaced by a puncher “front end”. This punches filter paper disks of samples, standards and controls, and prepares the microplates for loading into the Plate Processor. PerkinElmer offers a choice of three puncher devices.

very stage

All you do is load the instrument

For the majority of serum assay kits, standard vials are placed directly from the kit pack into AutoDELFIA's cooled standard box. Then for each analyte, you enter a reagent cassette containing tracer, assay buffer and any other kit-specific reagents, and the number of plates you need. Loading of bulk items is a once-only operation, giving enough for 1152 measurements.

Click the mouse, and AutoDELFIA® does everything else

1 Accepts standards, reagents and samples and reads all bar codes

All samples are identified and checked throughout the testing procedure. Where individual samples are not labeled with bar-codes, their positions are identified within bar-coded racks.

2 Calculates the run order

Individual time calculations for each loading are done. AutoDELFIA works out a "run list" for the various assays selected. The user may edit this, if desired.

3 Pre-treats plates

AutoDELFIA automatically carries out any necessary pretreatment of the plate, aspiration or pre-wash, according to the assay protocol.

4 Dispenses samples

While the samples are being pipetted the Plate Processor can attend to other jobs simultaneously. The processor's independently working modules comprise fluorometer, shaker/incubator, washer, reagent dispenser and disk remover.

5 Dilutes tracer

The tracer is diluted just before use so that the solution is always fresh. To eliminate reagent carry-over, the dilution is performed using disposable tips.

6 Adds tracer/buffer to plates

Buffer and tracer dilution are added using two dispensers.

7 Incubates plates

All plate handling takes place at 25° C. The system can access any plate when required, and at any time the user can glance at the run list to check the status of the assay.

8 Dispenses Enhancement Solution

When the incubation is complete, the plate is withdrawn from the shaker and after washing, Enhancement Solution is added to each well.

9 Carries out measurements

When the plate is ready for measurement it is automatically delivered to the instrument's fluorometer.

10 Calculates results

After measurement, results are calculated. MultiCalc® software performs comprehensive quality control routines and presents results by assay, or by automatically updating worklists.

AutoDELFIA with high throughput Sample Processor for routine and research tests

When you work with serum samples, up to 36 sample racks can be loaded at one time giving maximum capacity of 432 patient samples. Bar-coded primary tubes can be loaded directly. This reduces the need for sample transfer and helps to cut total costs.

AutoDELFIA can be loaded directly with most shapes and sizes of tube up to 16 mm wide and 125 mm high. The minimum size without adapters is 10 mm wide and 70 mm high. For smaller tubes down to 45 mm, special adapters are used. Dilution factors can be given either manually or automatically through the worklist or assay protocol. AutoDELFIA then dilutes the patient sample automatically before it is pipetted to the plate. You can carry out up to 8 tests per sample tube. For patient sample pipetting, 4 individually working sample probes are used. The tips are equipped with four individual liquid level detection systems with optimized submerge depth to minimize contamination of probes. A clot detection system alerts the user if a sample is not properly aspirated.

If a long series of samples with only a few analytes is run, 4 probes save a considerable amount of time. One plate can be pipetted in 12 minutes.

Positive ID from sampling right through to reporting

Bar-codes on primary sample tubes also help you to save both time and money by eliminating the need to enter patient data manually. Since the sample identification is read before pipetting, results are linked to the correct sample throughout the procedure.

Today's system of choice for newborn screening

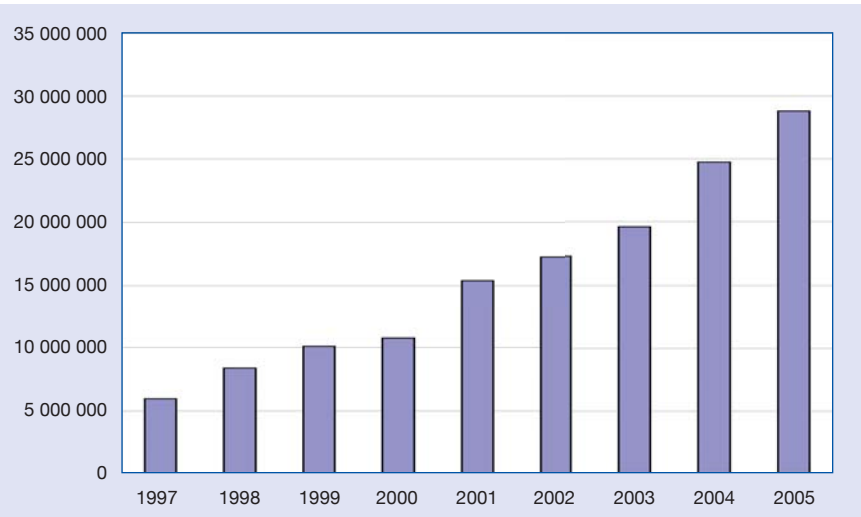
PerkinElmer is the pioneer company in newborn screening and offers instrument solutions for all of the different biochemical tests employed. Specifically for immunoassays, AutoDELFIA ideally meets the advanced needs of today's programs. It is robust, reliable and cost-effective, and delivers the desired combination of sensitivity and specificity.

Irrespective of the measurement technology and instrumentation employed, the sampling method of choice in newborn screening is dried blood spots (DBS). For use with its DBS assays, PerkinElmer offers a selection of punching and sample preparation devices optimized for use with the AutoDELFIA Plate Processor.

Specimen Gate – for management of the laboratory process

Wallac Specimen Gate is a LIMS developed for screening laboratories. For laboratory process management it includes all needed tools from sample preparation to result reporting. Together with AutoDELFIA it may be used to co-ordinate punching and prepare worklists. It will then receive results from AutoDELFIA and update the worklists. Also within the Specimen Gate suite, the LifeCycle and Patient Care modules manage demographic data entry, queries and reporting as well as patient case and follow-up management.

Development in the annual number of newborn screening tests performed using AutoDELFIA



Software power and ease-of-use

Control of AutoDELFIA is by an external PC with the Windows-based AutoDELFIA workstation software. MultiCalc® software, which runs in the background, handles assay protocols, worklists, results, quality control and external communication.

AutoDELFIA software looks after instrument control as well as all data handling. You operate the system via a normal PC with mouse control. The AutoDELFIA workstation program is easy to learn, guiding the user in setting up assays, loading samples, suggesting run order, etc.

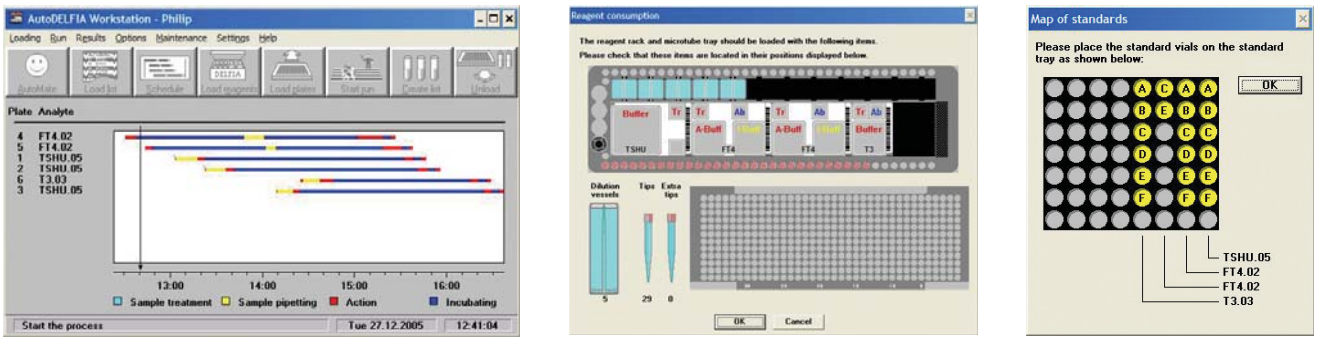
Using the AutoDELFIA workstation, routine work can be programmed under the AutoMate button. Other buttons provide quick access to the most commonly used functions. Functions required less frequently are selected from pull-down menus.

MultiCalc® excellence - behind Windows

Quality control can be set with MultiCalc software at the level you specify and tailored to your needs. MultiCalc also looks after LIS and LAN connections and provides a high level of flexibility. Storage of standard curves and recalibration based on only 2 points are important features of the program, and can be used in many of the AutoDELFIA kits. A whole standard curve can be run at any time for verification and there is a choice of standard curve fitting methods.

Easy and safe loading with LISA™

Wallac LISA™ LIS query software for AutoDELFIA makes the loading of AutoDELFIA easy and safe. Using the ASTM standard, LISA takes care of all communication with the LIS. Worklists are made up automatically as the samples pass the barcode reader. There is no need to sort the tubes or search for those tubes not available at the loading station. LISA requests which analytes are to be measured for each sample tube. After the assays, it sends back the results to update the appropriate record in the LIS.



AutoDELFIA workstation software provides easy to read information to support efficient use of the system. At the touch of a button the user can access, for example, the run schedule (left) to check status, or a reagent map (middle), or standard map (right).

Extensive range of proven kits

AutoDELFIA kits are available for a wide variety of analytes and applications. The list included here is intended merely as a guide to the breadth of the AutoDELFIA kit range. Reliable, up-to-date information on specific kits and their availability may be obtained from your local PerkinElmer representative.

Inclusion of a product on this list is intended neither as a promotion of, nor an offer to sell any product not cleared for sale in a particular country. For example, the products marked with an asterisk are not cleared for sale as IVD products in the USA.

Fertility

hLH Spec

hCG

hFSH

Prolactin

Estradiol

Testosterone*

Progesterone

SHBG

hGH

Cortisol*

Thyroid

hTSH Ultra

T4

T3

FT4

FT3*

TPOAb*

HTgAb*

Anemia

Folate*

B12*

Ferritin*

Celiac Disease

Anti-Gliadin IgA/IgG Dual*

Anti-tissue Transglutaminase IgA*

Diabetes

C-peptide

Insulin

Oncology

PSA EQM*

PSA Free/Total*

CEA*

b2-micro*

NSE*

hAFP*

hTG*

Neonatal Screening

Neonatal hTSH

Neonatal T4

Neonatal 17-OHP

Neonatal IRT

Neonatal Toxoplasma screen*

Maternal Health

Free hCGß *

hAFP/Free hCGß Dual*

PAPP-A*

hCG (total)*

uE3

hAFP

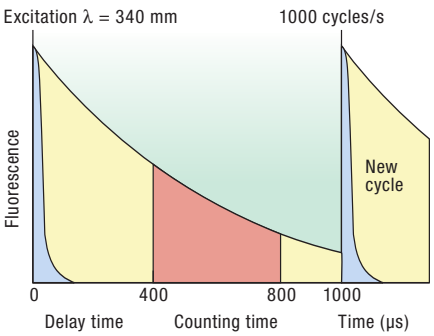
* Not available for sale in the USA.

DELFIA chemistry - excellent sensitivity and wide

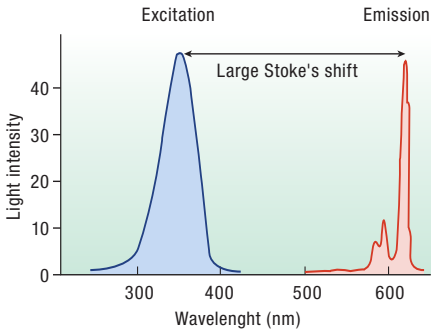
The Wallac DELFIA system is the leading non-radioactive alternative. The labels employed are chelates of europium or other lanthanide metals, and time-resolved fluorometry (TRF) is used to measure their signal.

Due to the large Stokes' shift and long decay times of europium, extreme sensitivity combined with a wide dynamic measuring range is obtained. In addition, several different lanthanides have unique fluorescence emission profiles. TRF thus supports multiplex assay designs. This benefit is exploited in the AutoDELFIA system, where dual label kits utilizing europium and samarium allow simultaneous measurement of analytes that are commonly required at the same time, and that would normally require two separate tests.

a) Fluorescence decay time

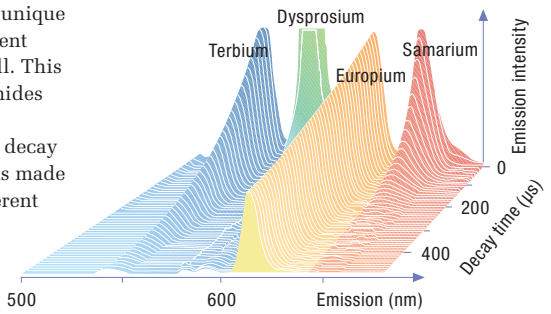


b) Large Stokes shift



A long fluorescence decay time (a) and a large Stokes shift, or clear separation of excitation and emission spectra (b) are important features of lanthanide chelate fluorophores.

As a technology TRF also offers the unique possibility to measure several different lanthanide labels from the same well. This is possible because different lanthanides have highly specific fluorescence wavelength peaks as well as unique decay time profiles. Measurements are thus made at different wavelengths and at different times.



dynamic range

Specifications

1235-514/714 AutoDELFIA System components
The full AutoDELFIA system for serum samples includes AutoDELFIA Sample Processor, AutoDELFIA Plate Processor and an external PC with Windows, AutoDELFIA workstation and MultiCalc software. Workbenches for both processors are also supplied.

1235-501 AutoDELFIA Plate Processor system components
For dried blood spot assays (all PerkinElmer newborn screening tests) the AutoDELFIA Plate Processor system is used together with a PerkinElmer punching device. The Plate Processor system includes the AutoDELFIA Plate Processor and an external PC with Windows, AutoDELFIA workstation and MultiCalc software. A workbench for the Plate Processor is also supplied. In addition a PerkinElmer punching device will be needed.

The AutoDELFIA Plate Processor includes the following:

Shaker/Incubator
Washer
Enhancement Solution dispenser
Disk remover
Reagent dispenser for reagent handling
Bar-code reader for plates and reagents
Plate transport system
Plate elevator
Time-resolved fluorometry measurement unit

Sample processing

Probes: 4 probes

Capacity: 36 racks with 12 samples/rack (432 patient tubes). Separate box for 56 standard bottles. Separate rack for controls.

Tube dimensions: max. height 125 mm,
max. outer diameter 16 mm.
min. height 45 mm
min. outer diameter 10 mm
min. inner diameter 8 mm

Bar-code reader for tubes and racks

Pipetting time: approx. 12 min/plate (when all 4 probes are used)

Automatic dilution of patient samples, when specified.

Maximum 8 analytes/patient tube.

Individual liquid level sensor with clot detection facility for each probe.

Standard box cooled to 15° C.

Plate processing

Loading capacity: 12 microtitration plates

Reagent capacity: max. 8 packages for different analytes

Temperature control: 25° C

Operating environment: Temperature 15-30° C
Humidity 10-85%

Reagents: ready to load

Reagent dispensing tips: disposable

Standard curves: stored curve valid for the same lot

Physical dimensions

Plate Processor (excluding Sample Processor and PC)
Size, w x h x d: 1200 x 820 x 660 mm
Weight: approx. 170kg
Sample and Plate Processor together (excluding PC)
Size, w x h x d:1755 x 820 x 770 mm

Weight: approx. 270 kg

Plate Processor workbench size,
w x h x d:1010 x 860 x 750 mm

Sample Processor workbench size,
w x h x d:780 x 860 x 750 mm

Ordering info

1235-514 AutoDELFIA system (220 V)

1235-714 AutoDELFIA system (110 V)

1235-501 AutoDELFIA Plate Processor system

2011-0030 Laser printer (230 V)

2011-0040 Laser printer (115 V)

AAAJA-0002 UPS power system (230 V)

UPSAP200 UPS power system (115 V)

1235-416 Automatic Waste Pump

1221-500 Remote support package

1235-220 External USB modem

1235-320 LISA™ LIS query software

The manufacturer reserves the right to amend these specifications without notice. The availability of AutoDELFIA kits varies from country to country. Please contact your local supplier for more information.

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