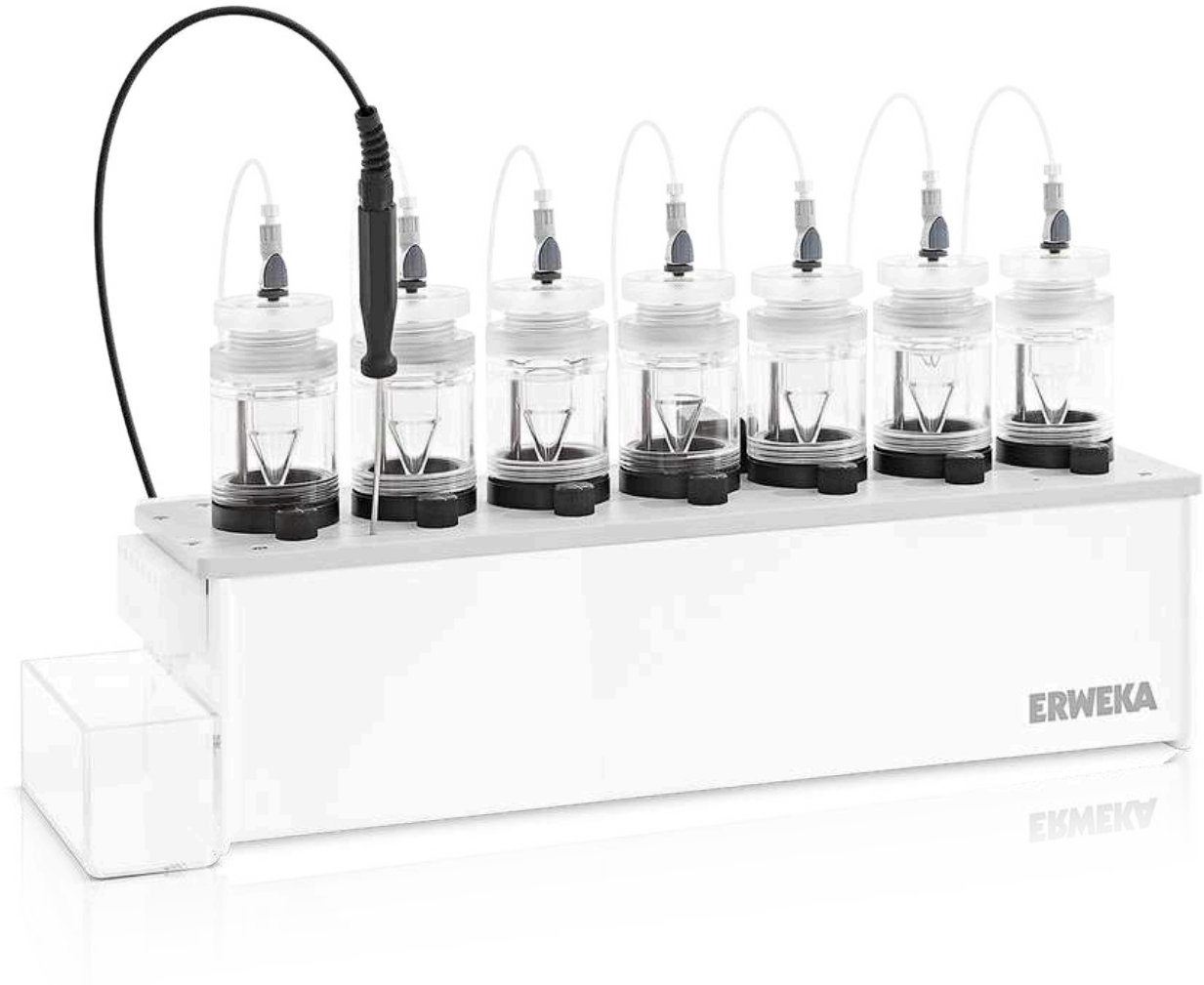

FLOW-THROUGH CELL

DFZ II

ERWEKA's flow-through cell tester DFZ II can be used for various applications thanks to its wide range of available cell types, e.g. for testing poorly soluble products or low-dose formulations with sustained release.

Innovations such as the future-proof cell design with increased leak-tightness and the optimized tubing system with quick locks allow dissolution tests to be prepared and performed quickly. The cell bodies ensure improved cell warming and can be heated individually. All USP 4 DFZ II systems can be easily controlled via a controller using the Disso.NET 3.X software.

NEW IMPROVED CELL DESIGN

To accompany our flow-through systems, we offer a variety of different cells with an improved design for different purposes - from standard tablet cells to granule and powder cells, as well as cells for implants, suppositories and stents.

The standardized cell head fits all cell bodies on offer and, together with the standardized flat gaskets (only 3 parts per cell: connection, head and heating jacket), facilitates handling and installation of the cells. The optimized cell bodies with reduced cell wall thickness guarantee improved cell heating.

Thanks to this concept, the cells can be mounted more easily on the DFZ II flow tester, allowing dissolution tests to be prepared and carried out more quickly.

FLOW-THROUGH TESTING ENHANCED BY INNOVATIVE DESIGN

Standardized Cell Head

The new cell head fits all available cell bodies and thus enables faster cell assembly with lower purchasing costs (only 1x per system required). Faster tube mounting is also possible thanks to a quick lock in the cell head.

Increased Leak-Tightness

By reducing the number of seals to 3 pieces per cell and using flat seals with an increased sealing surface, the process safety can be increased.

Optimized Cell Bodies & Individual Cell-Heating

Reducing the size of the cell body provides better heating and faster preparation of the cells. Each cell can be heated individually via a rotary switch.

Compact & Corrosion-Resistant Housing

The smaller footprint with clear arrangement of the cells in a line saves laboratory space and always offers perfect visual control of the cells. In addition, the tube organizer on the back of the device prevents the cell tubes from getting mixed up.

Easier Cleaning

The 3-way water drain valve on the back of the device makes it much easier to clean the water bath. In addition, the water level indicator (color-coded) and the two openings for PT 100 sensors on the device cover make it easy to check the water level.

VARIOUS USP 4 CELLS AVAILABLE

Different cells are available for different purposes - e.g. for implants, granules & powders, suppositories, stents, cells with cream adapter or with dialysis adapter.

Tablet cell (12 mm)

Tablet cell (22.6 mm)

Granulate and powder cell

Implant cell

Suppository cell

Stent cell

Tablet cell (22.6 mm) with dialysis adapter

Tablet cell (22.6 mm) with cream adapter

Tablet cell (22.6 mm) with glass beads (1)

Tablet cell (22.6 mm) with glass beads (2)

FULL DISSOLUTION SOFTWARE SOLUTION FOR THE FLOW-THROUGH CELL

DISSO.NET USP 4

The ERWEKA Disso.NET USP 4 software is the perfect companion for all ERWEKA USP 4 systems. The software takes full control of the systems and provides support for all USP / EP dissolution cells used in them. It also supports cells for special applications (e.g. with cream adapters) and visual guides for formulation placement in the respective cells.

The software includes an easy-to-use method editor for convenient programming of dissolution methods (for maximum safety in a GMP environment). After completion of the dissolution test, Disso.NET 3.X creates comprehensive reports (as PDF files) and can export all results in various formats (e.g. as XML files).

Easy Entry Into USP 4 Dissolution Testing

The ERWEKA stand-alone flow-through cell system is perfect for carrying out simple release tests with manual sampling. That's why the new flow-through cell tester DFZ II in combination with the ERWEKA piston pump HKP 720 and the ERWEKA heater DH 2000i offers an easy entry into testing with USP 4 systems for a small budget.

The stand-alone system consists of:

- Piston pump HKP 720
- DFZ II flow cell + DH 2000i heater

Infinite Media Tests & Sampling

The open ERWEKA offline flow-through cell system is the perfect solution for testing poorly soluble products that require unlimited amounts of fresh media to dissolve.

With the ERWEKA sample collector FRL 754, representative samples are taken over a certain period of time for later analysis (up to 18 sampling intervals possible).

The system configuration includes:

- Piston pump HKP 720
- Flow-through cell DFZ II + heater DH 2000i
- Sample collector FRL 754
- Controller with Disso.NET USP 4 software
- One or more medium reservoirs

Comprehensive Long-Term Testing

The closed ERWEKA offline flow-through cell system is ideal for testing low-dose formulations with sustained release (e.g. implants). It allows comprehensive long-term dissolution tests to be carried out with small media volumes.

The system configuration includes:

- Piston pump HKP 720
- Peristaltic pump IPC 8
- Flow-through cell DFZ II + heater DH 2000i
- Media transfer station LMT 2
- Sample collector FRL 754
- Controller with Disso.NET USP 4 software

Comprehensive Long-Term Tests With Integrated Analytics

The USP 4 closed online system is the automated analytical solution for the USP 4 flow-through cell. The software-controlled USP 4 system integrates USP 4 flow-through cell testing with a directly connected analytical UV/Vis online measurement, resulting in an automated USP 4 workflow.

In addition, all functions of the stand-alone system can be applied to our online system: The valveless, high-precision piston pump and the low-vibration heater keep the desired temperature of the water bath constant. And our DFZ II USP 4 cells are integrated into the software dialogs as well, making the system as user-friendly as possible.

FLOW-THROUGH CELL DFZ II

LMT 2 EASY MEDIA TRANSFER

With the compact ERWEKA LMT 2 media transfer station, a closed loop can be easily created for carrying out long-term dissolution tests in accordance with USP 4. The LMT 2 serves as a medium reservoir and ensures optimum mixing and distribution of the media during the entire release test.

The optimized tubing system with tube holder and rotatable bottle caps (safety caps) facilitates handling and saves valuable laboratory space.

DFZ II FLOW-THROUGH CELL

TECHNICAL DATA

Weight	8 kg
Dimensions (H x W x D)	290 x 540 x 220 mm
Voltage	115/220/240 V; 50-60 Hz
Interfaces	RS 232 (PT 100 sensors)
Number of cells	7 cells in a row
Water bath	6 liter volume, level indicator, emptying via 3-way-valve
Heating	Flow-through heater, cell warming of stations individually switchable
Connecting block	Connecting block with safety valve in each station
Temperature control	- External PT100 temperature sensor - PT100 temperature sensor in each station (optional)
Test cells and inserts	- Tablet cell 22.6 mm (standard) - Tablet cell 12 mm - Suppository and capsule cell - Powder & Granulate cell (USP+EP) - Stent cell - Implant cell - Gel and cream application for 22.6 mm tablet cell - One-way adapter with 22.6 mm tablet cell - Cleaning cell for system cleaning - Temperature-calibration head