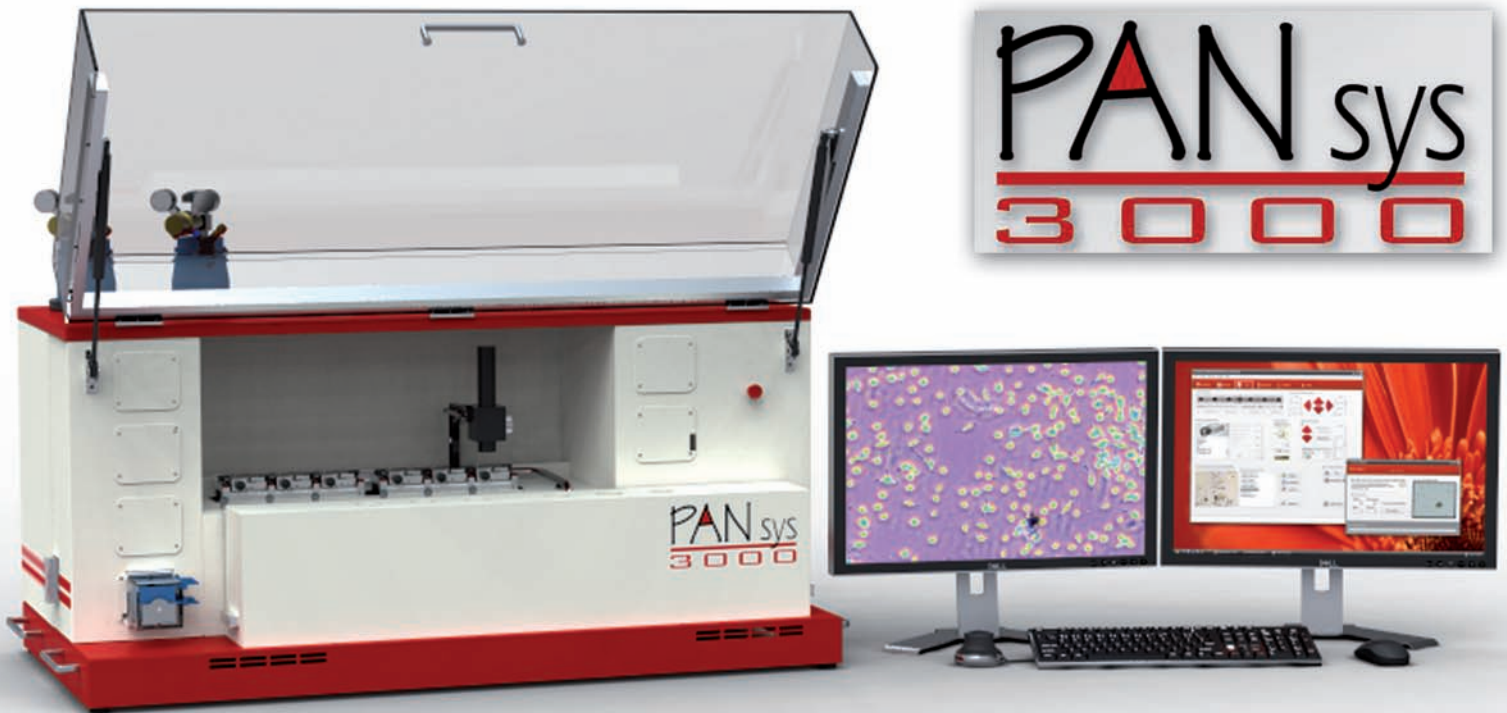


# Cell Culture Unlimited



## The first fully automated Cell Culture System

### PANsys 3000 Features...

- ✓ Fully automated Cell Culture System
- ✓ Six separate Cell-Culture-Chambers (Multi-Chamber-Unit)
- ✓ Closed and fully controlled Incubation- and Supportsystem
- ✓ Continuous Analysis of all Cell Culture Parameters
- ✓ Life Cell Imaging with high quality Microscope
- ✓ Storage, Retrieval and Documentation of all relevant Data

### ...and your Benefits:

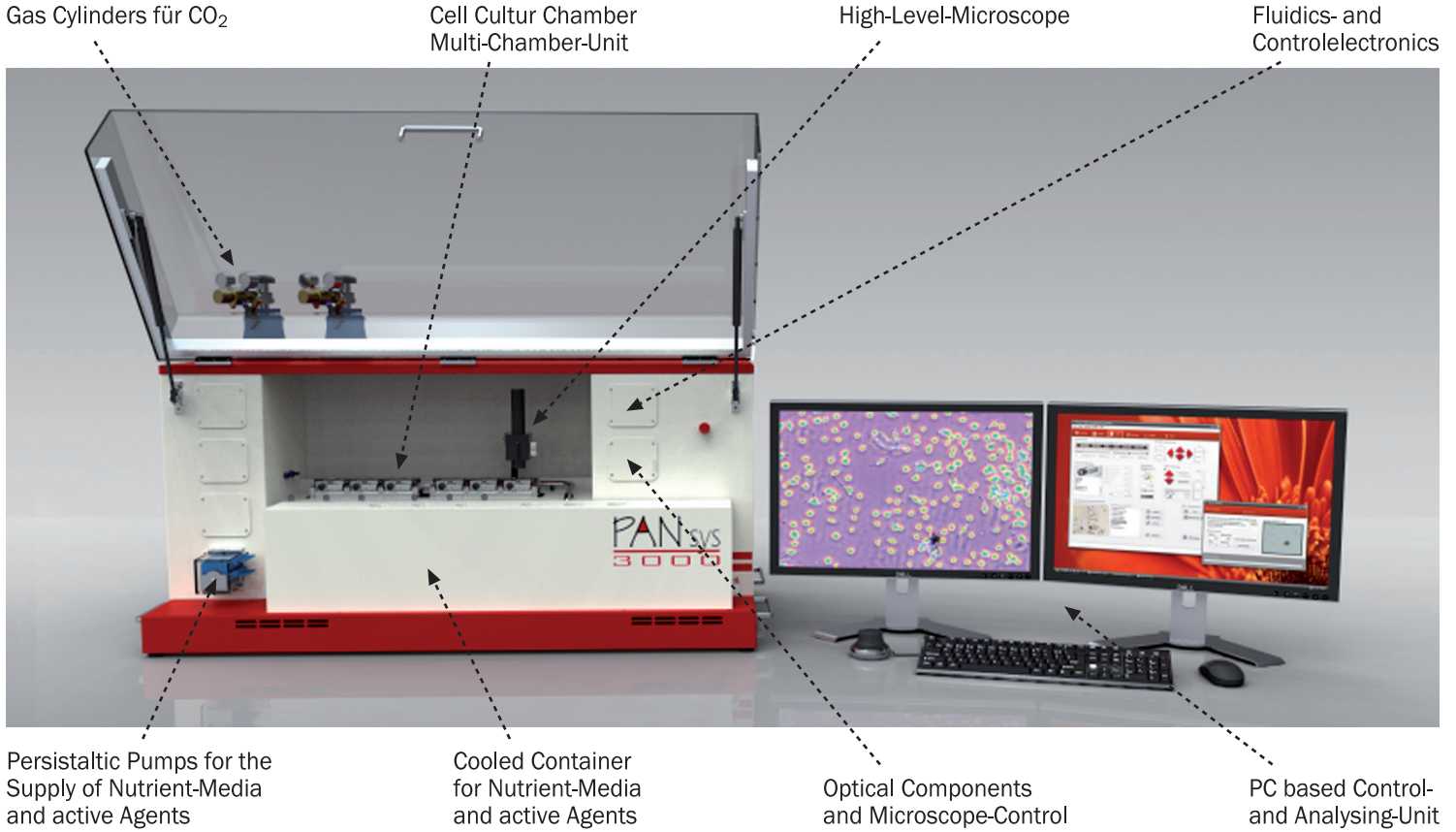
- ✓ Rapid and efficient Results due to ideal Conditions for Cell Research
- ✓ Unique and exceptional Possibilities for the in-vitro Cultivation
- ✓ Research of all Cell Lines under in-vivo similar Conditions
- ✓ Narrows the Gap between in-vitro- and in-vivo-Applications
- ✓ Possibilities to build up artificial and complex biological Models
- ✓ Significant reduction of manual efforts leading to faster Results at lower Costs

**PAN**<sup>TM</sup>  
SYSTECH GmbH

**Competence in Cell Culture**

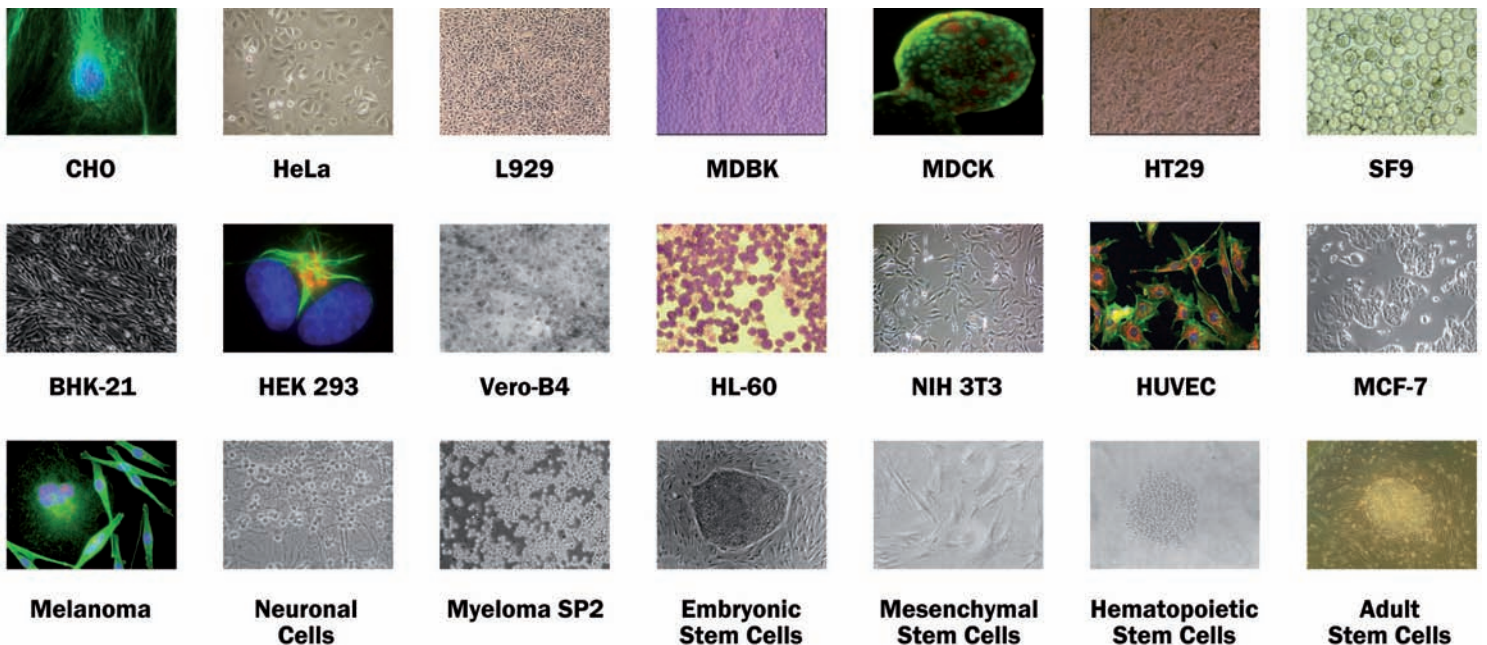
# Cell Culture Unlimited

## Integration of High-Tech „Made in Germany“



## Successful Cultivation of a Variety of different Cells:

The automated cell culture system PANsys 3000 is a nearly universal tool for efficient cell cultivation. In several testings the suitability to cultivate many different cells could be confirmed.



# PANsys 3000

The first fully automated Cell Culture System

Complex  
Cell Cultures?

Flexible Culture  
Conditions?

Sophisticated  
Fluid Handling?

Powerful  
Life-Cell-Imaging?

Store and  
retrieve all Data?

Reduce Expenses  
and cut Costs?

PANsys  
3000

You deserve  
such benefits!

## PANsys 3000 – Infinite possibilities

- Many interesting challenges are now feasible (e. g. simultaneous cultivation under different conditions/ temperatures, complex and expensive cell cultures)
- All parameters flexibly modifiable (e. g. free choice of all “ingredients”)
- Parallel cell cultures with the multi-chamber-unit ( **i** )
- Time-lapse microscopy and long-term observations
- Remote monitoring and remote diagnostics via Skype ( **i** ) or online access
- Phase contrast and fluorescence microscopy ( **i** ) (6-channel)

## PANsys 3000 – Accurate documentation

- Permanent microscopic observation via Life-Cell-Imaging
- Recovery of all observation points and points-of-Interest
- High quality innovative software for the automated analysis
- More stable climatic conditions of the cell culture
- Clear and extensive analysis (time-lapse, proliferation analysis, etc.)
- Full documentation and traceability of all cell culture data

## PANsys 3000 – Significant time savings

- Reduction of manual effort and human work
- Easier and faster monitoring and evaluation
- No further need for night- and weekend-support of the cell culture
- Faster and safer cell growth and experiments
- More time for important projects through the discharge of routine tasks

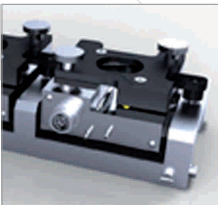
## PANsys 3000 – Effective use of resources

- Less effort and less financial commitment
- Reduction of routine activities
- Faster training of new employees
- Time and financial resources can be better planed
- Research will be easier to be calculated

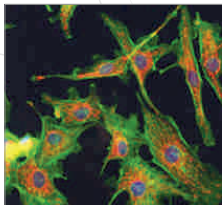
## PANsys 3000 – Resource efficiency

- Reduce time, money and human effort
- Reducing the risk of errors and establish higher continuity in the cell culture
- More stable culture conditions (less climatic and mechanical stress, less fluctuation in the cell culture temperature and pH)
- **i** The cell culture of the next generation
- Safer and more meaningful data – More accurate results

**i**



Six separate culture chambers



Fluorescence optics

**i**

### Skype

Via the Internet or Skype, you can always be there: **remote diagnosis, remote control, remote monitoring or remote training.** Your cell culture was never cared so well!

# PANsys 3000 – Applications

Examples of applications, which are done with **PANsys 3000**:

## Drug Discovery

- Cytotoxicity assays
- Apoptosis assays
- Embryo-toxicity assays

## Tissue Engineering

- Populate scaffolds with cells
- Create mesh-tissue
- Cultivate 3D structures

## Cell-cell interaction

- Tumor vaccination
- Endothelial migration studies
- Examination of signaling pathways

## Stem cell cultures

- Proliferation
- Differentiation
- Apoptosis assessment

## Angiogenesis assays with fluorescence

- Differentiation of EPC to vascular structures
- Examination of anti-angiogenic agents
- Complex HUVEC and endothelial cultures

## Migration experiments

- Wound healing assays
- Migration through endothelial cultures
- Cell-cell interaction

## In vitro assays of drugs

- Cytotoxicity assays of chemotherapeutic agents
- Individual sensibility drug-testing
- Examination of tumor resistance

## Chemotaxis assays

- Consideration of chemotactic signals
- Cell migration assays
- Transendothelial migration of different cells

## Transfection examinations (dynamic or static)

- Examination of transfection efficiency
- Examination of transfection stability
- Selection of transfected cells

## Measurement of cell growth

- Bioreactor simulation
- Dynamic media optimization
- Automatic measurement and analysis

## Analysis of cell culture

- Biochemical tests
- pH measurements
- O<sub>2</sub> measurements

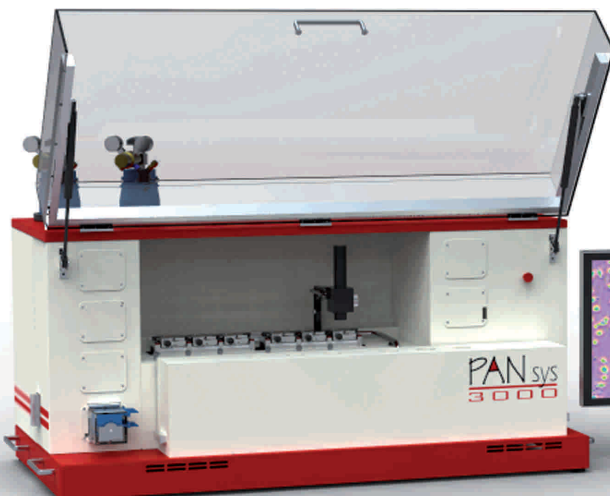
## Perfusion experiments

- Shear stress analysis
- Examination of endothelial function
- Angiogenesis simulation



## The cell culture of the next generation

By automating the cell culture, climatic fluctuations are excluded, since the cell culture must not be moved. Mechanical stress, changes in pH and temperature fluctuations are minimized. You will receive more consistent culture conditions and thus more stable experimental data.



**You deserve such benefits!**



## PANsys 3000 – You deserve such benefits!

Whether **BUYING, RENTING, HIRE PURCHASE OR LEASING** of PANsys 3000 – let us find the best way for you. We are happy to talk to you about a project-delivery or shared use by different groups. Your requirements are the focus. We tailor an individual quote!

Make an appointment and experience PANsys 3000 live with us!

## PANsys 3000 – Our special service

PANsys 3000 offers many application options. Also as a contract research **FROM PAN-BIOTECH** for you. Find out our exciting services for you such as:

- Wound healing experiments
- Proliferation and expansion of single cells
- Media optimization
- Drug testing and efficacy
- Toxicity test like EST (Embryonic stem cell test)
- Video/Time-lapse recordings of all relevant cell experiments
- Migration Experiments

By request, we can do cell culture assays **IN YOUR LABORATORY** :

- Drug Testing
- Toxicity test, EST
- Media Optimization
- Migration Experiments



**More to PANsys 3000: [www.pan-systech.de](http://www.pan-systech.de)**

Please call us and we will agree upon a date:  
+49 (0) 85 43 - 60 16-45