

Iris<sup>®</sup> V5

## Multi-Fermenter Software



# Iris V5

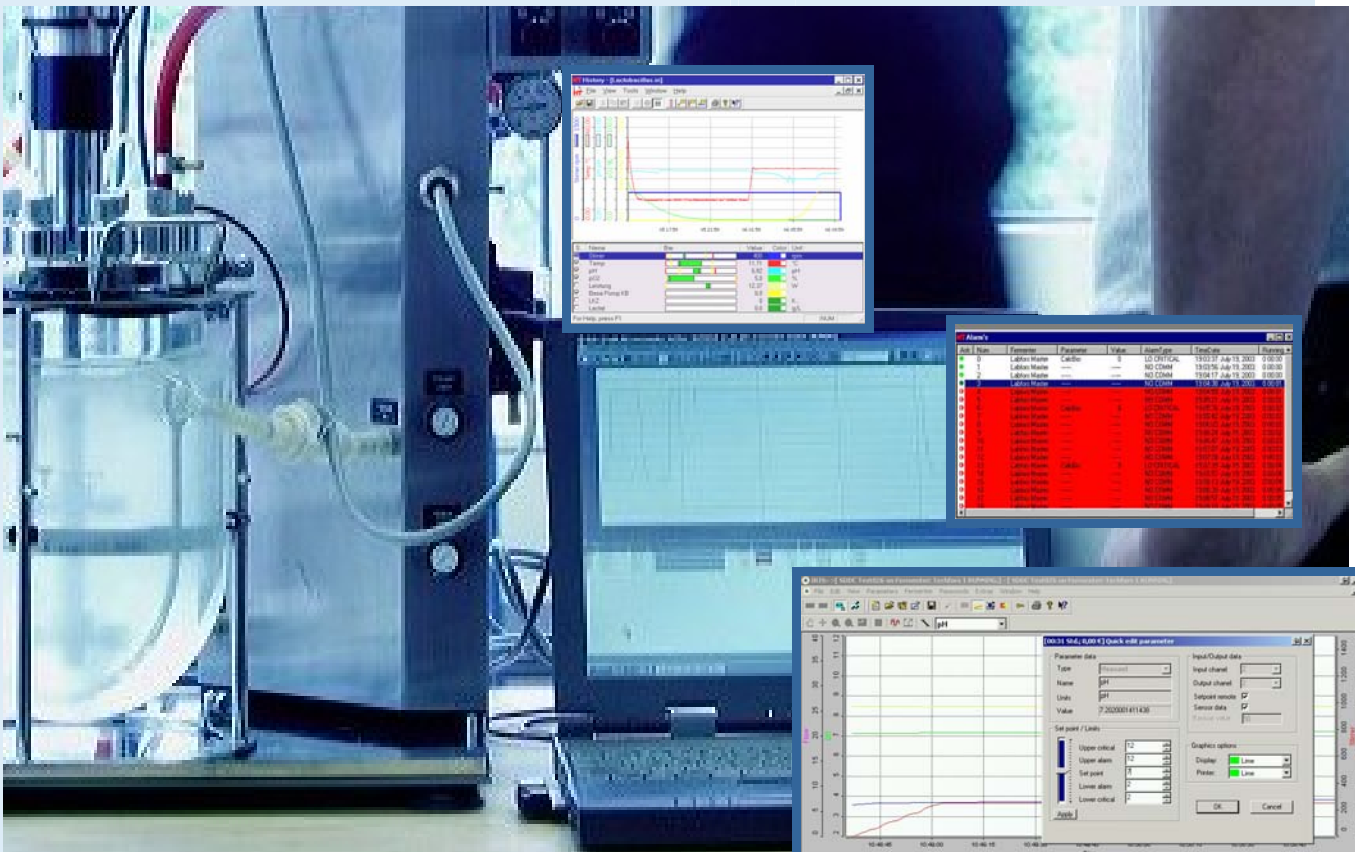
## Process Control and Analysis

### IRIS V 5.0

IRIS V 5.0 is 32-software for data-logging, analysis archiving and control of fermenters. IRIS can operate on a single PC, network, remote control and network/modem. Peripherals such as balances, external pumps, or analysers for exit gas measurement, biosensors, mass spectrometers etc. can be connected online to the system. Through integration of this type of data and off-line analysis information, IRIS is the centre for a true

„BIOLOGICAL PROCESS CONTROL“.

Mouse-click  
through  
Menu



#### Operation of fermenters via a PC

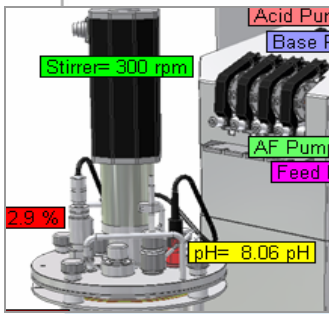
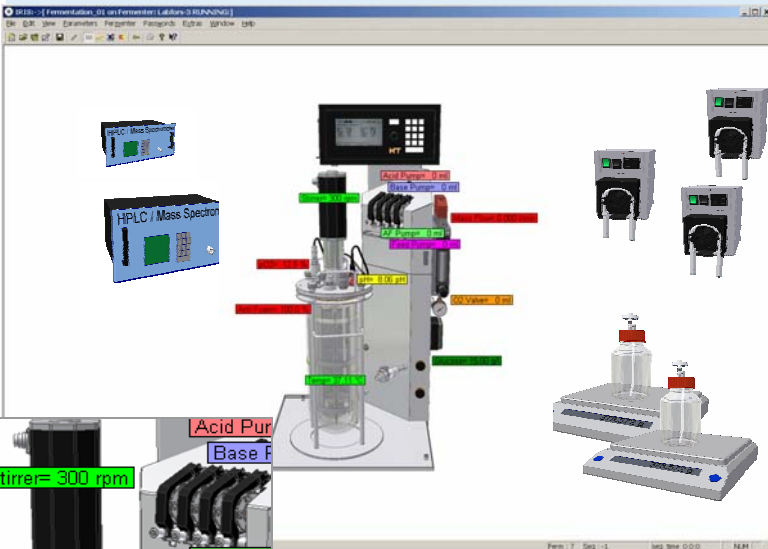
While preparations for a fermentation setup such as switching parameters on and off and calibrations are made from the operating panel of the fermenter, control of the running fermenter in terms of data input, supervisory set-point control etc is via IRIS and the PC

Consequently, the operational advantages of a large display with keyboard and mouse can be fully realised

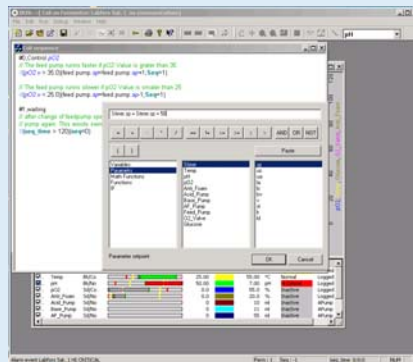
# Iris V5

## Advantages

- Flexible – suitable for both research and production
- Links to fermenters with different configurations – from Mini- to Production fermenters
- Simulation of fermentations possible
- Fully Windows compliant
- IRIS is a 100% INFORS development.



System Graphic display



## Control scripting using sequences

Also, without specialist knowledge of programming, the user can develop simple yet efficient control scripts to meet their needs for specific parameter control.

- No complicated programming, thanks to simple commands and auto-completion of function statements.
- The system automatically and continuously monitors operations for special events pre-set to trigger changes in the control strategy.
- Simple editing using copy/paste

```
#0,02 Regelung über Substrat Feeding
if(pO2.v > 35.0) {feed pump.sp=feed pump.sp+1;Seq=1} // The feed pump runs faster if pO2 Value is grater than 35
if(pO2.v < 25.0) {feed pump.sp=feed pump.sp-1;Seq=1} // The feed pump runs slower if pO2 Value is smaller than 25

#1,Wartephase
// after change of feedpump speed we wait 120s before we change pump again. This avoids swinging. Please adapt this tim
if(seq_time > 120){seq=0}
```

## Data logging

- 1 – 8 Fermenter
- Online-Data from sensors
- Offline-analysis data
- Data from external peripherals
- Online display of all Data as text, line or bar graphs.
- Two-stage asymmetrical alarms
- Storage and display of all alarm reports
- No data loss for the sake of smaller file sizes with data logging by time and by difference.

## Control

- „Supervisory Setpoint Remote Control“
- Time-based Profiling
- Event-based Profiling
- Calculated Parameters (eg. RQ)
- Control of fermenters over a network
- „Follow File“ > „Cloning“ of fermentations
- Data exchange between fermenters possible

## Process

IRIS can control all parts of a larger process system, including control of external peripherals, eg. pumps.

New parameters can be integrated with a fermenter which is already running..

## Analysis

All archived data within IRIS can be evaluated using graphical comparison and correlation. Data can be exported in ASCII format to other application (eg. Excel, Origin etc) for further analysis.

## Graphical display

- Online Graph
- History Graph
- Bar Graph
- Comparison and Correlation Graphs
- Time-Line Function
- Options for time, value and text message marking

## Reports

- Parameter data can be exported
- If required, only part of the data can be included
- If required, details of the fermenter protocol can be included
- If required, alarm reports can be included.



Die Infors ist ein internationales Team mit Niederlassungen in Europa und USA

Innovative thinking, quality and an understanding of the needs of our partners has secured Infors an unrivalled place amongst manufacturers of fermenter and shaker equipment. An enthusiasm for experiment and a creative mind has guided the company from its establishment in 1965 through its development into a medium-sized enterprise. Independence, a distinctive character and a strong team spirit will continue to serve us well in the future.

The head office on Infors AG is in Bottmingen

### Quality Standards



- ISO 9001
- CE
- EMV

For Process Documentation to GMP

- Documentation
- IQ
- OQ

**Infors AG**  
Head Office  
Rittergasse 27

CH-4103 Bottmingen

Tel +41(0)61 425 77 00  
Fax +41(0)61 425 77 01  
headoffice@infors-ht.com

[www.infors-ht.com](http://www.infors-ht.com)

**Infors UK**  
The Courtyard Business  
Centre Dovers Farm  
Lonesome Lane, Reigate

GB-RH2 7QT Surrey

Tel +44(0)1737 22 3100  
Fax +44(0)1737 24 7213  
infors.uk@infors-ht.com

**Infors Sarl**  
6, rue Marcel Paul

FR-91742 Massy Cedex

Tel +33(0)169 30 95 04  
Fax +33(0)169 30 95 05  
infors.fr@infors-ht.com

**Infors S.r.l.**  
Via Barbara Melzi 13

IT-20025 Legnano

Tel +39 0331 59 47 67  
Fax +39 0331 54 40 99  
infors.it@infors-ht.com

**Infors GmbH**  
Tannenweg 2

DE-85254 Einsbach

Tel +49 (0)8135 8333  
Fax +49 (0)8135 8320  
infors.de@infors-ht.com