



# Parallel Processing

DASware® control & DASware® control Plus -  
Maximum flexibility from experimental design to results



# Parallel Processing from Experimental Design through Run to Data Analysis

Bioprocess engineers in research and process development rely on Eppendorf small and bench-scale bioprocess systems to drive their projects forward. Designed as control software for the DASbox® Mini Bioreactor System and DASGIP® Parallel Bioreactor systems, DASware® control can also be added as an optional SCADA software to our SciVario® twin, BioFlo® 120, and BioFlo 320 bioprocess controllers. Users benefit from its parallel process design, facilitating the implementation of Quality by Design concepts.

## Flexibility

- > Configurable views and user-defined functions
- > In-field hardware and software updates to make your bioprocess system future proof

## Efficiency

- > Parallel sensor and pump calibration with intuitive step-by-step guide
- > Intelligent recipe management: Benefit from pre-defined and user-editable templates
- > Automate your process using enhanced scripting capabilities, profiles and control loops

## Performance

- > Up to 24\* vessel operation: Take advantage from a truly parallel design
- > Powerful charting tool with configurable online trends
- > Advanced data management, including offline, external, and online-calculated values

## Reliability

- > User management and data integrity
- > Optimized process database storage with quick and easy search and filter functions
- > Event log and alarm functions let you keep track of your process



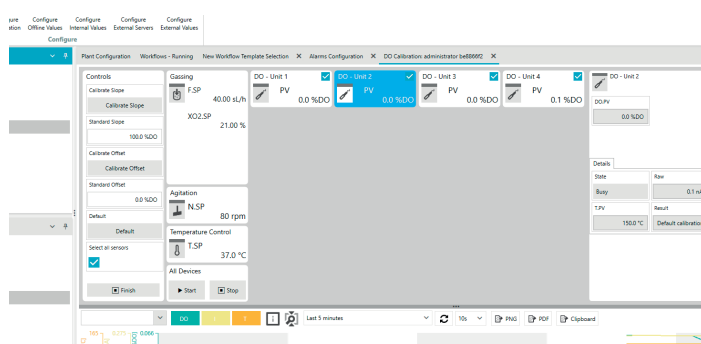
\* Depending on the systems used



# Efficiency

Features designed to help you save time

Not only during the actual process run, even more with planning, setup, and analysis of experiments, smart software tools can help you to increase your productivity and to save time. With DASware control, benefit from pre-defined cultivation templates and edit and store your own recipes.



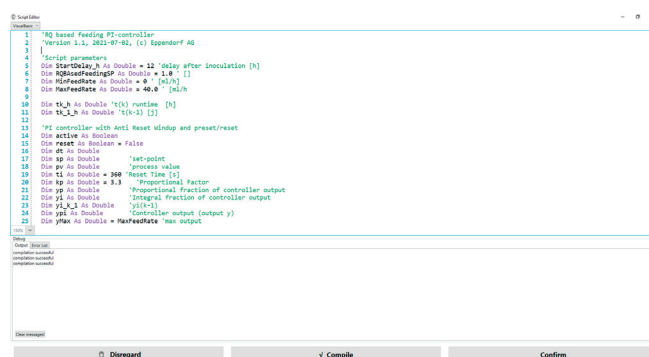
## Step-by-step guided calibration procedures

Make best use of your time calibrating sensors all at once with our intuitive guide. With graphical representation of the progress, you will be guided through the operating procedure step by step.

## Enhanced scripting automation

Profiles and user-defined functions open up numerous possibilities to automate your process. The Procedure Editor provides an overview of all units and values; templates are easy to adapt by typing or intuitive copy & paste operation. Cascades can be entered with values or intuitively by dragging datapoints in the graphical representation.

For more complex automation needs, DASware control 6 comes with an optimized Script Editor facilitating scripting through auto completion and error assist. Even offline and open platform communication (OPC) values can be used for scripting.



## Did you know? – Eppendorf Training Center

We offer initial training with every new system for you to familiarize with the software. For more experienced users, advanced or refresher training courses can be done, e.g. to learn more about cascading and controlling or process automation and scripting. All training courses can be tailored to your requirement – from general overview to very detailed sessions.







# Performance

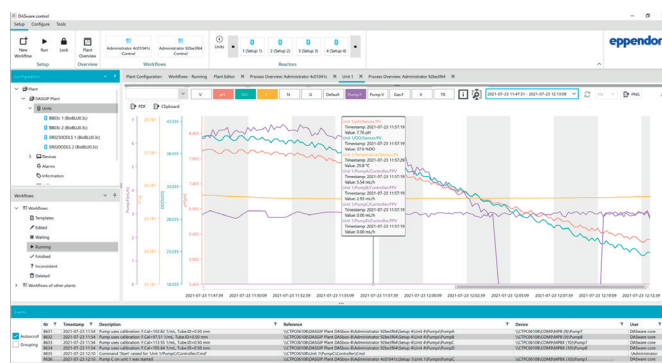
Powerful tools for your success

For the actual process run, take advantage of the parallel design of our control software. In combination with our DASbox® Mini Bioreactor System, it can operate up to 24 vessels simultaneously – with every single bioreactor and parameter to be monitored and controlled individually. Users benefit from intuitive process views, online profile editors with user-defined functions as well as configurable charts.



## Powerful charting tool

See all relevant process parameters at a glance and configure your online trends as needed. Hide or display parameters, select or deselect individual vessels, and move or zoom the scales as per your requirements. In the DASware control charting tool, also offline and external values can be included just like any other parameter.



Identifier	Name	Y	BO	Y	Comment	Y	Initial Value	Y	Min	Y	Max	Y	Fractional Digits
<input checked="" type="checkbox"/>	Internal A	Y			Glucose rate	Y	0	Y	0	Y	2		
<input checked="" type="checkbox"/>	Internal B	Y			Glucose consumption	Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal C	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal D	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal E	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal F	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal G	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal H	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal I	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal J	Y				Y	0	Y	0	Y	2		
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<input type="checkbox"/>	Internal Q	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal R	Y				Y	0	Y	0	Y	2		
<input type="checkbox"/>	Internal S	Y				Y	0	Y	0	Y	2		

## Advanced data management

With DASware control 6, easily enter up to 26 offline value tracks and up to 26 values from external devices and analyze them just like any other parameter. Another 26 online calculated values can be integrated. Define control loops with configurable input and output process parameters.

An integrated report generator with Microsoft® Excel® based export tool does the first step of your data analysis for you.



# Flexibility

Grow and configure your system as needed

As your process evolves, your bioreactor system does, too. Today's laboratories require flexible solutions that react to changing projects and requirements. The configuration database of DASware control can be adapted to altered hardware setups.

## In-field hardware and software updates

Add DASGIP® modules for further functionalities or extend the number of vessels operated. Increase the value of your process by adding software options DASware analyze, DASware connect or DASware design.



## DASware analyze:

Seamless integration of external lab devices.



## DASware connect:

Integration into process control systems and corporate historians.

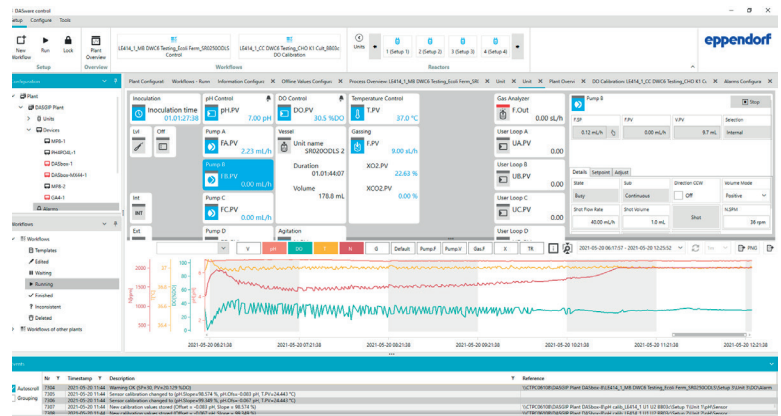


## DASware design:

Accelerate your bioprocess development by Design of Experiments.

## Configurable views and user-defined functions

In your daily work, benefit from maximum flexibility and overview with online-editable views and user-defined parameters. Range limits, setpoints, and DO cascades can be changed online.





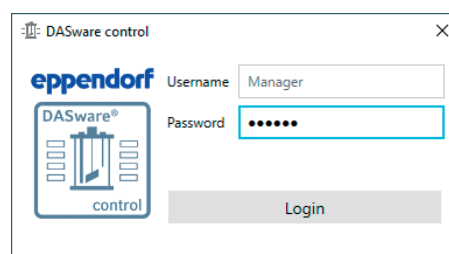
# Reliability

Trust in the security of your data

Already in the process development phase, data integrity is often vital – for documentation reasons, but also to be able to use this data for optimization efforts. With DASware control, process data will be stored centrally on a database storage with optimization for time series data and are quickly accessible with easy search and filter functions. Data logging intervals can be configured.

The software features managed access with user roles and domains and an integrated audit trail with alarms and events.

- > User management uses a protocol that allows for single sign-on and centralized user management by corporate IT.
- > Integrated audit trail with alarms and events.
- > Alarms can be set for each loop with low and high alarms as well as low and high warnings to allow you to step in early in case of errors.



## Unlocking Excellence: DASware control plus

SCADA Software with **21 CFR Part 11** and **EU GMP Annex 11 Compatibility** – Elevate Compliance, Empower Performance!

The intricate regulatory framework, 21 CFR Part 11 defines the prerequisites for Electronic Records and Electronic Signatures, signalling an era characterized by paperless production procedures and electronic signatures seamlessly mirroring their handwritten counterparts.

Navigate the complexities of regulatory compliance with DASware control plus SCADA software. The software is purpose-built with a focus on compatibility to 21 CFR Part 11 and EU GMP Annex 11, assisting users to achieve regulatory compliance with criteria set forth by those standards.

### Benefits at a glance:

- > User Authentication and Access Control: Aligning with the regulatory requirements to prevent unauthorized access and maintain data integrity.
- > Electronic records: Track and document critical action in an audit trail, gaining a comprehensive view of data integrity and compliance history.
- > Electronic Signatures with Confidence: Ensure the authenticity and reliability of critical documentation in your bioprocessing operations.
- > Efficient Data Management: Retrieval and storage of human and electronic system readable data whilst adhering to rigorous data integrity standards.

### Interested in **DASware control plus**?

For optimal integration and compatibility of our soft- and hardware, we recommend consulting with our expert sales team to tailor solutions that best fit your unique needs with our system configuration.



# Technical Data

## Technical data\* and ordering information

Features	DASware® control
Parallel calibration	■
Recipe management	■
Online editable DO cascades	■
Online trend graphs	■
Reports	■
Microsoft® Excel® export	■
Configurable bioreactor view	■
Script programming	■
Professional SQL database with timeseries optimization	■
Offline values	Up to 26
Online calculated values	Up to 26
External alarm notification (e-mail/text)	■
User-defined control loops	■
Support of external I/O	o
More options with DASware® software suite	o
OPC enabled (client & server)	o
<b>Order no.</b> (incl. PC, OS, and licenses)	
<b>Software License</b> , DASware® control 6, for one culture vessel	78600188
<b>Software License</b> , DASware® control plus, for one culture vessel	78600263
<b>Software Update</b> from DASware® control 4 or 5 to DASware® control 6 or plus, for DASGIP® or DASbox® systems (with Windows® 10 operating system)	76DWC6UPD
<b>Software Update</b> from DASware® control 4 or 5 to DASware® control 6 or plus, for BioFlo® systems (with Windows® 10 operating system)	76DWC6UPDBF
<b>Software Update</b> from DASware® control 4 or 5 to DASware® control 6 or plus, for SciVario® twin systems (with Windows® 10 operating system)	76DWC6UPDSVT

\* Technical specifications are to be changed without notice. ■ = standard, o = optional

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 Eppendorf SE · Barkhausenweg 1 · 22339 Hamburg · Germany  
[eppendorf@eppendorf.com](mailto:eppendorf@eppendorf.com) · [www.eppendorf.com](http://www.eppendorf.com)

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