Operating manual





Calibration software

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Table of contents

1	Inst	ructions for use	6
	1.1	Software version described	6
	1.2	Who are these instructions meant for?	6
	1.3	Layout	6
	1.4	Glossary	6
	1.5	Using the integrated help	6
2	Inst	allation	8
	2.1	Installation procedure	8
	2.2	Information about your software	10
	2.3	Transfer licenses (use on another computer)	11
	2.4	End user license agreement	12
	2.5	Convert demo license to standalone license	17
3	Fun	ction and application	18
4	Tute	orial	21
	4.1	Set up balance as test equipment	21
	4.2	Creating order	21
	4.3	Determine test equipment	26
	4.4	Performing the test	26
	4.5	Complete test	34
5	Gen	eral operation	40
6	Sys	tem Information	42
7	Ord	ers and calibration certificates	43
	7.1	Create order	44
	7.2	Select test equipment for the test	48
	7.3	Performing tests	49
	7.4	Complete test	53
	7.5	Order in detail	53
	7.6	Print/save certificate	56
	7.7	Erroneous measurements in the test	56
8	Dev	ice administration	58
	8.1	Create new device	58
	8.2	Search for devices	59
	8.3	Create new reminder	60
9	Adn	ninistration	61
	9.1	User	61

		9.1.1	Test types (user authorizations)	61
		9.1.2	Notify user	61
		9.1.3	Manage user groups	62
		9.1.4	Configure user	66
		9.1.5	Manage users	69
	9.2	Maste	r data maintenance	70
		9.2.1	Article data	71
		9.2.2	Extended article data	79
		9.2.3	Random sample scheduling	84
		9.2.4	Test equipment	88
		9.2.5	General	95
	9.3	Create	e company	97
	9.4	Certifi	cate templates	98
		9.4.1	Master layout	99
		9.4.2	Content structure	101
		9.4.3	Content elements	102
		9.4.4	Certificate template assignment	111
	9.5	Test p	lanning	113
		9.5.1	Test plan overview	113
		9.5.2	Test plan assignments	125
	9.6	Data i	mport and export	128
	9.7	Busin	ess partner administration	128
10			ess partner administration	
10	Set	tings		130
10	Set	tings . Works		130 130
10	Set	tings Works 10.1.1	tation settings	130 130 131
10	Set	tings Works 10.1.1 10.1.2	tation settings Test equipment	130 130 131 132
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3	tation settings Test equipment Paths for certificate export	130 131 132 133
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu	tation settings Test equipment Paths for certificate export Standard printer	130 131 132 133 134
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa	tation settings Test equipment Paths for certificate export Standard printer age	130 131 132 133 134 134
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1	tation settings Test equipment Paths for certificate export Standard printer age I settings	 130 131 132 133 134 134 135
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits	 130 131 132 133 134 134 135 137
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2 10.3.3	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings	 130 131 132 133 134 134 135 137 138
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2 10.3.3 10.3.4	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder	 130 131 132 133 134 135 137 138 139
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 2 Langu 3 Globa 10.3.1 10.3.2 10.3.4 10.3.5	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder Active users	130 130 131 132 133 134 134 135 137 138 139 140
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2 10.3.3 10.3.4 10.3.5 10.3.6	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder Active users Blockages	 130 131 132 133 134 134 135 137 138 139 140 141
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 2 Langu 3 Globa 10.3.1 10.3.2 10.3.4 10.3.5 10.3.6 10.3.7	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder Active users Blockages Printer configuration	 130 131 132 133 134 135 137 138 139 140 141 141
10	Set (10.1	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2 10.3.4 10.3.5 10.3.6 10.3.7 10.3.8	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder Active users Blockages Printer configuration Database backup (standalone/demo license only)	 130 131 132 133 134 134 135 137 138 139 140 141 141 142
10	Sett 10.1 10.2 10.3	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2 10.3.3 10.3.4 10.3.5 10.3.6 10.3.7 10.3.8 10.3.9	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder Active users Blockages Printer configuration Database backup (standalone/demo license only) Calibration intervals	 130 131 132 133 134 135 137 138 139 140 141 142 142 142
	Set(10.1 10.2 10.3	tings Works 10.1.1 10.1.2 10.1.3 Langu Globa 10.3.1 10.3.2 10.3.3 10.3.4 10.3.5 10.3.6 10.3.7 10.3.8 10.3.9 ninder	tation settings Test equipment Paths for certificate export Standard printer age I settings Parameters and limits SMTP settings Automatic reminder Automatic reminder Active users Blockages Printer configuration Database backup (standalone/demo license only) Calibration intervals	 130 131 132 133 134 134 135 137 138 139 140 141 142 142 142 144

(eyword Index147	
Glossary149	

1 Instructions for use

1.1 Software version described

This user manual describes EASYCAL[™] 5 to software version: V.5.0.19.xxx

1.2 Who are these instructions meant for?

Readers implement specific testing processes in the software EASYCAL[™] 5. You have administrator access rights and can create work instructions for the testing personnel after the testing process has been implemented.

1.3 Layout

Layout	Meaning	Layout	Meaning
1. Task	Indicates a task.	\checkmark	Indicates a condition.
1., 2., 3,	Indicates the individual steps of a task.	\rightarrow	Indicates a result.

1.4 Glossary

Entries in the glossary are indicated with chevrons (>> <<).

In the user manual integrated in the software: Hover the mouse pointer over the entry, and it will be displayed as a tool tip. Click on the entry, and jump to the glossary.

In PDF user manuals: Click on the entry, and jump to the glossary.

Example:

>>Error limit<<</p>

1.5 Using the integrated help

Help is integrated in EASYCAL[™] 5. You open it by clicking on the button ? Help. You can operate the integrated help as follows:

Navigate backwards

a. Right-click in the "Help", and select "Back".

Navigate forward

a. Right-click in the "Help" and select "Forward".

Print help

a. Right-click in the "Help" and select "Print...".

Paths to menu items

Paths to menu items are displayed as follows:

>> Main menu > Sub-menu > Sub-menu

Change language

Home Index Glossary	Q Search	:
	Language	
	Deutsch	
	US-English	~

- a. Click on the items menu.
- **b.** Click on the desired language.
- → The view is changed to the desired language.

Search contents

Home Index Glossary Q C Value

- **a.** Enter the term you are looking for.
- ← The search finds "C value" as well as "values" when "value" is entered.

Keyword Index

Use the index to jump directly to the content via the keywords.

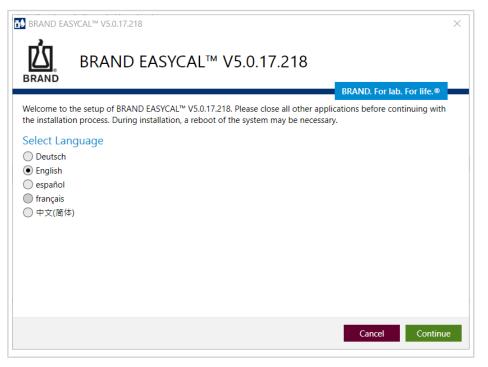
Glossary

Use the glossary to find explanations of terms.

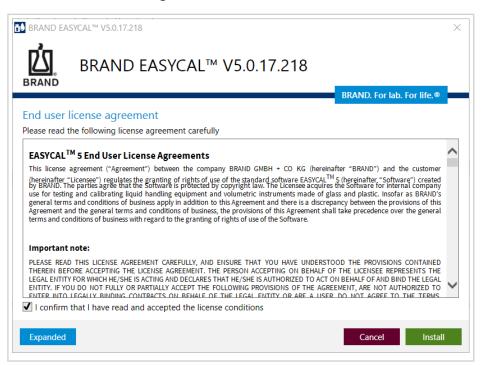
2 Installation

2.1 Installation procedure

- **a.** Download the installation file
- **b.** Select the installation language. You can change the language of the software interface later.



c. Confirm the license agreement.



8

d. Select the installation path via Advanced settings.

BRAND EASYCAL [™] V5.0.17.218	
BRAND. For lab. For life	e.®
Advanced settings	
Installation path:	
C:\Program Files (x86)\BRAND\EASYCAL\Client	Browse
	_
	OK

e. The installation is being carried out. Complete the installation.

BRAND EASYCAL™ V5.0.17.218	×	
BRAND EASYCAL [™] V5.0.17.218		
	BRAND. For lab. For life.®	
Setup complete		
The installation wizard has successfully completed the configuration of BRAND EASYO	CAL™ V5.0.17.218.	
Click 'Finish' to exit the setup.		
Image: BRAND EASYCAL™ V5.0.17.218 start now		
	Finish	

Product activation required
Thank you for installing EASYCAL (V. 5.0.17.218).
EASYCAL has not been activated yet. In order to use the product, it is necessary that you activate it with a license. This requires an Internet connection on this or another computer.
Activate now
Check again
X Cancel and close

2.2 Information about your software

Compatibility

Compatibility	Note
EASYCAL [™] 3	Because EASYCAL [™] 5 is a new development, it is not possible to transfer
EASYCAL™ 4	data from older versions.
Data transfer from the demo	Standalone license:
version	Data from the demo version can be reused on this workstation.
	Server license:
	Data from the demo version <u>cannot be</u> used for productive work with the
	server license.
Merge installations	EASYCAL [™] 5 standalone installations or server installations cannot be
	merged into a single installation.

System requirements

	Standalone	Server
Operating system	PC operating system from Windows	Operating system from Windows 10
	10	or Windows Server 2016
Database	Local storage	Local storage
		If a server operating system is used,
		the databases can also be stored lo-
		cally on this operating system with-
		out having to use an SQL server.
		Alternatively: SQL Server from Mi-
		crosoft SQL Server 2016
Working memory	16 GB RAM	16 GB RAM

License model

Licenses	Explanation
Standalone installation	One standalone license per computer is required.
	Multiple users can log on to this computer.
Client-server systems	Consisting of at least one client and the server. The server manages the client licenses and allocates them according to availability (as floating licenses).

System requirements for EASYCAL[™] 5 standalone

	Standalone
Operating system	PC operating system from Windows 10
Database	Local storage
Working memory	16 GB RAM

System requirements for EASYCAL[™] 5 as server

	System requirements
CPU:	Processor with at least 1 GHz clock rate
Memory	At least 16 GB RAM
Network	Local network infrastructure
Operating sys-	from Windows 10 or Windows Server 2016
tem	
Database	Local storage If a server operating system is used, the databases can also be stored locally
	on this operating system without having to use an SQL server. Alternatively: SQL Server as
	of MicrosoftSQL Server 2016
Internet	A permanent broadband Internet connection is highly recommended

2.3 Transfer licenses (use on another computer)

NOTICE

Transfer the license

Transferring the demo license is not possible.

Client licensing is tied to the hardware of the particular computer on which EASYCAL[™] 5 was installed. If this computer is replaced or if EASYCAL[™] 5 is to be used on another computer, you can "transfer" the license. When transferring licenses, they are first deactivated and can then be reactivated on another computer.

a. Export all data via the "Import/export center"; see Data import and export, p. 128.

c. Enter the ticket number you received on your order confirmation.

- **d.** Click "Deactivate/transfer licenses" and follow the instructions shown.
- e. Reinstall EASYCAL[™] 5.
- f. Re-activate the license.
- g. Import all data via the "Import/expert center"; see Data import and export, p. 128.

2.4 End user license agreement

See also

 \rightarrow EULA (p. 13)

EASYCAL[™]5 End User License Agreements

This license agreement ("Agreement") between the company BRAND GMBH + CO KG (hereinafter "BRAND") and the customer (hereinafter "Licensee") regulates the granting of rights to use the standard software EASYCAL[™]5 (hereinafter "Software") created by BRAND. The parties agree that the Software is protected by copyright law. The Licensee acquires the Software for internal company use for testing and calibrating liquid handling equipment and volumetric instruments made of glass and plastic. Insofar as BRAND's general terms and conditions of business apply in addition to this Agreement and there is a discrepancy between the provisions of this Agreement and the general terms and conditions of business, the provisions of this Agreement shall take precedence over the general terms and conditions of business with regard to the granting of rights to use the Software.

Important note:

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1. Subject matter of the Agreement

- 1.1. The subject matter of this Agreement is the provision of Software in object code, the granting of rights to use the Software and the maintenance of the Software.
- 1.2. BRAND supplies the Software to the Licensee by way of download and provides the user documentation in electronic format. The Software is protected by means of a license key, which the Licensee receives via e-mail. The Licensee receives the license key exclusively for using the Software in accordance with this Agreement.
- 1.3. Installation and configuration services are not subject matter of the Agreement.
- 1.4. The Software contains the open source software programs listed under Section 11th. The open source license agreements for these open source software programs apply independently from the regulations of this License Agreement, taking priority over it.

2. Intended purpose of use

- 2.1. To fulfill the intended purpose of use of the Software, BRAND offers different license types and models, which are described below.
- 2.2. BRAND offers the following license types for the Software:
 - 2.2.1 Standalone application / standalone license

The standalone license authorizes the Licensee to execute and use the Software on a single end device in accordance with the conditions of this Agreement. In this case, the Software may be used by an unlimited number of persons on the assigned end device, provided it is ensured that the Software is only used on one operating computer by one device at a time. Virtualization of the assigned device or using other mechanisms to allow use by multiple operating computers is not permitted. Using the Software through a remote connection or automated use by compile servers, build servers or similar server types is not permitted.

2.2.2 Server application

2.2.2.1 Server license

The server license authorizes the Licensee to execute and use the Software on an assigned server in accordance with the conditions of this Agreement. A server license must be used in conjunction with at least one client license, which is purchased separately.

2.2.2.2 Client license

The client license authorizes the Licensee to execute and use the Software on an unlimited number of devices within a server system in accordance with the conditions of this Agreement and the number of purchased client licenses. A client license must be used in conjunction with a server license, which is purchased separately.

2.3. BRAND offers the following license models for the Software:

2.3.1 Demo license

Subject to compliance with the terms and conditions of this Agreement, the demo license authorizes the Licensee to use the Software free of charge over a defined period (hereinafter "Test Period") for the purposes of evaluating or testing the Software with respect to its suitability for the Licensee. Upon expiration of the Test Period, the license automatically becomes invalid and further use of the Software is prohibited.

2.3.2 Permanent license

A permanent license refers to a specific major version of the Software as well as the updates to this major version provided by BRAND and grants the right to use the Software for an unlimited period of time.

3. Granting a license

- 3.1. BRAND grants the Licensee the geographically unrestricted, simple (non-exclusive), non-transferable right to use, duplicate, edit and decompile the Software in accordance with this Agreement (see Section 3.2 to Section 3.4) and in accordance with the purchased license type and model. The permitted use comprises the installation of the Software as well as the intended use by the Licensee. The license is granted under the condition precedent that the license fee has been paid in full by the Licensee or a license fee is not required (demo license).
- 3.2. The right to duplicate is limited to the installation of the Software on a computer system owned directly by the Licensee for the fulfillment of the intended purpose of use, and to duplication that is necessary for loading, displaying, running, transferring and saving the Software as well as the right to produce a backup copy of the Software.
- 3.3. The right to edit the Software is limited to maintaining or restoring the agreed functionality of the Software.
- 3.4. The right to decompile the Software can only be exercised when prescribed by law if decompilation is necessary to achieve interoperability with another software program and insofar as BRAND has not provided the Licensee with the information required for decompilation within a reasonable period upon request.
- 3.5. Further use and exploitation rights to the Software are not granted to the Licensee. In particular, the Licensee is not permitted to sub-license, rent, lend or lease the Software, in whole or in part. If the Licensee wishes to use the software license on another device, he/she must deactivate the software license on the original device before activation on the new device is permitted (moving a license). The Licensee is prohibited from circumventing, modifying, removing or otherwise making unrecognizable any owner markings, copyright notices or other industrial property rights located on the Software, the license key or the user documentation, serial numbers, labels or copy protection features of the Software.
- 3.6 In case of a violation of the terms of use of this Agreement, BRAND shall reserve all rights to prohibit or stop unlicensed use of the Software, including in particular the right to injunctions and compensation for damage. Unauthorized access may carry criminal law consequences in accordance with relevant laws. The provisions of this section in relation to duplication and publication shall also apply to the user handbooks and other documents related to the Software provided by BRAND.

4. Software maintenance

- 4.1 BRAND further develops the Software to ensure it is of high quality and up to date, adapts it to changing requirements, fixes errors to maintain the quality promised in this Agreement and provides the Licensee with any resulting software patches, bug fixes and updates in accordance with section 4.2. Software maintenance is provided in accordance with the respective state of the art and in such a way that it is oriented towards the interests of all software users. The services are provided only with respect to the last supplied Software version. BRAND can provide patches, bug fixes and updates in accordance with the regulations for the initial provision of the Software. In the event of changes to the state of the art, BRAND reserves the right to change delivery.
- 4.2 Software maintenance includes the following services (hereinafter "Software Maintenance"):

- Provision of patches and bug fixes to correct program errors (see Section 7.2 Sentence 4);

- Provision of service packs;
- Provision of updates in a minor release (e.g. from Version 1.0 to Version 1.1);
- Provision of updated software documentation in electronic format.

The installation of software, patches, service packs and updates as well as configurations, parameterizations or software adjustments and backups are not included in Software Maintenance.

5. Fees

- 5.1. The license fees for a permanent license are due for payment upon transmission of the license key.
- 5.2. Subject to an express provision to the contrary, all fees are understood as net fees, i.e. plus statutory sales tax. BRAND shall separately disclose the tax rate and the amount of sale tax on the invoice.

6. Copyright law

EASYCAL[™] 5 is a software product developed and produced by BRAND, while the open source software mentioned in Section 11 is a third-party software. The Software is subject to international and national copyright law protection. BRAND holds and retains all rights to, ownership in, and all claims relating to the Software, including all copyrights, patents, operating and company secrets, brands, and other intellectual property.

With this License Agreement, the Licensee does not acquire any ownership of the Software; the Licensee only acquires the Software rights listed in Section 3rd.

7. Warranty

- 7.1. The parties agree that software cannot be created without technical limitations. BRAND assumes the warranty only for the software components created by or commissioned by BRAND and declares in this respect that for the warranty period the Software is essentially capable of performing the functions described in the documentation (hereinafter the "Agreed Functions"). In the case of updates, the warranty claims are limited to new features compared to the previous software version. Minor deviations from the agreed functions shall not be grounds for a warranty claim. Program malfunctions caused by an inappropriate installation of the Software not conforming to the operating manual, accidents, misuse or improper application shall be excepted from the warranty. In particular, no warranty shall be granted that the Software provided is compatible with the data processing environment the Licensee is using.
- 7.2. Insofar as the Software is found to contain a defect, BRAND shall guarantee the opportunity to provide supplementary performance within an appropriate time period. BRAND shall be entitled to a right to select from among types of supplementary performance. Should the reasonable period expire without result or should a reasonable number of attempts at supplementary performance fail, the Licensee may, under the statutory requirements, at his/her discretion withdraw from the Agreement, reduce the price and claim damages or reimbursement of expenses. If the defect does not adversely affect the functionality or only to a negligible degree, BRAND is entitled under exclusion of further warranty rights to repair the defect by supplying a new minor version of the Software or a patch, bug fix or update within the scope of its planning for further development of the Software.
- 7.3. The period of limitation for warranty claims is 12 months and begins with delivery of the license key. In the case of delivery of patches, bug fixes and updates, the period begins with provision of the patch, bug fix and update.

8. Obligations of the Licensee

- 8.1. Establishing a functional software environment for the Software shall be the sole responsibility of the Licensee. The same applies to regular backups.
- 8.2. The Licensee undertakes to install the Software within ten (10) business days after receipt of the license key and to inspect basic program functions for functionality. Defects determined during this inspection or which may be determined, must be disclosed to BRAND by email within an additional ten (10) business days. Claims for defects not determinable during the framework of the regular inspection must be announced to BRAND by email at within 10 business days after their discovery. In case of a violation of this inspection and notice obligation, the delivered Software shall be deemed accepted with regards to the defect in question.
- 8.3. The Licensee shall be responsible for securing the data in accordance with the state of the art and normal data processing operations and shall take reasonable precautions in the event that the Software used by him/her does not work properly in whole or in part, e.g. by performing regular backups, diagnosing faults and/or regularly checking the results. Disadvantages and additional costs due to a violation of these obligations shall be borne by the Licensee.

9. Confidentiality

- 9.1. The parties undertake to treat all sensitive information of which they become aware during the performance of this contract as confidential and to use it only for contractually agreed purposes. Sensitive information within the meaning of this provision includes information, documents, specifications and data that are indicated as such or are to be regarded as sensitive by their nature. If sensitive information as defined above is requested by a public body from one party, the other party shall be informed immediately and even before the information is released to the public body.
- 9.2. The aforementioned obligations shall not be affected by any termination of this Agreement. Upon termination of this Agreement, both parties undertake to return or destroy sensitive information at their discretion, provided that this has not been properly used.

10. Liability

- 10.1. BRAND shall be liable under this Agreement only in accordance with the following provisions:
 - without limitation for damages caused intentionally or by gross negligence by BRAND, its legal representatives or executive employees as well as
 for damages caused intentionally by other vicarious agents; for gross negligence of other vicarious agents, the liability shall be determined
 according to the regulations for minor negligence;
 - without limitation for damages resulting from injury to life, limb or health which have been caused by BRAND, its legal representatives or vicarious agents;
 - for damages due to missing warranted features up to an amount which was covered by the purpose of the warranty and which was recognizable for BRAND at the time the warranty was given;
 - for product liability damages according to the provisions of the Product Liability Act, and
 - for damages resulting from the violation of cardinal obligations by BRAND, its legal representatives or vicarious agents. Cardinal obligations are essential obligations that form the basis of the Agreement, were vital for conclusion of the Agreement and the fulfillment of which the Licensee may rely on. If BRAND fails to meet these cardinal obligations due to minor negligence, liability on the part of BRAND shall be limited to the amount which was foreseeable for BRAND at the time of the respective performance.
- 10.2. BRAND shall be liable for the due diligence customary in the industry. A determination of whether BRAND is at fault in a matter must take into account the fact that software cannot be manufactured without technical limitations.
- 10.3. BRAND shall not be liable for the loss of data and/or programs to the extent to which such damages result from the failure on the part of the Licensee to complete data backups and thereby ensure that lost data can be restored with a reasonable amount of effort.
- 10.4. Any further liability of BRAND is excluded on these grounds.

11. Additional applicable regulations

The Software includes open source software programs. The open source license agreements for these open source software programs also apply, taking priority over this License Agreement. You can find the specific open source software programs and valid license agreements in the Software's version information.

12. Final provisions

- 12.1. The assignment of claims shall only be permitted following prior written approval from the other respective contractual party. This approval may not be refused unfairly. This shall not affect the regulations of Sec. 354 a HGB (Commercial Code).
- 12.2. A right of retention may only be asserted due to counterclaims from the respective contractual relationship.
- 12.3. The contractual parties may only make offsets with claims that have been legally determined or that are uncontested.
- 12.4. There shall be no ancillary agreements to this Agreement. Amendments and supplements to this Agreement shall require the written form. This written form requirement may only be waived following written agreement. The written form requirement shall be considered satisfied if the notices, changes or amendments are sent by email to and received by the email address used in the transmission of the license keys.
- 12.5. The law of the Federal Republic of Germany shall apply without restriction, under exclusion of the conflict-of-law rules of international private law, as well as the United Nations Convention on Contracts for the International Sale of Goods (CISG).
- 12.6. The place of fulfillment is Wertheim. The exclusive place of jurisdiction for all legal disputes arising from or in conjunction with this Agreement is Frankfurt am Main. BRAND shall, however, also be entitled to lodge complaints at the Licensee's general place of jurisdiction.
- 12.7. If individual provisions of this Agreement shall be or become invalid in whole or in part, this shall not affect the validity of the remaining provisions. If the invalid provisions is replaced by a valid one, the Parties hereby already agree to enact a provision coming as close as possible to the economic purpose of the invalid one. The same shall be true of any contractual gaps.

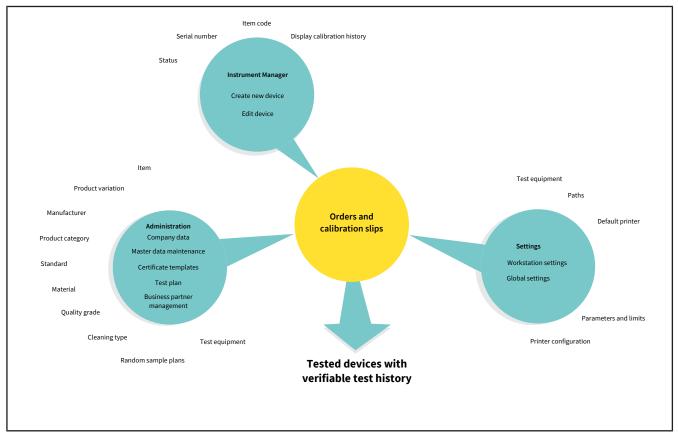
2.5 Convert demo license to standalone license

b. Enter the license code of the standalone license; see Client (standalone) or server installation

↔ You will find this code in your order documents.

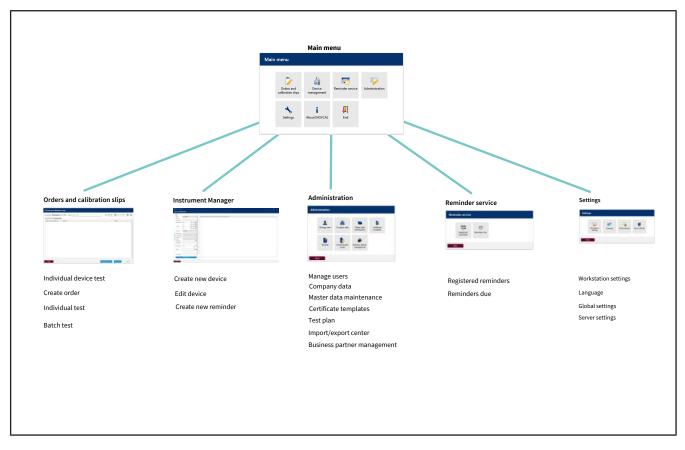
3 Function and application

EASYCAL[™] 5 is a software for managing and testing liquid handling devices and volumetric instruments. In order to perform device tests, the software obtains information from various areas. The device test thus requires that these data are available; otherwise, the device test cannot be started. Relevant for this are device data, master data, test plans, and certificate templates. The following illustration shows the rough information flows within the software.



Menu distribution

The following figure shows the main menu distribution. The main menu takes you to the operational level of the software. All data that you create or change in Instrument Manager, Administration and Settings affect order processing in Orders and calibration slips. A recurring principle of the software are menu items that have the text "Assignment" in their name. In this menu you assign one or more data sets to each other (e.g., in the "Print template assignments" menu, you assign a master layout to a certificate template).



User

Via the user administration, you create new users and user groups via an initial default user (see User, p. 61).

NOTICE

Change default user

After completing the configuration work, change the default user (user: admin | password: start) in order to prevent unauthorized access to the system.

Data creation

The following description assumes that no other data has been created in EASYCAL[™] 5.

1. Create test equipment

Create the existing or necessary test equipment that is available at the respective workstation and is required for device tests; see Master data maintenance, p. 70 and Test equipment, p. 88.

You have thus defined the workstation where a test can take place.

2. Define basic settings

Define relevant basic settings of the device test. These are:

- Workstation settings; see Workstation settings, p. 130
- Global settings; see Global settings, p. 134

The software thus knows which ambient conditions apply at the workstation.

3. Create master data

Via the master data, you create the underlying data (e.g., an article). An article can describe several identical devices (see Master data maintenance, p. 70 and Article, p. 71).

You can also perform a device test without having created the corresponding article in the master data. If you create an order, the device is created with the serial number entered there at the latest when you create and save the calibration certificate. The device can then also be found in the device management and reused for future tests.

4. Create test plan

Create a test plan. A test plan contains all the characteristics to be tested. You also assign a test type to this test plan. This depicts something like a predefined test procedure; see Test planning, p. 113 and Test plan overview, p. 113 as well as Test types (user authorizations), p. 61.

5. Create certificate

Before you can start the test, you still need the test certificate with which you can verify the test. You create this in the certificate templates menu; see Certificate templates, p. 98.

6. Performing the test

Via the "Orders and calibration certificate" menu, you now start testing the device; see Orders and calibration certificates, p. 43.

4 Tutorial

This example shows the process of a test – from the creation of an order to the test to the printing of the certificate. The section refers to master data available in the demo license and serves as a first introduction to the program.

Login

If the program EASYCAL[™] 5 is started, a log-in dialog appears. Here, the user logs in with user name and password.

4.1 Set up balance as test equipment

In order set up a balance as a piece of test equipment, proceed as follows. The set-up is always done in the order: Set up test equipment in the master data, set up test equipment at the workstation, and select test equipment for the orders.

Prerequisite:

- ✓ You have connected a balance to the workstation.
- ✓ You know the connection parameters of the balance.
- ✓ You know to which COM port the balance is connected at the workstation.
- Name balance (see Administration > Master data maintenance > Test equipment > Test equipment, p. 89).
- **b.** Set up location for test equipment (if not already done).
- Configure the balance as a test equipment (see Test equipment device type, p. 92). In doing so, you specify both the function and the connection of the balance to the workstation (see Measuring function, p. 93, Communication, p. 94).

Exit this menu. Change to the Settings menu.

- **d.** Register the balance as test equipment at the workstation (see Settings > Workstation settings > Test equipment, p. 131).
- e. Select balance and the connection for the workstation. You can also test the connection to the balance.

Exit this menu. Change to the Orders and calibration slips menu.

f. You can select the connected balance in the order when selecting the test equipment. In the tutorial (see Determine test equipment, p. 26), in the user manual under Select test equipment for the test, p. 48.

4.2 Creating order

a. Navigate from Main menu to Orders and calibration slips.

est type fil	ter Not specified	▼ S	Search	Type to search	from 1/11/2022	15 to	1/26/2022	15	Č
)rder over	view Calibration slips								
Order I T	est typ Order number	Article				Status			
				BLAUBRAND®, straight stopcock, Schilling, class AS; 0.02 - 1	10 ml	Created	a		
1 S	TD 123456	EC-704106 -	- Transfe	rpette® Fixed volume; 5 µl		Finished	â	ā	

b. Click on Create order.

Select order type	
Batch test Use when testing random samples (of any size). Batch certificates are issued.	Individual test Use for 100% test or test of a single device. Each device receives its own certificate.
Back	

- c. Click on Individual test.
- **d.** For Test type, select the value STD Standard values.

Test types organize your test procedures. You cannot create additional test types; instead, you must choose from the test types already stored. The test plans are linked to the test type as well as the certificate templates. In the user administration, the user must be given the respective access right for the corresponding test type. Because you are currently logged in as Global Admin, you have access to all data.

Inc	dividual test ·	- Create order				
	Test type	STD – standard values	Number of devices	1 🜩	Customer	- Q
	Order no.		Order no.			
ion	Article code	٩	OC-Number			
Article information	Article			Prepare calibration slips		
ile infa				Pre- and post-test required		
Artic			Notes on the order		End customer	- 9
	Volume ranges	•				
	Test plan	-				
	Back					Start test
	Dack					Statt test

e. Click on the button 💙 at Item code in order to display already created articles.

BRAND - EASYCAL™ 5 *									-	٥)
	Individual test	t - Create order									
	Test type	STD – standard values	 Number of 	devices	1 🗢		Customer • Q	•			
	Order no.		Order no.								
	.5 Article code	i	OC-Numb	er							
	Article		Select arti	icle							
	e infc		Jelect arti								
	Artick		Search								
			Article code		Manufacturer	Product	Product variation	Volume ran	· · · ·		
				1	BRAND GMBH + CO KG BRAND GMBH + CO KG		Fixed volume, Special fixed volume	0.05 - 5 ml 0.1 - 25 ml			
	Volume ranges			0	BRAND GMBH + CO KG BRAND GMBH + CO KG		SILBERBRAND, ohne Hahn, class B, Economy SILBERBRAND, class B, Economy	0.1 - 25 ml 0.1 - 25 ml			
				6	Eppendorf AG	Research plus	Fixed volume, medium grey	10 µl	Released		
				7	Eppendorf AG	Research® plus	Fixed volume, light grey	20 µl	Released		
	1.1		100211_copy		Eppendorf AG	Research © plus	Fixed volume, light grey	20 µl	Released		
	Test plan			6	Eppendorf AG	Research @ plus	Fixed volume, yellow	10 µl	Released		
			100212_copy	0	Eppendorf AG	Research® plus	Fixed volume, yellow	10 µl	Released		
			100213	6	Eppendorf AG	Research [©] plus	Fixed volume, yellow	20 µl	Released		
	Back			7	Eppendorf AG	Comforpette®	Fixed volume	20 µl	Released		
				6	Eppendorf AG	Research	Fixed volume, yellow	50 µl	Released		
				6	Eppendorf AG	Research [®] plus	Fixed volume, yellow	100 µl	Released		
				6	Eppendorf AG	Research® plus	Fixed volume, yellow	200 µl	Released		
				6	Eppendorf AG	Research® plus	Fixed volume, blue	200 µl	Released		
				6	Eppendorf AG	Research® plus	Fixed volume, blue	250 µl	Released		
				6	Eppendorf AG	Research	Fixed volume, blue	500 µl	Released		
				6	Eppendorf AG	Research plus	Fixed volume, blue	1000 µl	Released		
			100310	8	Eppendorf AG Eppendorf AG	Research® plus Research® plus	Adjustable volume, dark grey Adjustable volume, dark grey	0.1 - 2.5 μl 0.5 - 10 μl			
niel Ihrig Last status: The applica										2 2	

f. Enter Transferpette® S 1000 in the search field. As you type, you will see the article selection change. This behavior is the same in all search fields of EASYCAL[™] 5. We recommend always using the search function first because EASYCAL[™] 5 comes with an extensive master database.

The prefix EC- indicates that it is a prefabricated and unchangeable data set. If you would like to change

these records, copy the record, and edit and save it under a different name. For more information, see "Help" in EASYCAL[™] 5.

AND - EASYCAL™ 5 *					_ 0
	Individual test - Create order				
	Test type STD – standard v	alues Number of devices	1 🗘	Customer 🔹 🔍	
	Order no.	Order no.			
	S Article code	Q OC-Number			
	Article				
	infor	Select article			
	tticle	Search Transferpette S 1	000		
	×		lanufacturer Product		ume rang Status 🔶
			reff AG TreffLab-Transferpette® reff AG TreffLab-Transferpette®		0 µl Released - 1000 Released
	Volume ranges		reff AG TreffLab-Transferpette®		0 - 1000 Released
				-	- 1000 Released
		700793 0 Ti			0 - 100 Released
			RAND GMBH + CO KG Transferpette® α	1.0 ml, 1-Stop 100	0 µl Released
	Test plan	¶ 700966 0 B	RAND GMBH + CO KG Transferpette® α	100 - 1000 μl, 1-Stop 100	- 1000 Released
		704162 3 B	RAND GMBH + CO KG Transferpette [®]	Fixed volume 100	0 µl Released
		704180 4 B	RAND GMBH + CO KG Transferpette [®]	Adjustable volume 100	- 1000 Released
	Back		RAND GMBH + CO KG Transferpette® S	Fixed volume 100	0 µl Released
			RAND GMBH + CO KG Transferpette® S		1000 µ Released
			RAND GMBH + CO KG Transferpette® S	,	- 1000 Released
			RAND GMBH + CO KG Transferpette® S		- 1000 Released
			RAND GMBH + CO KG Transferpette® S		- 1000 Released
			RAND GMBH + CO KG Transferpette® S		0 - 100 Released
			RAND GMBH + CO KG Transferpette® S		0 µl Released
			RAND GMBH + CO KG Transferpette® S		- 1000 Released
			RAND GMBH + CO KG Transferpette® α		- 1000 Released
		704984 5 B	RAND GMBH + CO KG Transferpette® α	Adjustable volume 100	0 - 1001 Released 🔽 🔽 🔽

- **g.** Select the article code EC-704780. Confirm your selection with a double click.
- **h.** For Test plan, select the appropriate test plan. As a rule, you will find 1–2 entries here.
- i. The general conditions for the test as well as the defect limits of the assigned article are stored in the test plan.

Test type	STD – standard values	•	Number of devices	1 🜩	Customer	•
Order no.			Order no.			
Article code	704780	٩	OC-Number			
Article	Transferpette® S Adjustable volume BRAND GMBH + CO KG			Pre- and post-test required		
			Notes on the order		End customer	•
Volume ranges	1000µl (95 - 1000) 🔇	0				
Test plan	4437.0 - EC-STD-ISO-PiPip-var-LHDiv	• 9				

j. Click on Start test.

A notification that no order number has been assigned appears.

If there are specifications in your company/quality management process for organizing tests, select no, and assign an order number.

If there are no specifications for organizing tests, select Yes and EASYCAL[™] 5 will assign a unique order number

🚯 Notific	ation >	×
0	No order number was assigned. Should an automatically generated order identification be used? If you select "No", an order number must be assigned manually.	
	Yes No	

We recommend deciding on a uniform approach at an early stage.

k. Continue the tutorial by clicking on Yes. The job number is created based on the current time stamp.

Individual test	- Create order			
		_	Edit calibration slip ISO-73	×
Test type Order no. Article code Article	2021-11-12-12-05-03-DI 704780 Transferpette® S Adjustable volume BRAND GMBH + CO KG	Nu Orc OC	Serial number Volume range 1000µl (95 - 1000) Test plan 4437.0 - EC-STD-ISO-PiPip-var-LHDiv	Customer identification Year of production Tips, accessories 732212 BRAND Pipettenspitzen 50-1000µl Cleaning type Pipette mode
Volume ranges	1000µl (95 - 1000) 📀 🕂		Device status	Pipette velocity Remark according to customer request
Test plan	4437.0 - EC-STD-ISO-PiPip-var-LHDiv 🔹			Internal remarks
Back			Cancel	Continue

- **I.** You can enter a serial number for the identification of the device. This is necessary for real tests. However, it is not necessary for the tutorial.
- **m.** Click on Continue. The test order has been created.

The window for starting the actual test will open.

4.3 Determine test equipment

BRAND - EASYCAL [™] 5					_ 0
21-11-12-12-05-03-DI / ISO-73	704780 BRAND GMBH + CO KG Transferpe	tte® S Adjustable volume 95 - 1000µl			
	Test equipment 2. TV	😶 🕅 1. TV 🛛 😶 🕅 NV 😔		V/X A/B/C % Mea	surement 🔹 🛟 (
	Air temperature	Thermometer 👻		351000-71	•
	Temperature of the medium	Thermometer 🔹		351000-71	•
	Relative humidity	Hygrometer 👻		600029-10	•
	Air pressure	Barometer 👻		600029-10	•
	Weight	Single-channel balance 🔹	Calibrate now	20210708-RZ-01	-
	Weight	Single-channel balance 🔹	Calibrate now	20210708-RZ-01	•
	Weight	Single-channel balance 🔹	Calibrate now	20210708-RZ-01	•
Back	1 Previous device 🔶 Previ	ous characterístic 🔶 Additional device	+	Device evaluation Complete test	Print preview

Prerequisite:

✓ The order is created.

a. The necessary parameters as well as the test equipment type and the test equipment (test equipment number) are preselected for the test equipment. Because only one piece of test equipment is created, we leave it at this selection.

4.4 Performing the test

a. Continue by clicking on Next characteristic.

You see the central input screen of the measurement functionality of EASYCAL™ 5.

Ğ≸ BRAND - EASYCAL™ 5								ı x
2021- <mark>11-</mark> 12-12-05-03-D	DI / ISO-73 704780 B	RAND GMBH + CO KG	Transferpette® S Adjus	table volume 95 - 100	οομί			i
Ambient data	^	Test equipment	2. TV 😐 1. TV	• »» NV ••			V/X A/B/C pl 5 Measurement *	00
	6 III 0	Number	Time		Measured value		Volume [µl]	Ste
Request ambient data								
Target value	Number							
100 µl	0/10							
Letzte Messungen: Neue	e Messung:							
ō ō	9	Graph of the measured values						•
۵.,	1000.16476313 µl / g	G.2			1			
6 6	ابر	0.1						
0 0	1	utiv o						
← 0/0 →	Apply measured value	41						
🚫 Test equipme	ent disconnected	-9.2						
Fast measurement					Test number			
Automatic printing Automatic tare Allow all measured value		Statistics of device					Statistics of order	
Check measured values					Accuracy Coefficient of variation	0%/8%	Accuracy Mean	0% 0µ1
Discard entry	Undo discard				 Mean 	0 %/ 3 %	Mean Standard deviation of the mea	
		92	100	108	Standard deviation	ا ب 0	Coefficient of variation of acc	uracy 0%
					Expanded measurement uncer	rtainty 0 µl	Mean value CV	0 %
							CPK	0
Back		• Previous devic	e 🔶 Previous characterístic	Next characteristic 🔶	Additional device +		Device evaluation Complete test Print p	neview
12. <u></u>								

b. Enter fictitious weight values for Neue Messung. Start with 0, 1, and click on "Apply measured value". A window in which you must enter or complete the measured values appears.

The selection of the separator (comma or dot) is done via the language selection in the software.

Temperature difference	0.00 °C		0.5 °C		
Weight	0.1	g		3	🖌 Manual
Air temperature	0	°C	(20°C - 25°C)	G	🖌 Manual
Temperature of the medium	0	°C	(20°C - 25°C)	G	🗸 Manual
Relative humidity	0	%rh	(40%rh - 65%rh)	G	🗸 Manual
Air pressure	0	mbar	(960mbar - 1025mbar)	G	🖌 Manual

c. Enter fictitious values for the environment parameters as follows:

Enter measured value	es				×
Temperature difference	0.00 °C		0.5 °C		
Weight	0.1	g		3	🖌 Manual
Air temperature	21	°C	(20°C - 25°C)	3	🖌 Manual
Temperature of the medium	21	°C	(20°C - 25°C)	G	🖌 Manual
Relative humidity	40	%rh	(40%rh - 65%rh)	G	🖌 Manual
Air pressure	961	mbar	(960mbar - 1025mbar)	G	🖌 Manual
Air pressure Cancel	961	mbar	(960mbar - 1025mbar)	Q	✓ Manua

d. Click on Apply. The first measurement is hereby completed. The measured value and the volume calculated from it appear in the table.

Test equipment	2. TV 😶 1. TV 😶 NV 😶		V / X A/B/C µl % Measurement -)
Number	Time	Measured value	Volume [µl] S	ta
1	11/12/2021 2:06:42 PM	0.10000 g	100.3	2

e. Now enter the value 0.1 g as the measured value eight times in the same way. The table is filled up.

ent data ^	Test equipment	2. TV 😶 🛛 1. TV 😶 🖉 NV	••			✓/X A/B/C µl % Measurer	ment 🔹 🛟 🌔
् 🎼 💩 👯 🖸	Number	Time		Measured value	Volum	e full	Sta
*C 21 *C 40 %rH 961 mbar	2	11/12/2021 2:13:27 PM		0.10000 g	100.3		
equest ambient data	3	11/12/2021 2:13:29 PM		0.10000 g	100.3		0
	4	11/12/2021 2:13:30 PM		0.10000 g	100.3		0
t value Number	5	11/12/2021 2:13:32 PM		0.10000 g	100.3		\bigcirc
0µl 9/10	6	11/12/2021 2:13:34 PM		0.10000 g	100.3		0
	7	11/12/2021 2:13:35 PM		0.10000 g	100.3		0
e Messungen: Neue Messung:	8	11/12/2021 2:13:37 PM		0.10000 g	100.3		
0.1 5 g	9	11/12/2021 2:13:39 PM		0.10000 g	100.3		0
1003.01211312 μ/ g 100.3 μ/ μ/	Graph of the measured values	2		4 Test number	6		
Automatic tare	Statistics of device					Statistics of order	
Allow all measured values Check measured values before entering				Accuracy	0%/8% 🗸	Accuracy	0 %
check measured values before entering				Coefficient of variation	0%/3% 🗸	Mean	100.
Discard entry Undo discard		1		Mean	100.3 µl	Standard deviation of the	
bised citity on do dised a	92	100	108				
	92	100	106	Standard deviation	0 µl	Coefficient of variation of	accuracy 0%
				Expanded measurement uncertainty	0 μl	Mean value CV	0 %
						СРК	0

- **f.** The light blue color in the section above the table shows that the order is being processed. Click the **i** icon in order show and hide the extended certificate information.
- **g.** Enter 0.1 again as the measured value, and pay attention to the progression display above the measured value table.

nbient data		^	Test equi	pmen <mark>t</mark> >	2. TV 🛛 🖉 🔪	1. TV	<u>••</u> >> NV	•••	
		୍ ପ୍	Number		Time				
21 °C 21 °C	40 %rH 961	mbar	3	-	11/12/2021 2:13:29	M			
Request ambient dat	ta		4		11/12/2021 2:13:30	M			
		Number	5		11/12/2021 2:13:32				
rget value			6		11/12/2021 2:13:34				
100 µl		10 / 10	7		11/12/2021 2:13:35				
		-	8		11/12/2021 2:13:37				
etzte Messungen:	Neue Messung:		10		11/12/2021 2:13:39 1 11/12/2021 2:17:42 1				
5 0.1	5	g			11/12/2021 2:17:421	'IVI			
-			Graph of the measu	ured values					
ave 1003.01211312	1003.0121131 🖌	2 µl/g	115						
100.3	A								
0 100.3	0	μl	105						_
🕒 2:17:42 PM 📕	(T)								
	M		95		T				
🗕 11/11 🔶	Apply measure	ed value							
🗙 Tes 🔤	uinment disconnecte	d	85						
			o		2			4	
Fast measurement Automatic printin									
Automatic tare	9		Statistics of device	e					
Allow all measure									
Check measured v	alues before entering				100.3 ±0				
			1		100.5 ±0			1	
Discard e	entry Undo discard				11				
			92		100			108	

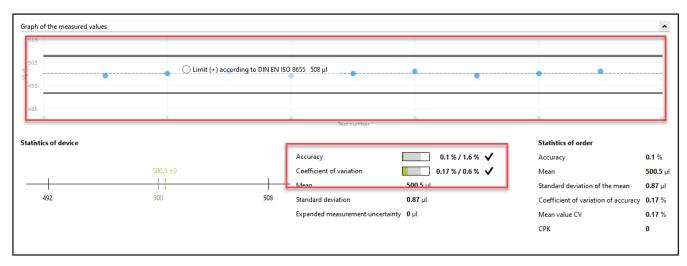
h. With input of the 10th measured value, all required measurements for characteristic 2. TV have been performed. The characteristic gets a green check. You can enter further measured values; however, this is not required.

BRAND - EASYCAL [™] 5						_ 0	×
2021-11-12-14-10-58-DI / ISO-74 - 704780 BF	RAND GMBH + CO KG	Transferpette® S Adjustable	e volume 95 - 100	ΟμΙ			i
Ambient data	Test equipment	2. TV 🕑 🛛 1. TV 😐	NV 😶			A/B/C µI % Measurement •	00
in in iteration in the second	Number	Time	//	Measured value	Volume [µ]		Sta
21 °C 21 °C 40 %rH 961 mbar	3	11/12/2021 2:13:29 PM		0.10000 g	100.3		Image: 10 and
✓ Request ambient data	4	11/12/2021 2:13:30 PM		0.10000 g	100.3		õ
	5	11/12/2021 2:13:32 PM		0.10000 g	100.3		
Target value Number	6	11/12/2021 2:13:34 PM		0.10000 g	100.3		
100 µl 10 / 10	7	11/12/2021 2:13:35 PM		0.10000 g	100.3		
	8	11/12/2021 2:13:37 PM		0.10000 g	100.3		O
Letzte Messungen: Neue Messung:	9	11/12/2021 2:13:39 PM 11/12/2021 2:17:42 PM		0.10000 g 0.10000 g	100.3		
🖸 0.1 🖸 g	10	11/12/2021 2:17:42 PM		0.10000 g	100.3		V
	Graph of the measured values						^
Δ ₃ 1003.01211312 Δ ₃ 1003.01211312 μl / g	115						
💧 100.3 🥼 μΙ	105						
(L) 2:17:42 PM	105 	••			••	••	
← 11/11 → Apply measured value	95						
😣 Test equipment disconnected	85						
	0	2	4	6 Test number	8	10	
Fast measurement							
	Statistics of device					Statistics of order	
Allow all measured values Check measured values before entering				Accuracy	0%/8% 🗸	Accuracy	0 %
		100.3 ±0		Coefficient of variation	0%/3% 🗸	Mean	100.3 µl
Discard entry Undo discard				- Mean	100.3 ul	Standard deviation of the mean	0 µl
	92	100	108	Standard deviation	0 ul		
		100	100			Coefficient of variation of accuracy	
				Expanded measurement uncertai	nty 0 µl	Mean value CV	0 %
						СРК	0
Back	 Previous device 	 Previous characteristic Nex 	xt characteristic 🔸	Additional device +	Device evaluation	Complete test Print pr	review

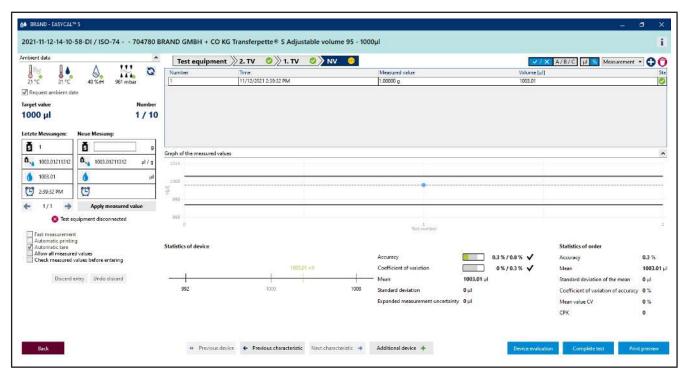
- i. Click on 1. TV in the progress bar in order to jump to the next characteristic.
- j. For Neue Messung, enter the following values in sequence:
 - 0.498
 - 0.500

Repeat twice.

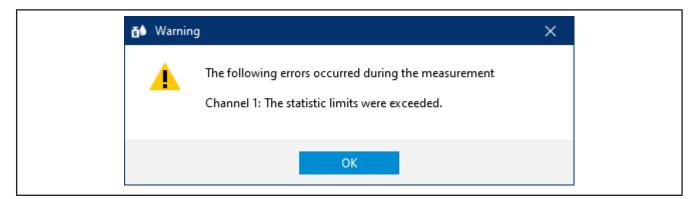
You can see the position of the individual measured values in relation to defined error limits (solid lines) and the calculated mean value in the display Graph of the measured values. Under Statistics of device, you can see the calculated actual values for accuracy and coefficient of variation compared with the defined limits.



k. Enter 0.498 again as the measured value, confirm the environmental parameters, and click NV in the progress display. Then enter 1 as the measured value.



I. We assume that you have made a typing error. To do this, enter 1.1 as the measured value, and confirm the environmental parameters. The following warning appears:



m. Acknowledge this warning by clicking OK.

You can see that the different areas of the input screen react according to the new measured value. You cannot delete this measured value; however, you can discard it. The value remains visible but is no longer used for statistics.

bient data		Test equipment	nt 2. TV	📀 📎 1. TV	O>NV (🗸 / 🗶 🗛 / 8/ C 🛛 pl %	Measurement	.06
	A . H. O	Number	Time				Measured value		Volum			S
1°C 21°C	40 %rH 961 mbar	1		21 2:39:32 PM 21 2:40:16 PM			1.00000 g		1003.0			
equest ambient dat			11/12/203	11 2 MOL 10 PTW			1.10000 g		11056			
et value	Number											
00 µl	2/10											
te Messungen:	Neue Messung:											
1.1	ğ 9	Graph of the measured va	lues									
1003.01211312	0 1003.01211312 μl / g	1150										
1103.31	iu 💧	1100							•			
a secondo a		1050	******									
2:40:16 PM	G	21000			*				_			
2/2 🔶	Apply measured value	950										
🙁 Test eq	uipment disconnected	900										
		0			т		Test number		2			
Fast measurement Automatic printing												
Automatic tare Allow all measured	d unline	Statistics of device							22	Statistics of order		
	alues before entering						Accuracy		5.3 % / 0.8 %	20. E		5.3 %
100		59 - RC			10	953.16±0	Coefficient of variation		6.73 % / 0.3 %	K Mean		1053.1
Discard e	ntry Undo discard		1			-	Mean	1053.16 µl		Standard deviation	of the mean	71 µl
L		992 1000	1008				Standard deviation	71 pl		Coefficient of variat	tion of accuracy	6.73 %
							Expanded measurement uncertainty	0 µl		Mean value CV		6.73 %
										СРК		0

n. Click on the number of the measurement in the table, and then click on "Discard entry".

A message appears.

Discard measurements ×	Discard meas
Specify a reason to discard the selected measurements.	
Cancel Continue	Cancel

o. Specify a reason (e.g., Identified as outliers.). You can also select a reason from the drop-down menu. These texts can be maintained in the master data. Confirm your selection by clicking on Continue.

mbient data		Test equipment)>2. TV 🙁 >> 1. TV 🙁 >> NV 🔄		×/×	A/B/C µl 😽 Measurement	.06
J . J .	8. III. Q	Number	Time 11/12/2021 2:39:32 PM	Measured value	Volume [µ]		9
21 °C 21 °C	40 %rH 961 mbar	2	11/12/2021 2:40:16 PM	1.00000 g 1.10000 g	1003.01		
Target value 1000 μl	Number 1 / 10						
etzte Messungen:	Neue Messung:						
ā 1.1	5 9	Graph of the measured value	8				
D 1003.01211312	Δ 1003.01211312 μl / g	1015					
1103.31	ابر 💧	1005					
2:40:16 PM	U	3					
← 2/2 →	Apply measured value	.995					
S Test eq		965 0		Test number			
Automatic tare Allow all measures		Statistics of device	1003,01 ±0	Accuracy Coefficient of variation	0.3%/0.8% 🗸	Statistics of order Accuracy Mean	0.3 %
Discard e	antry Undo discard			Mean	1003.01 µl	Standard deviation of the mean	0 µl
		992	1000 1	008 Standard deviation Expanded measurement uncertaint	0 թվ էջ 0 թվ	Coefficient of variation of accuracy Mean value CV	0%
						СРК	0

- **p.** The measured value 1.1 is not considered further in the evaluation.
- **q.** Continue entering measured values until 10/10 is displayed for "Number". When the last required measured value is entered, the color in the section above the table changes from light blue to yellow. This signals to you that the order is complete.

~, , 🏡 💥 🖪		👋 2. TV 🛛 🖉 🖉 1. TV 🖓 🖉 NV 🔗		✓ / ×	A/B/C µl % Measurement 🔻 🛟
	Number	Time	Measured value	Volume [µl]	Sta
1 °C 21 °C 40 %rH 961 mbar	4	11/12/2021 3:29:41 PM	1.00000 g	1003.01	
Request ambient data	5	11/12/2021 3:29:43 PM	1.00000 g	1003.01	<
	6	11/12/2021 3:29:44 PM	1.00000 g	1003.01	<
get value Number	1	11/12/2021 3:29:46 PM	1.00000 g	1003.01	<
10 / 10 / 10 / 10		11/12/2021 3:29:47 PM	1.00000 g	1003.01	<
	9	11/12/2021 3:29:50 PM	1.00000 g	1003.01	Solution
zte Messungen: Neue Messung:	10	11/12/2021 3:29:51 PM	1.00000 g	1003.01	Solution
j 1 j 9	11	11/12/2021 3:29:53 PM	1.00000 g	1003.01	Solution
 11 / 11 Apply measured value 					
Test equipment disconnected Fast measurement	985 0	2	6 Test number	8	10
Fast measurement Automatic printing Automatic tare	985 0 Statistics of device	2 4	6 Test number	8	10 Statistics of order
Fast measurement Automatic printing Automatic tare Allow all measured values	0	2 4	Test number 6	o.3 % / 0.8 % ✓	
Fast measurement Automatic printing Automatic tare	0	2 4 1003.01 ±0			Statistics of order
Fast measurement Automatic printing Automatic care values Allow all measured values Check measured values before entering	0		Accuracy Coefficient of variation	0.3 % / 0.8 % ✓ 0 % / 0.3 % ✓	Statistics of order Accuracy 0.3 % Mean 1003.0
Fast measurement Automatic printing Automatic tare Allow all measured values	Statistics of device	1003.01±0	Accuracy Coefficient of variation — Mean	0.3%/0.8% ✓ 0%/0.3% ✓ 1003.01 µl	Statistics of order Accuracy 0.3 % Mean 1003.0 Standard deviation of the mean 0 μl
Fast measurement Automatic printing Automatic care values Allow all measured values Check measured values before entering	0		Accuracy Coefficient of variation — Mean Standard deviation	0.3 % / 0.8 % ✓ 0 % / 0.3 % ✓ 1003.01 µі 0 µі	Statistics of order Accuracy 0.3 % Mean 1003.0 Standard deviation of the mean 0 µl Coefficient of variation of accuracy 0 %
Fast measurement Automatic printing Automatic care values Allow all measured values Check measured values before entering	Statistics of device	1003.01±0	Accuracy Coefficient of variation — Mean	0.3 % / 0.8 % ✓ 0 % / 0.3 % ✓ 1003.01 µі 0 µі	Statistics of order Accuracy 0.3 % Mean 1003.0 Standard deviation of the mean 0 μl

Furthermore, all characteristics in the progress bar are marked with a green check. The discarded measured value is highlighted in pink.

4.5 Complete test

	Test equipment	🛛 2. TV 🛛 🖉 1. TV 🖓 NV 🔮		~ / ×	A/B/C 🛛 🛛 🕺 Measurement 🔻 🛟
🖌 🚺 🍐 💥 🖸	Number	Time	Measured value	Volume [µl]	S
C 21 °C 40 %rH 961 mbar	1	11/12/2021 2:39:32 PM	1.00000 g	1003.01	
quest ambient data	2	11/12/2021 2:40:16 PM	1.10000 g	1103.31	
value Number	3	11/12/2021 3:29:39 PM	1.00000 g	1003.01	
	4	11/12/2021 3:29:41 PM	1.00000 g	1003.01	
0 μl 10 / 10	5	11/12/2021 3:29:43 PM 11/12/2021 3:29:44 PM	1.00000 g	1003.01 1003.01	
	7	11/12/2021 3:29:44 PM 11/12/2021 3:29:46 PM	1.00000 g 1.00000 g	1003.01	
Messungen: Neue Messung:	8	11/12/2021 3:29:47 PM	1.00000 g	1003.01	
1 6 9	0	11/12/2021 3-20-50 PM	1.00000 g	1003.01	
103301 Image: Constraint of the second of	557 Statistics of device	2 4	Test number 6	0.3%/0.8% 🗸	10 Statistics of order Accuracy 0.3
Check measured values before entering		1003.01 ±0	Coefficient of variation	0%/0.3% ✓	Mean 1003
Discard entry Undo discard			- Mean	1003.01 µl	Standard deviation of the mean 0 µl
bised entry ondo dised	992	1000 1008			
	552	1000	Standard deviation	0 µl	Coefficient of variation of accuracy 0 %
			Expanded measurement uncertainty	0 µl	Mean value CV 0 %
					СРК 0

a. Click on Complete test.

	STD – standard value	Article	704780 - Transfe				lu 000			ļ	Notes on th	e order			Com	munication v	vith the customer	
er no.	2021-11-12-14-10-58	•	4437.0 - EC-STD	ISO-PiPip-va	ir-LHDiv 🕒													
	Individual test	Tester	D. Ihrig															
size dom sample size		Order no.			Custome	-				٩								
us	Finished					l												
15	Thisted	OC-Numbe	ar 🔤		End custo	omer			•	٩								
t characteristic –																		
	eristic Description Targ	t va Mean	Tol targe Tol OK	Standard d	evi A% targe	A%	A% OK C	V% tarc	CV% CV%	CV	% OK QS	CPK	Min CPK CP	кок				
1	2. TV 100µ		ок	0 µl			ОК 3		0% 0%	ОК	0	0	OK				1	
2	1. TV 500µ	500.4 µl	ОК	0.88 µl	1.6 %	0.1 %	ОК 0.	6%	0.18 % 0.18	% OK	0	0	OK					
3	NV 1000	il 1003.01 µl	OK	0 µl	0.8 %	0.3 %	OK 0.	3 %	0% 0%	OK	0	0	OK					
Individual test	t 13014 ISO-		70478	0 30		inished				0.1	hrig			• • •	👍 🛄 i			

b. You will now see the order with a summary of the measurements for the respective test characteristics. Click on Print internal log.

ntent	Print preview												Settings
ader	î (***												Templates used
tent			02132		1022 20	12 IZ	3127 G						Selected master layout: DINA4-hochkant-DAkkS+interne
a and			EA	SYCAL	- Ergeb	nisse Pr	rüfauftra	g			23		
Free text Kapfzeile		BRAND GM	ABH + C	OKG		Prüfer: Daniel Ih Datum: 2021-11	rig.				21		Selected content structure:
nopyzene		DIVIND OF				Datum: 2021-11	-12			E	BRAND		Internes_Auftragsprotokoll
Free text		1. Kopfdaten:		a	narge:								Export languages
1. Kapfdaten					A-Nr: 2021-11-	12-14-10-58-DI		Losmenge	1				Primary language
				P	rutart: STD – sta	andard values							German
Horizontal line				4	rtikel: 704780		Transf	erpette® S Van	abel 95 - 1000	щ			Secondary language
A MONOV													English
Free text 2. PA-Toleranzen		2. PA-Toleranze	n:	110000000	ren ze [µl]: ligkeit [µl]: 8		7/22/5	ationskoeffizien					Export remark
					PK-Grenze:		Van		c-Went: 0.00				Enter a remark:
Horizontal line		8		5	to are and				enen eue		_		2 - 3 M D C C D M D F
		3. PA-Status:			Finished		No. 202103	18-RZ-01; No. 38			les Promitei		
Free text					-37,290,6591		140-2021070	April 2, 101, 32	1000-911,100,000	acer in a	0 010/20-10		
1 3. PA-Status		4. PA-Ergebniss	e:										
				Test oharaoteri	n Target val:	MEAN	STDEV	A	CV	CPK	QA value		
Horizontal line				stic	-		-	2227		12			
					1 100 µl 1 300 µl	100 30 µ 500 40 µ		0%	0.0%	D D	0 a		Hide elements
Free text 4. PA-Ergebnisse					1 1000 µl	1003.01 .		0.3%	0.00 %	0	0		I Hide background
4. PA-Ergennisse													Hide primary conformity assessment
Order statistics table		5. Geräte-Ergeb			0.000000					1			Hide secondary conformi
Order statistics table		Device no	Test character istic	Terget value	Target accuracy	Target operticient of versition	Mean	Standard deviation	Accuracy	Coeffe nt o	•		assessment
			1	100 µl	8%	S.0 %	100.90 µl	ابر 6.6	05.	0.01			
Horizontal line			2	500 µl	18%	08%	500.40 ul	0.88 ul	015	5.18			
			1 35 1		1000000	1 6803 1	1000000000			Lesse.			
Free text 5. Geräte-Ergebnisse	the second se		1.4.1	1001.4		0.308	Þ			1.0.00	100 % ⊖	. ● H B	

- c. You will see the certificate editor in view mode. Here you can print or export the stored report.
- **d.** Exit the certificate editor by clicking Back.

t type	STD – standar	rd values	Article	704780 - Transfe	rpette® S Adj	ustable vo	olume; 95	- 1000 µl				Not	tes on th	e order			Comn	nunication with the customer		
er no.	2021-11-12-14	4-10-58-DI	Test plan	4437.0 - EC-STD	·ISO-PiPip-va	r-LHDiv 🧧														
er type	Individual tes	it (Tester	D. Ihrig																
size	1										•									
dom sample size			Order no.			Custon					- Q									
us	Finished		OC-Number	·		End cus	stomer				- 🔍									
st characteristic -																				
	eristic Descripti	ion Target v	a Mean	Tol targe Tol OK	Standard di	avi∆% tar	αe Δ%	A% OK	CV% ta	arc CV%	CV%	CV% C	ok los	CPK	Min CPK CPK OF	1				
	2. TV		100.3 µl	OK	0 µl	8 %	0 %	OK	3 %			ОК	0	0	OK					
2	1. TV	500µl	500.4 µl	OK	0.88 µl	1.6 %	0.1 %	ок	0.6 %	0.18 %	0.18 %	ОК	0	0	ок					
3	NV	1000µl	1003.01 µl	OK	0 µl	0.8 %	0.3 %	ОК	0.3 %	0 %	0 %	ОК	0	0	ОК					
				ial number Article					Device	status				calibration		_				
		no. Calibrat ISO-74		ial number Article 70478			Status Finished		Device	status		Tester D. Ihri		calibration	slip 🥕 😩 🔝	ə 🗗 👌	🤁 i			
Individual test									Device	status				calibration		A 🛃 🏭				

e. Click on Evaluation/release.

Evaluation	/release	×
Current status New status	Finished Released	•
Remarks		
Apply to all		
Cancel	Save	

f. In the window that opens, select Released, and confirm the entry with Saving....

er no.		values Article	/04/80 - Transfe	rpette® S Adj	ustable vol	ume; 95 -	1000 µl				No	otes on th	e order		Communication with the customer	
	2021-11-12-14-1	10-58-DI Test plar	4437.0 - EC-STD	-ISO-PiPip-va	r-LHDiv 📕											
er type	Individual test	Tester	D. Ihrig													
size	1									•						
dom sample siz		Order no			Custom					~ Q						
us	Released	OC-Num	ber		End cus	tomer				~ Q						
st characteristic																
	eristic Description	Target va Mean	Tol targe Tol OK	Standard de	wiA% targ	A%	A% OK	CV% ta	re CV%	CV%	CV%	OK QS	СРК	Min CPK CPK OK		
1		100µl 100.3 µl	OK	0 µl			OK	3 %			OK	0	0	OK		
2	1. TV	500µl 500.4 µl	ОК	0.88 µl	1.6 %	0.1 %	ОК	0.6 %	0.18 %	0.18 %	ОК	0	0	ОК		
3	NV	1000µl 1003.01 µl	OK	0 µl	0.8 %	0.3 %	ок	0.3 %	0 %	0 %	ОК	0	0	ОК		
Individual test	13014	ISO-74	70478	0 30		Released					D. Ihi			14 🖾 🤺		

g. Click on Print certificates.

Select/de-select all	Print certificates		×
		 	4

h. Click the check-box, and then click Print preview.

ntent	Print preview						Settings
ader	-						 Templates used
							Selected master layout
ntent							EC-DINA4-hochkant
b Free text							Selected content structure:
Header							Kalibrierzertifikat_Einkanal
Horizontal line		Allgemeine Angaben Gener	ad halo motion				Export languages
Florenne mite		Kalbrierschein Nr.	animonnation 150-74				Primary language
and a second		Kalbrierschein-Nr. Genticate r/e.	150-7				German
Free text		Gegenstand	Kolbe	nhubpipette Pipeze			Secondary language
Allgemeine Angaben - Werte		Herstellar		D GMBH + CO KG			English
		Manufacturer					
Measurement Information		Typ	Transl	terpette@ 5 Variabel 35 - 1 specie8 5 Aquisistole volume.	000 pl 85 - 1000 pl		Test plan selection
		Fabrikat/Serien-Nr.		-			EC-STD-ISO-PiPip-var-LHDiv
Measured value table		Serentember Kundeneigene Kennzeichnung					Export remark
		Customer's specific label					Enter a remark:
Free text		Mess- und	TLA/Tar	21,0°C	GAcrosprare / \$Parocohors	96tinbar	Citter a remark.
🖳 Konformität + Unterschrift		Umgebungsbedingungen: Beaurement and antibati contifional	Titlasser / Tytlast	21.0°C	iH.	40%/h	
			ZPoleri Ztetz Prüfflüssigkeit	1003.0121131µl r.g. Wasser nach DIN ISS	5 6650 A		
Free text			Tiral Aquid:	malar according to (SO 3)	000 queR/ 1		
BRAND-Footer			Kalibriert mit: Colorotog with	732212 BRAND Piper 732212 BRAND Piperen	tenspitzen 60-1000µ1. astzen 50-roubus		
		Protection:		No. 351005-71; No. 60002			1
oter		Anmerkung:					A
		20062009					Hide elements
		Messung		100µ1	500µl	1000µl	I Hide background
		1	lat	0.10000	0,49500	1.00000	Hide primary conformity
		2	ia)	0,10000	0,49900	1,00000	assessment
		3	lai .	0,10000	0,50000	1,00000	Hide secondary conformity
		4	ial Iai	0.10000	0.46500	1,0000	assessment

→ The certificate editor opens in Print preview mode. You can still make settings in the right section and enter export annotations depending on the selected content structure.

Tutorial

Weiller Status	Vanamosocanom		Approximation of the second
ntent	Print preview		Settings
ader		Kalibrierschein / Calibration certificate erstellt durch das Kalibrierlaboratorium issued by the calibration laboratory BRAND GMBH + CO.KG	Templates used Selected master leyout: EC-DINA4-horchkant Selected content structure: VKV Kalibrierschein mit Grafik Export languages
Freitext Kalibriergegenstand		Otto-Schott-Straße 25 / 97677 Werthelm / Deutschland	Primary language German Secondary language English
Horizontale Linie Zusätzliche Exportanmerki		Hesteler Manufacture BRAND GMBH + CD KG Datum der Kallonsung der desktration 2021-11-12 Typ Transfergenzbell S: Variabel 951000 µl (mindergenz S: Adjunctube 191-1000 µl (anster Auftrageber Canster Auftrageber Canster Fabilizationer Fabilizationer Kanzerbergenz Auftrageber	Test plan selection EC-STD-ISO-PiPip-var-LHDiv Export remark
Horizontale Linie Prüfmerkmal Diagramme		P Solit Att Schemher Schemher Protectures 100ul Protectures 500ul Protectures 1000ul	Enter a remark
Seitenumbruch		110	, Hide elements
Freitext Seitenkopf Freitext Kalionerverfahren			Hide background Hide primary conformity assessment Hide secondary conformit
Messungsinformationen Pröfmittel / Umgebungsdaten		44 ≪ 1 von 3 ► → Zooms 100 % © © ┝┥ 🖽	assessment

i. Here you can also export the certificate as a PDF or print a hard copy. By clicking on Back, you leave the Print preview.

BRAND - EASYCAL	™ 5																-	٥	×
Order 2021-11	-12-14-10-	58-DI																	
Test type Order no. Order type Lot size Random sample size Status	STD – standaro 2021-11-12-14 Individual test 1 ≥ 1 / 1 Released	4-10-58-DI	Article Test plan Tester Order no. OC-Number	704780 - Transfer 4437.0 - EC-STD- D. Ihrig) µl		~ Q		otes on th	e order			Communication with the customer			
Test characteristic											_								_
Test characte	eristic Descriptio 2. TV 1. TV NV	100µl 500µl	Mean 100.3 μΙ 500.4 μΙ 1003.01 μΙ	ОК	Standard de 0 μl 0.88 μl 0 μl	8 % (1.6 % (A% A% 0 % OK 0.1 % OK 0.3 % OK	OK CV% t 3 % 0.6 % 0.3 %	0 % 0.18 %	CV% 0 % 0.18 % 0 %	ОК	OK QS 0 0 0	СРК 0 0 0	Min CPK CPK OK OK OK OK					
Device/calibration Calibration slip	o type Internal r	no. Calibrat	ion slip no. Ser	ial number Article 704780			itus leased	Device	e status		Teste D. Ih		calibration	n slip	• B * Åi (U	i			
						Fuelus	tion/release	Drint int	ernal log	Print ce	ortifica	tor Ne	w calibratio	on clin					
Back	Back to the orde					Evalua	tion/release	Print Int	emai log	Print Ce	ertifica		w calibratio	on siip				Save	

- j. Click on Back to the order overview
- **k.** From here you can create additional jobs and start tests. By clicking on Back, you can return to the main menu.

Orders and calibration slips	Reminder service	Administration
Settings	- <mark></mark>	

✤ This is where this tutorial ends.

5 General operation

Log in, log out, and change the user

Cu	Urrent user User name Log-in nam	EASYCAL Admin e admin)iscard
-	Change password		
	Change user	Log out	
	EASYCAL Admin	ast status: The application is p	repared

Click on the user name at the bottom left of the screen. You can change this user, log out, or change the password; see also User, p. 61.

Yellow dot on menu items and tabs

Article data 🗕	Addition	nal article data	Rando	m s	sample plans	Test e	quipment	General	
Article									
Product •		Search 📑	ype to se	arc	h				
Product variat	ion	Product		Vei	Product categ	jory	Manufactu	urer	
Manufacturer		Bürette		0	Bürette		BRAND GI	MBH + CC) KG
		Varispenser	[®] plus	0	Einzelhubdisp	benser	Eppendor	f AG	
Product categ	ory	VITLAB® ge	nius	0	Einzelhubdisp	benser	VITLAB Gr	nbH	
Volume range		VITLAB® pi	ccolo 1	0	Einzelhubdisp	oenser	VITLAB Gr	mbH	
_		VITLAB® pi	ccolo 2	0	Einzelhubdisp	benser	VITLAB Gr	nbH	
		Varichencer	8.2	0	Finzelhubdice	encer	Ennendor	f AG	

A yellow dot marks unsaved changes.

Fields with red borders/mandatory fields

Plan designation	
Absolute random sample	The entry may not be empty. Nun

Fields with red borders indicate missing entries or mandatory fields. If you move the mouse over the edge, "Tool tips" will be displayed.

Localized description

French		
Chinese		
Spanish		
English		
German	Bürette	

You can use the ^{BA} button to localize descriptions or fields. These texts can then be used for output on certificates.

Warning triangle

If a warning triangle is displayed, this indicates missing information (e.g., that a piece of test equipment has not been set for the test).

Search fields

As soon as you type characters into the search box, the options are narrowed based on what you type. Use this option, especially when choosing the variety of articles.

6 System Information

>> Main menu > Via EASYCAL

About EASYCA	AL .	×
	EASYCAL TM BRAND GMBH + CO KG Version 5.0.17.218 Code signing AND GMBH + CO KG. All rights reserved.	
accu-jet®, BIO-CERT® Dispensette®, EASYCA QuikSip™, SafetyPrim trademarks or tradema	®, BLAUBRAND®, BRAND®, BRAND. For lab. For life.®, BRANDplates®, cell-culture™, AL™, HandyStep®, hydroGrade™, immunoGrade™, inertGrade™, lipoGrade™, nano-cap™, j ne™, seripettor®, Titrette®, Transferpette®, as well as the BRAND figurative mark ar narks of BRAND GMBH + CO KG, Germany. mentioned or depicted here are the property of the respective owners.	pureGrade™,
You are curr To activate y	rently using a demo version. your full single client license, use the following link: <u>https://license.brand.de</u> .	
License:	basic functions 11002 - Easycal 5 Demo License (30 days) (SNR: 130-3184513782) d: 22 / 30 days remain	i ^
		Close

Available functions

This tab shows which program functions have been installed. Version information is also shown. Under "License", you can see with which type of license you are operating. Behind the abbreviation "SNR:", you will find the serial number of the license container. Provide this number when communicating with BRAND.

Open Source licenses

This tab provides an overview of the licenses used in the development of .

7 Orders and calibration certificates

>> Main menu > Orders and calibration slips

	Orde	rs and	calibration	slips												
I	lest type	filter	lot specified	•	Search	Type to search	1				from 1/11/2022	15	to 1/26/	2022	15	ß
	Order o	verview	Calibration slips													
	Order	I Test typ	Order number	Article								Status	;			
	2	SPEC	2022-01-25-15-2	EC-1248	4 - Burett	e BLAUBRAND	®, straight stop	cock, Schillin	ng, class AS; 0.0	02 - 10 ml		Create	ed	9	a	
	1	STD	123456	EC-7041	06 - Trans	sferpette® Fixed	d volume; 5 µl					Finish	ed	6	ā	
	Ba	ick								Individ	ual device test	Creat	e order	1	Open	

Use this menu to manage all orders and calibration certificates for the tested devices. These tests are therefore traceable. Together with the devices created, you can thus trace the test history for each device.

You will find a list of all orders created and calibration certificates generated in the "Order overview" and "Calibration certificates" tabs. You can filter the views by test type, search for texts or the order number, and limit the time period in which the order was created.

Via this button, you can display all calibration certificates created for the order so far.

Button	Meaning
Individual device test	Start a single device test.
Create order	Create an order. In the following selection, you can start a single test (ana- log single device test) or a batch test.
Open	Open a selected order.

7.1 Create order

Select order type

Select order type	
Batch test Use when testing random samples (of any size). Batch certificates are issued.	Individual test Use for 100% test or test of a single device. Each device receives its own certificate.
Back	

Select the desired order type Batch test or Individual test

Create order

Single test

Test type	STD – standard values	 Number of device 	es 1 🗘	Customer	•
Order no. Article code	EC-704106	Order no.			
Article	Transferpette® Fix BRAND GMBH + CO KG	OC-Number	Prepare calibration slips Pre- and post-test required		
		Notes on the ord	er	End customer	•
Volume ranges	5µl (5 - 5) 😵 🖣				
Test plan	1826.0 - EC-STD-ISO-PiPip-5-fix-LHDiv	•			

Ill. 1: Single test – Create order

In a single test, one or more devices of the same article are tested, and a certificate is issued to each device. The <u>>>test type<<</u>, the article code, and the <u>>>test plan<<</u>must be selected. Depending on which test type is selected, only some of the test plans are offered for selection under "Test plan".

Batch test

Test type	STD – standard values	•	Lot size	1 ≑	
Order number			Random sample size	0	
Article code	EC-12484	٩	Batch		
Article	Burette BLAUBRAND®, straight stopcock, Schilling, AS BRAND GMBH + CO KG	class	Notes on the order		
Volume ranges	10 ml (0.02 - 10) 🔇	•			
Test plan	652 .0 - EC-STD-BC-ISO-G/P-Bur-10-AS	• 9			

Ill. 2: Batch test - Create order

In a batch test, a random sample is taken from a batch of equipment, and the random sample device is tested. One certificate is issued per device. Depending on the result of the random sample test, it can be assessed whether the lot meets the corresponding quality requirements. The <u>>>test type</u><<, the article code, and the <u>>>test plan</u><<must be selected. In the case of a batch test, the identification of the batch and the size of a <u>>>lot</u><< must also be specified. Depending on which test plan and random sample test (absolute or relative) is selected, the size of the random sample changes. In this example, the absolute random sample test with AQL 0.4 is assumed. This level requires 5 devices each as a random sample for a lot size of 1 ... 500.

Create calibration certificate

You can also enter further data about the order such as which customer the device comes from, who the end customer is, or even which order and purchase order numbers are required.

If the Prepare calibration slips check-box is clicked and the test is started by clicking on Start test, the following window will be displayed. Enter the serial number of the device to be checked here. You can also expand the view by clicking on the arrow to enter further data relevant for the calibration certificate.

New calibration slip Count up Count down Serial number Cancel	X	
	New calibration slip	×
	Count up Count down Serial number 123456	Customer identification Year of production 1900 ‡ 🗹 unknown Tips, accessories 732208 BRAND Pipettenspitzen 2-200µl 🔻
	Volume range 5µl (5 - 5) ▼ Test plan 1826.0 - EC-STD-ISO-PiPip-5-fix-LHDiv ▼	Cleaning type Pipette mode Pipette velocity
	Device status	Remark according to customer request Internal remarks
	Cancel	Continue

Ill. 3: Single device test

Edit calibration slip STD-1 $ imes$		
Serial number 3		
N		
Cancel Continue		
	Edit calleration slip STD-1	X
	Serial number 3 1234	Customer identification
		Year of production 1900 🗘 🗹 unknown
		Tips, accessories 732208 BRAND Pipettenspitzen 2-200µl 🔻
	Volume range 5µl (5 - 5) 🔹	Cleaning type
	Test plan 1826.0 - EC-STD-ISO-PiPip-5-fix-LHDiv •	Pipette mode
		Pipette velocity
	Device status	Remark according to customer request
	· · · · · · · · · · · · · · · · · · ·	
	8. ⁴	
	•	Internal remarks
		K
	Cancel	Continue

Ill. 4: Batch test

Field in expanded view	Explanation
Check-box Count up	Count up/down the number of the calibration certificate
Count down	

Field in expanded view	Explanation
Serial number	Enter the serial number of the device to be checked here.
Volume range	The dialog adopts the previously selected volume range. You can adjust this again here.
Test plan	The dialog applies the previously selected test plan. You can adjust this again here.
Device status	Select a text describing the status of the device from predefined texts here. You can also use individual word blocks to describe the device status. You can also enter a free text here. You translate this in this window as well. Device status Before adjustment: volume values before adjustment For adjustment: volume values before adjustment You can create text modules and ready-made texts in master data maintenance under General; see Selection text
Customer identification	Assign a customer identifier
Year of production	Enter the year of production of the device
Tips, accessories	If a device is tested with different tips than the customer uses, this information must be output. You can select the tips or the accessories used for this purpose.
Cleaning type	Select the cleaning type used for cleaning before the test.
Pip mode	Specify the pipetting mode in which the pipette was tested.
Speed	Specify the speed settings used during the test.
Remark according to customer request Internal remarks	Free text field; enter the appropriate remarks.

See also

- \rightarrow Business partner administration (p. 128)
- \rightarrow Master data maintenance (p. 70)
- \rightarrow Test planning (p. 113)

7.2 Select test equipment for the test

BRAND - EASYCAL ^M 5 1 22-01-26-18-10-32-EA / STD-2 - 512	23456 - EC-704106 BRAI 2 + CO K	G Transferpette [@] Fixed volume 5µl	- (6)
	Test equipment nomina	al vol. 💿	4 5
	Air temperature	Thermometer •	EC-Test-Multimeter
	Temperature of the medium	Thermometer •	FC Test Multimeter
	Relative humidity Air pressure	Hygrometer • Barometer •	EC-Test-Multimeter
	Air pressure Weight	Single-channel balance	EC-Test-Balance
Back	41 Previbus device 🔶 Prev	12 11 10 vicus thanscreistic Herst characteristic + Additional therice +	9 Bevice evaluation Complete test

- 1 Example identifier of the check
- **2** Sequence of test characteristics. You switch through the test characteristics with the buttons at the bottom of the screen (Previous characteristic | Next characteristic)
- **3** The required test equipment types are specified here; these result from the test characteristics. A selection may also have to be made here. For multichannel pipettes, for example, it is necessary to distinguish between "single channel balance" and "multichannel balance".
- **4** This column displays notes about the test equipment such as the pending calibration of a balance or the pending measurement function test dictated by the location of the test; see Location for test equipment, p. 90.
- 5 Here you select the test equipment by its test equipment number.
- **6** Use the "Info" button to display more information about your order. You can hide them again via the button.
- 7 Show print preview. You will be shown a preview that shows the previous test results. You can assign the certificates to the articles via the certificate assignments; see Certificate template assignment, p. 111.
- 8 Complete test. Ends the test.
- 9 The device evaluation shows the evaluation of the test; see .
- 10 Add another device that you want to test.
- 11 Switch back and forth between the test characteristics.
- **12** Switch to the test of the previous device.

7.3 Performing tests

In this dialog, you perform the measurements yourself. The measurement happens on the basis of the test characteristics created in the test plan. Tolerances and limit values against which the device is tested during measurements are also entered there.

PO number 202	2 3456 D	est type STD – standard values	Status In progress Fest characteristic 1 / 1	te ® Fixed volume 5µl Calibration object EC-70 Volume range 5µl (5 Accessories		d volume: 5 µl		Display test plan (read-only)	mates
Imbient data	6. III. a	Test equipment	nominal vol. 😔		Measured value		Volume Iuli	✓ / X A/B/C	پال St
20 % 20 %	40 SrH 960 mbar	1	1/25/2022 6:16:59 PM		0.005000 g		5.014		
Request ambient da		2	1/26/2022 6:17:10 PM		0.005000 g		5.014		_
a ser a s		3	1/26/2022 6:17:19 PM		0.005000 g		5.014		
arget value 5 μl	Number 4 / 10	4	1/26/2022 6:17/26 PM		0.005000 g		5.014		
Letzte Messungen:	Neue Messung:	52 51 ਉ 2							
5.014	μ1	4.3							
1 - 2007 Dit	· · · · · · · · · · · · · · · · · · ·	Statistics of device						Statistics of order	
6:17:26 PM	C				Accuracy	0.3 % / 2.5 % 🗸		Accuracy	0.3 %
← 1/4 →	Apply measured value		5.01 ±0		Coefficient of variation	0%/1.5% 🗸		Mean	5.01
	upment disconnected				Mean	5.01 pl		Standard deviation of the mean	0 µl
V rest equ	aprilent disconnected	4.875	5	5,125	Standard deviation	0 ul		Coefficient of variation of accuracy	0%
Fast measurement Automatic printin Automatic tare Check measured v					Measurement uncertain	ty Oul		Mean value CV	0%
Back	uteu - Elucio, Algenard Last status: Test characterístics concern		ce 🔶 Previous characteristic	Next characteristic 🔸	Additional device +		Device evaluation	Complete test. Print pri	ележ ?не

Prerequisite:

- ✓ The test equipment was selected.
- **a.** Enter the measured weight value [g] at New measurement:. Example: 0.01 g
- → By means of a Conversion factor, the volume [here µl] is converted from the weight [g], taking into account various physical parameters (see DIN EN ISO 8655-6 – correction factor Z).
- **b.** Click "Apply measurement" to create a new entry in the table of measured values.
- → If the test equipment is to be entered manually, the Enter measured values

Temperature difference	0.00 °C		0.5 °C		
Weight	5	g		3	🖌 Manual
Air temperature	20	°C	(20°C - 25°C)	3	🖌 Manual
Temperature of the medium	20	°C	(20°C - 25°C)	G	🗸 Manual
Relative humidity	40	%rh	(40%rh - 60%rh)	G	🗸 Manual
Air pressure	960	mbar	(960mbar - 1025mbar)	3	✓ Manual

dialog opens. You can adjust the test equipment values manually here.. The value is marked in red if it is not in the allowed range.

- c. Enter the required number of measured values one after the other.
- **d.** After you have completed the measurement series, click on Next characteristic and work through the test characteristics one after the other.

The measurement in detail

		st type STD – standard values	Status In progress		4105 - Transferpette® Fixe	d volume; 5 µl			
erial number S	5123456 De	wice 1/1	Test characteristic 1/1	Volume range 5pl (5	5)				
ertificate no. S	TD-2 Ter	st plan DC-STD-ISO-PiPip-5-fo	- V 0	Accessories					
								splay test plan (read-only)	t notes
	120	2					10		
bient data	A 111 -	Test equipmen	t 〉 nominal vol. 🛛 😔					3 V/X A/B/C	μl
N. 11	(a) 12m C	Number	Time		Measured value		Volume (µl)	•	5
20 °C 20 °C		1	1/25/2022 6:16:59 PM		0.005000 g		5.014		
Request ambient	data	2	1/25/2022 6:17:10 PM		0.005000 g		5.014	(4)	
1		3	1/26/2022 6:17:19 PM		0.005000 g		5.014		
rget value	Number	4	1/25/2022 6:17:26 PM		0.005000 g		5.014		
5 µl	4/10	Graph of the measured val	ues						5
		5.2							
tzte Messungen:	Neue Messung:								
0.005	ð o	21						5	
		3							
1002.8016210	04 💁 1002.80182104 μl/g	1.00.5							
110 0000	1000	4.9							
5.014	() pi	Statistics of device						Statistics of order	
6:17:26 PM	C				Accuracy	0.3 %/2.5 % 🗸		Accuracy	0.3
					10-100204	•		6	
- 1/4 -	Apply measured value		5.0T ±0		Coefficient of variation	0%/1.5% 🗸	-	Mean	5.01
😣 Test e	equipment disconnected		11		- Mean	5.01 µl		Standard deviation of the mean	0 µl
1		4.875	5	5,125	Standard deviation	0 µl		Coefficient of variation of accurac	y 0%
Fast measurem			$\overline{\mathbf{O}}$		Measurement uncertaint	v. 0.0		Mean value CV	0%
Automatic print Automatic tare								mean value CV	• · •
	d values before entering								
_									
Theorem	Laster Llaste directed	•							
Theorem	antro Horley disearch	•							

- **1** Via the "Info sign", you expand the view and now see order-specific information. The button Display test plan (read-only) shows you the test plan.
- 2 Overview of the test characteristics from the test plan. You can select these individually in order to jump to the relevant section of the test. If a test characteristic has been successfully tested, a green check v is displayed on the test characteristic. The yellow circle indicates pending tests.



3 Here you can change views at the error limits:

- Pass/fail
- Evaluation criterion A/B/C
- Display of A and CV in absolute values or relative values.
- **4** Overview of the measurements made so far. The success/non-success of the measurement is displayed in the "Status" column. Discarded measurement series are also displayed in this view.
 - ♥. The measurement was successful. The measured values are within the permitted deviation.
 - 🛇: The measurement series was discarded.
 - 😢: The measurement was not successful. The measured values are outside the permitted deviation.

5 The graph shows the scatter of the measured values around the calculated mean value of the measured values. The mean value can be seen as a thin dashed line. The measured values are displayed as blue dots and indicate whether they are within the error limits. The error limits can be seen as a solid line in the graph. The bold dashed line indicates the measurement uncertainty of test procedure – it is visible only if the user specifies a value in the "Measurement uncertainty" section in Test plan > Test characteristic.



6 In the "Order statistics" section, you will find mean values for the previous test. For accuracy and coefficient of variation, the previous values are compared to the permissible error limits.

)%
) µl
) µl
)%
)%

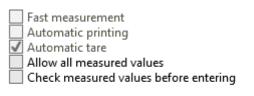
7 In the "Statistics device" section, you can see in which area the measuring points are distributed. In this example, the required target value is more likely to be exceeded than not reached.



The green vertical line shows the mean value of all measurements made so far.

The green bar shows the measurement uncertainty of the test method in relation to the mean value.

8 In this section, you can set some parameters for the measurement or also discard the current measured value in the table of measured values. The discarded measured values are not deleted from the table but rather grayed out.



Discard reason

dentified as outlier. 🔻

Discard entry Undo discard

Fast measurement:

(This is available only if the balance is connected via interface)

Automatic change of the test characteristic as soon as the number of required valid measurements is reached. Measurements that would invalidate the result are automatically discarded. If all characteristics have been completely checked, the system automatically switches to the next device/calibration certificate. It is thereby offered to create a new certificate

Automatic printing:

In conjunction with fast measurement, printing of the associated certificate is triggered automatically when the device is completed.

Automatic tare:

If a balance is connected to the computer, the balance is automatically tared.

Check measured values before entering:

The check-mark "Check measured values before entering" causes the dialog "Enter measured values" to appear during a test with a balance and completely automatic transfer of ambient data. Users can then check their entries again manually and make changes. A particular application is the testing of volumetric flasks. First, the volume or weight value is determined. Then, the temperature of the medium inside is measured.

9 In this section, you can start the individual measurements. You enter your weighing result in the weight field. This value is then converted into a volume via the conversion factor (correction factor Z, relevant parameters). In addition, the time of the measurement itself is also recorded.

If a balance is connected, the weighing result is entered automatically with each new weighing.

ē	5 0,0002 g
Ō	🗓 1002.80182104 μl / g
٥	δ 2005.6 μl
Ċ	Ö
← 0/0 →	Apply measured value

10 This section displays the target value and the required number of tests.

11 The ambient data is displayed. If the test equipment is connected to the computer, you can update the values via the button. If the test equipment is within the permitted value range, it is marked green.

See also

 \rightarrow Erroneous measurements in the test (p. 56)

7.4 Complete test

play test plan (read-only) ✓ / X X/0/C [u] Gr
••••
Statistics of order
Accuracy 0.3
Mean 5.0
Standard deviation of the mean 0 ;
Coefficient of variation of accuracy 0
Mean value CV 01
(4)

- 1 The section always bears the color of the respective status (same colors as in the job overview). When all test characteristics are completed, the status is set to "Completed" and the color changes.
- **2** In the device evaluation, you can look at the test details in order to view the individual target value deviations.
- **3** If you are testing in a batch test or several devices in an individual test, switch to testing the other devices in the next step using the Next device button.
- **4** Complete the test: The open order appears. The device/calibration certificate overview shows the tests that are still open or have already been completed (see Order in detail, p. 53).

7.5 Order in detail

>> Main menu > Orders and calibration slips > Select order

type er no. er type ize dom sample size us	STD – standa 2021-10-08-1 Individual tes 1	2-39-47-EA	Article Test plan		172 - Transferpett	e van						Notes on the order		
er type iize Iom sample size	Individual tes				EC-STD-ISO-PiP	ip-50-v							Communication with the customer	
lom sample size	1		Tester				U							
							_			_	_			
IS			Order no.				Customer				٩			
	Created		OC-Number	r			End customer			-	٩			
characteristic -														
	ristic Descripti	ion Target va	Mean 👝	Tol targe	Tol OK A% tar	ar A%	A% OK CV% tar	rc CV%	CV%	CV% OK				
1	2. TV	5µl	^{µl} 10)	10 %	%	4 %	%	%					
• 2	1. TV	25µl	μ		2 %	%	0.8 %	%	%					
3	NV	50µl	μί		1 %	%	0.4 %	%	%					
Individual test	3	STD-3			EC-704172 0		Created					🖌 🛁 📥 🖉 🖉	^{[2} , i	
													$\backslash / $	
	<u>ل</u>												$\langle \langle \rangle \rangle$	
												(2) _ / \		
												4	5 6	
							Evaluation/release	Pri	int internal	log Prir	t certif	icates New calibration slip		
							Evaluation/release	e Pri	int internal	log Prir	t certif	icates New calibration slip		
		der overview												

1 🧭

Edit calibration slip: The dialog to edit the calibration certificate opens (see Create order, p. 44).

2

View/continue test: Continue or view the test (see Performing tests, p. 49). .

3

Individual evaluation: Open the individual evaluation.

4 📥

Export certificate: The print preview will be opened. Print the certificate or save it.

5

Add new linked calibration slip: You create a linked calibration certificate. This appears in the device/calibration certificate overview.



Call up the device history: If the device has been tested at least once, call up the device history. Otherwise, the button remains inactive.

7

Create new reminder: The device will be added to the list of reminders. An e-mail can be sent automatically to a business partner; see Business partner administration, p. 128.

8

Calibration slip – details: Details of the calibration certificate are output. Example:

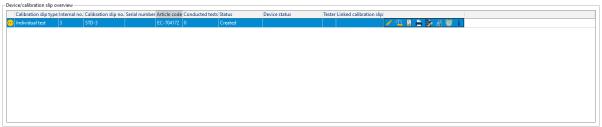
Calibration s	lip – details	×	
Internal no.	3		
Calibration slip no.	STD-3		
Article code	EC-704172		
Serial number			
Date of calibration	1/1/0001		
Calibration mark date	e 0001-01		
Client version	5.0.13.210		
Server version	5.0.13.130		
		Close	

9 💾

Display test plan (read-only): Displays the test plan in read-only view. To edit the test plan, see Test plan overview, p. 113

- **10** Test characteristic: This section displays the statistical evaluation of the test characteristics over the entire order and shows the respective evaluation of the values.
- 11 Device/calibration slip overview: The devices to be tested in this order are listed. Here, a device is assigned to one calibration certificate at a time.

In the case of a batch test, the further random samples are located here. In the course of the further test, a calibration certificate is also issued to each device of the random samples.



7.6 Print/save certificate

ÖB BRAND - EASYCA	AL™ 5						- Ø ×
Order 2021-1	10-08-12-39-47-EA						
Test type Order no. Order type Lot size	STD – standard values 2021-10-06-12-39-47-EA Individual test 1		4172 - Transferpette ® 1- EC-STD-ISO-PiPip-5		Notes on the order	Communication with the customer	
Random sample sla Status	ize 1 / 1 Created	Order no.	1	Print certificates	×		
1 2 3 Oevice/calibration Calibration sl	cteristic Description Target va 2. TV Sul 1. TV 25ul NV 50ul	ul ul ul	2% % 1% %	Select/de-select all			
Back	Back to the ander overview			Cancel Print pre			Save
	Last status: Calibration stip '3' v	55				Connected to: Local database	

- **a.** Print or save one or more certificates by checking the required certificates.
- **b.** Select print preview. Decide on the following options in the print preview. Print certificate; save only as PDF as well as save and print.

7.7 Erroneous measurements in the test

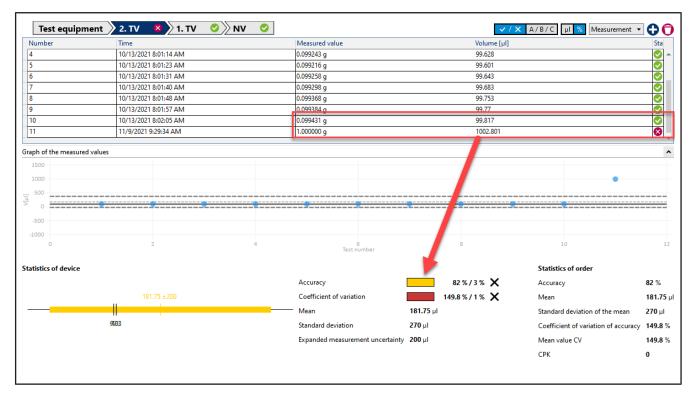
Test equipment imprecise

Test equipment 2. TV NV At least one of the selected pieces of test equipment does not have the required precision. Use anyway						
Air temperature	Thermometer	EC-Test-Multimeter 🔹				
Temperature of the medium	Thermometer	EC-Test-Multimeter 🔹				
Relative humidity	Hygrometer	EC-Test-Multimeter 🔹				
Air pressure	Barometer 🔹	EC-Test-Multimeter 🔹				
Weight	Single-channel balance 🔹	EC-Test-Balance 📕 🔹 🔻				

If test equipment that does not have the required precision is used, the warning triangle is displayed. Use different test equipment.

Statistical deviation

If a measured value exceeds or falls below a statistical limit, the entire measurement can no longer be successful.



Example:

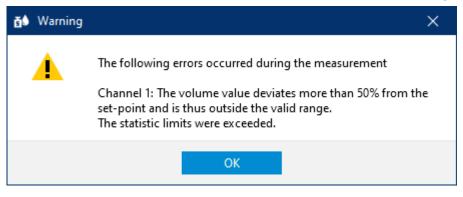
With a target value of 100 μ l, the coefficient of variation is 0.3 μ l [0.3%], and the accuracy is 0.8 μ l [0.8%]. A measurement now gives a result of 99.3 μ l (i.e., a large target value deviation of the measuring point in relation to the other measuring points). The required coefficient of variation can thus no longer be achieved. Because the coefficient of variation makes a statement about how far the individual measuring points scatter, the required precision (i.e., the repeatability of the dosages) can no longer be fulfilled despite a good accuracy.

Solution:

Discard the measurement in question as a possible outlier, and repeat.

High percentage deviation from the target value

A large deviation from the target value occurred. The measured value also exceeds the maximum target value limit (see Parameters and limits, p. 135) Max. Zielwert-Abweichung



Solution:

Discard the measurement in question as a possible outlier, and repeat.

8 Device administration

>> Main menu > Instrument Manager

8.1 Create new device

erial nomber		1	Device ID Serial number Arti	cle Date of creation Last test Last result Status	Owner			
late of creation	from	Select a date						
	to	Select a date 15					×	
ast test	from	Select a date	Edit device					
	to	Select a date 15				Transmission (1997)		
ast result	Undefined	×1	Device ID	0	Last ter			
fain category	1		Serial number Customer identification	1234 RPAND	Status	Active		
roduct category		201	Vear of production	1900 C unknown	Owner			
Annulecture		14	Article code	EC-12484	Q	BRAND Shanghai		
roduct nticle code hannel filter			le informatio	Bürette BLAUBRAND®, gerader Hahn, Schilling, Klasse AS	10000			
olume range	1		御	BRAND GMBH + CO KG		Create new reminder		
	0.1µl	1/ 500 ml	Remarks	New Device				
lwner	¢———	· •						
		1		47		Display calibration history		
ked in order		/	Close			Save		
	Creste new C	h						
	Edit de jice							
		inder						

In this dialog, you can create a new device data set, assign it to an article, and specify who owns the device.

Field	Explanation
Device ID	The Device ID is ID automatically assigned when you click "Save".
Serial number	Enter the serial number printed on the device.
Customer identification	Enter the designation with which you describe the device (e.g., Lab 1, Pipette 3).
Year of production	Enter the year of production or check "unknown" if you cannot determine it.
Volume range	If only one volume range is possible, this is selected directly. If there are several possible volume ranges, the selection remains empty. You then select the correct volume range for the device to be tested.
Remarks	Enter remarks, possibly describing the optical condition or discolorations in the case of an older device.
Last test	Enter the date when the device was last tested.
Status	Enter the status of the device. You can use it to track device usage. The fol- lowing statuses are available to you Not specified Active Defective Sorted out
Owner	Select the owner of the device. See Business partner administration, p. 128

8.2 Search for devices

	Filter				
	Status	Not specified		•	
	Device ID			Ξ.	
	Serial number			Ξ.	
	Date of creation	from	Select a date 15	5	
		to	Select a date 15	5	
	Last test	from	Select a date 15		
		to	Select a date 15		
	Last result	Undefined			
		Underined		•	
ion	Main category			•	
rmat	Product category			•	
info	Manufacturer			•	
Article information	Product			•	
×	Article code		Q	2	
	Channel filter				
	Volume range	0.1 μl	10000 m	nl	
	Owner		- Q	x	
		L			
	Used in order				
		Create new device			
		Edit device			
		Create new reminder		*	

Search for devices using the "Filter" section. There you can search by device ID, serial numbers, time periods, product categories, channels, or volume ranges. The search results list is further narrowed for each criterion entered.

8.3 Create new reminder

erial number	1				Artic				
ate of creation	from	Select a date	Device 3	D Serial number 1234 EC-12484 - E				Last test Last result Status Owner 10/7/2021 Undefined Active T- BRAND Shanghai	
	to	Select a date							
ast test	from	Select a date							
	to	Select a date			2			×	
ast result	Undefined	•		Create reminder					
fain category	i i			Device	1 - 1234	Q Recipient	T BRAND Shanghai 💌	0	
reduct category)	•		Test type	STD - standard values	* Neuprenc	5	•	
Anufecturer	I.			Test standard (tolerances)	Contraction of the providence of		BRAND Shanghai		
reduct		*		Reminder interval	1 🗘 Months				
iticle code	1	9			181				
hannel filter					ų				
olume range	0.1µ1	10000 ml		Remarks					
	Mir Mi	Town of the second			00			-	
lwmer	1	/							
				Cancel			Save		
lsed in order	1								
	3								
	Crnstenew dev								
	Erla devic								

In this menu, you also create a new test reminder. If you have marked a device in the list, the device number is automatically taken over. You then define the test type, test standard, reminder interval, and recipient. See Reminder service, p. 144 and the settings under Automatic reminder, p. 138.

9 Administration

>> Main menu > Administration

In this menu, you manage the basically information:

- User
- Master data maintenance
- Create company
- Certificate templates
- Test planning
- Data import and export
- Business partner administration

9.1 User

>> Administration > Manage users

In this menu, you create users and user groups and manage the access rights of the users.

9.1.1 Test types (user authorizations)

A test type describes which requirements are placed on a test. Test types are intended to assist in the organization of test plans and certificate templates.

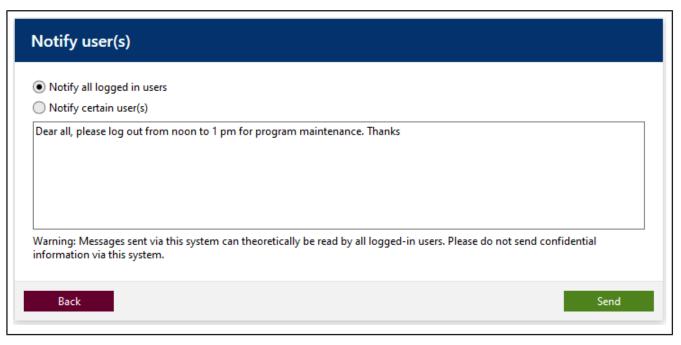
Via the test type and user administration, a user can be allowed or forbidden access to certain test types.

The list of test types cannot be changed.

Test type	Meaning
Standard values (STD)	This test type applies to test plans with values as specified in the standard
	of the corresponding article (e.g., ISO or USP).
Manufacturer values (MANU)	This test type applies to test plans with values as specified by the device
	manufacturer (insofar as they deviate from the standard).
Customer-specific	This test type applies to test plans that do not follow any particular logic.
	No corresponding test plans are supplied. The EASYCAL™ 5 software often
	provides both a test plan based on standard values and manufacturer val-
	ues for liquid handling equipment. The user must decide in this case.

9.1.2 Notify user

(Only in server installations)



You can send messages to individual or all logged-in users; this is intended mainly for administrative purposes. These messages appear in a window. The recipient cannot answer the message directly.

9.1.3 Manage user groups

ð∳ BRAND - EASYCAL [™] 5 Manage user groups	-	o ×
Search Type to search User groups ID Group name 1 global admin 2 system admin 3 data manager 4 testing stiff 5 supervisor	New group Edit group User groups ID Group name Right Test type Right Right Test type Right Test type Right Test type <td></td>	
Back		Save

In this menu, you can create, edit, and delete user groups. You define which access rights are assigned to the test types and which members belong to the user groups.

9.1.3.1 Create user groups

Ď∎ BRAND - EASYCAL™ 5	٥	×
Manage user groups		
Search New group Edit group User groups ID Group name 0 1 global admin 0 2 system admin 3 3 data masger 4 4 testing staff 5 5 supervisor Right Right		
Delete group		
Back	Save	

In this menu, you create user groups. After you create the group and assign access rights to it, assign users to the group. Users can be assigned to multiple groups.

- a. Click on New group.
- **b.** Assign a group name. The User groups ID ID is filled in automatically.
- **c.** Select the desired test type from the Test type list and the desired access right from the Authorization list.
- **d.** By clicking on the "+" sign, you add the pair of test type and access right. According to this scheme select Test type and Authorization add more access rights.

Ď ♦ BRAND - EASYCAL [™] 5	– ø x
Manage user groups	
Search New grad User groups ID Group name 1 global admin 2 system admin 3 data manager 4 testing staff 5 supervisor Right Membre GEN - Gen Test type GEN - Gen	Image: Create/edit device Right
Delete group	
Back	Save

In this menu, you assign additional members to the user group using the "+" sign. In the "Members" list, all users assigned to the selected user group are listed. All users in this group have the same access rights. A user can also be assigned to several groups.

9.1.3.3 Suggestions for user groups

The software suggests various user groups. Of course, you can also create your own user groups or modify the existing ones. An explanation of these suggestions can be found below.

User group suggestion	Explanation
Global Admin	Users of this group modify or configure all parameters of this program. Ac-
	cordingly, only the employees of an IT department should be given this ac-
	cess right because they are responsible for setting up the infrastructure.
System Admin	Users of this group can modify and configure parameters of this program
	that are needed in operational mode. Example: Create certificate tem-
	plates that are used by everyone.
Data Manager	Users of this group are responsible for data maintenance. Example: Create
	customer data or supplier data. Create device data.
Supervisor	Users of this group release tests and calibration certificates.
Test Staff	Users in this group perform the actual tests.

9.1.3.4 Access rights available

The following access rights are available for each test type. The access rights are not cascading (i.e., a user with the access right to release article master data does not automatically have the access right to create it). Therefore, exactly the required access rights must be selected.

Access right	Explanation
Create/edit device	Users can add new devices in the device management or edit existing data
	sets with this access right.
	See Device administration, p. 58.
Create/edit item master data	Users can add new articles in the article master data or edit existing data
	sets with this access right. This also affects the extended article master
	data.
	See Master data maintenance, p. 70.
Release item master data	Users can release article master data with this access right.
	See Master data maintenance, p. 70.
Create/edit users	Users can create or edit new users with this access right. This concerns
	then the assignment of passwords or the assignment of access rights.
	See Manage users, p. 69.
Create/edit user group	Users can create new user groups or edit existing user groups with this ac-
	cess right.
	See Manage user groups, p. 62.
Create/edit customer	Users can create new customers or edit existing data sets with this access
	right. See Business partner administration, p. 128.
Create/edit supplier	Users can create new suppliers or edit existing data sets with this access
, ,	right.
	See Business partner administration, p. 128.
Create/edit test equipment	Users can create new test equipment or edit existing data sets with this ac
, , ,	cess right.
	See Test equipment, p. 89.
Edit workstation settings	Users can edit their own workstation settings or those of other employees
C C	with this access right.
	See Workstation settings, p. 130.
Create/edit company data	Users can edit the company data with this access right.
	See Create company, p. 97.
Create/edit reminders	Users can create new reminders or edit existing data sets with this access
	right.
	See Reminder service, p. 144.
Create/edit common data	Users can create Master data equipment or edit existing data sets with this
,	access right.
	See Master data maintenance, p. 70.
Import/export of data	Users can use this access right to import or export data from the "Master
1 / 1	data", "Orders", and "Certificates" groups.
	See Data import and export, p. 128.
Benutzer benachrichtigen	Users can send messages to other users with this access right.
	Example: Administrator asks other users to log off because of an update.
	See Notify user, p. 61.
Edit global settings	Users can make global settings for all users with this access right.
	Example: Adjust limit values.

Access right	Explanation
	See Global settings, p. 134.

9.1.4 Configure user

9.1.4.1 Initial password

When creating a new user, you assign an initial password for each user; users can then change this themselves. The user with which you create the other users is called the default user.

NOTICE

Change default user

After completing the configuration work, change the default user (user: admin | password: start) in order to prevent unauthorized access to the system.

9.1.4.2 Login

Login

If the program EASYCAL[™] 5 is started, a log-in dialog appears. Here, the user logs in with user name and password.

Reassign password

Login User groups Rights	Tester
Log-in name	example
Password	
Repeat password	
	Change password Reset password

- **a.** Select user from the search list.
- **b.** When creating a new user: assign Log-in name. Otherwise, this is formed from first and last name in the scheme last name-first name.
- c. EnterPassword, and repeat password.

Reset password:

Reset the password of a user via this dialog.

- **a.** Select user from the search list.
- **b.** Click on Edit user.
- c. Click "Reset password".
- **d.** If you have assigned a new password, share the password with the user. This person logs in with the password and gives themselves a new password.

9.1.4.3 User groups

User groups ID		Group name		
	lobal admin			
User groups				
global admin	• •	-		

Add the selected user to a user group by selecting a group under "User groups" and adding it using the "+" button. You can remove the user from a group by selecting the group from the list and removing it using the "–" button.

To create a user group, see Manage user groups, p. 62.

9.1.4.4 Access rights

Test type	Right	Inherited from
SPEC – Customer specific	Create/edit certificate template	alabal admin
SPFC – Customer specific	Create/edit certificate template	alobal admin
	Create/edit certificate template Right	alobal admin
Specific rights		alobal admin
Specific rights		alobal admin
Specific rights		alobal admin

Inherited group access rights are displayed in the upper section. If multiple groups are assigned to the user, this overview shows all access rights of all groups.

Specific access rights are displayed in the lower section. These can be given to the user via the "+" key or withdrawn via the "-" key.

9.1.4.5 Validator

Tester		
Inspector identification		
File path for signature file		

Enter here the verifier identifier (any characters) and the path to the signature file (in .jpg, .bmp, .png, .gif format). This can be inserted on certificates.

NOTICE

Paths to files.

If the file (e.g. signature file or logo) is to be available to several users, it is better to store it in a network drive. Because the files are linked only by paths, a locally stored file may then not be usable by all users.

9.1.5 Manage users

ă∳ BR.	AND -	EASYCAL™ 5								 	- 6		×
Ma	nag	e users											
Mat Searcr	ch [E Users	First name EASYCAL]	New user User ID Title First name E-mail Login User groups Righ Log-in name Password Repeat password	Edit user	eset password						
	Back							 	 	 	 S	ave	

The user administration allows one to create individual users, edit their data, and assign access rights to the users. This area is divided into the user overview, an input screen to enter basic data, and a section that allows further configuration.

9.1.5.1 Search for user

- **a.** Enter the ID or part of the name in the search screen.
- → The search result changes immediately after the input.

9.1.5.2 Create user

New user	Edit user	
User ID	0	
Title		
First name		
Last name		
E-mail		

- a. Click on New user.
- **b.** Enter the data of the user. The User ID is assigned automatically. Fields marked with an asterisk (*) must be filled in.
- c. Assign a Log-in name and password.
- **d.** Click on Save in the lower right corner.
- e. Make further settings.

9.1.5.3 Edit user

New user	Edit user
User ID	2
Title	
First name	Karl
Last name	Example
E-mail	

- a. Select the user you want to edit from the search area.
- **b.** Click on Edit user
- c. Edit the user, their password, and other data.
- **d.** Click on Save in the lower right corner.
- e. Make further settings.

9.2 Master data maintenance

>> Main menu > Administration > Master data maintenance

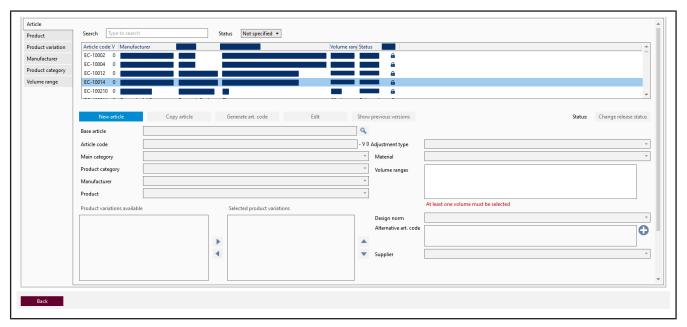
In the broadest sense, the <u>>>master data<<</u> describes articles and associated device data as well as general master data such as management functions in the laboratory. The aim of master data maintenance and its implementation is also to define uniform terms and minimize redundant data sets.

Master data ranges	Explanation
Item data	In the article data, you describe the master data of an article, whereby an
(Relevant for tests)	article can also always stand for a series of similar devices.
Expanded item data	In this section, you can define article data that defines how to handle the
(Relevant for tests)	article during the test. Here you can define the required accessories, re- quirements from standards, materials, or how to clean the articles.
Random sample plans (Relevant for tests)	In this section, you can define the parameters for the relative or absolute random sample test. They describe test procedures and specify temperature differences.
Test equipment (Relevant for tests)	In this section, you can define the test equipment available. Test equip- ment is a tool used to calibrate a device such as a micropipette. Example: Thermometers, balances, measuring devices.
General	In this section, you can make general settings in the master data, including
(Possibly relevant for tests)	positions within a company.

9.2.1 Article data

In this section, both new article data sets and product data sets can be created and existing ones can be edited. The data sets are, on one hand, articles. These describe the products to be tested. On the other hand, products can also be created without being assigned to an article. These product data sets can then be used for subsequent articles.

9.2.1.1 Article



An article data record describes several, identical products. Create new articles here.

Field	Description
Basis-Artikel Item code	By clicking on the 🔍 button, select a Modell on which you would like to
	base the article.
	10 - V 0
	You can either enter the article number manually or generate an article
	code using the Generate item code key.
	Article with the prefix "EC-" cannot be changed. However, you can copy
	these articles and then edit the article under new article code.
	The article code must be unique. If this is not unique (if, as in this example,
	the number 10 occurs more than once), the field is marked red.
	A version number is displayed at the right edge of the field; unsaved new
	articles have version number 0, and all further versions are incremented by
	1.
Main category	The main categories describe the principle technology. These are fixed.
	Selection:
	Liquid handling Temperature and density measurement Volumetric in-
	struments
Product category	The "Product categories" selection field describes groups of products.
	These can be created in the "Product categories" tab.
Manufacturer	Manufacturer of the <u>>>instrument<<</u>
Modell	Designation of the instrument
Available variations	Select specific characteristics to distinguish from other <u>>>instruments</u> .
	These can be created in the "Variations" tab and selected here from the se-
	lection box.
Adjustment type	Select adjustment type
	Selection:
	<u>>>EX<<</u> <u>>>IN<<</u>
	For volumetric instruments, a basic distinction is made between adjust-
	ment to "In" and to "Ex".
Material	Selection of the material if relevant for the test.
Volume range	Specify volume range to be tested. With the "+" sign, you can open a menu.
	You can narrow down the selection in the opened menu using the slider
	bar and select volume ranges from the list.
Design standard	Which standard to apply for the design.
Alternative item code	Add one or more article codes to the article. With the "+" sign, you can
	open a menu. Use the "Meaning" selection field to classify the article code
	and add it.
Supplier	Enter the supplier of the article (e.g., if the test is carried out for an external
	company)
Channels	Enter the number of channels for multichannel piston-stroke pipettes.
Default accessories	Enter specific accessories here (e.g., the pipette tips recommended by the
	manufacturer). The information can be displayed in the certificate.

Field	Description
Date modified	Date of the last change as well as the name of the person who made the
	change.

Create new article

- **a.** Click on New item.
- \hookrightarrow The input form is emptied.
- **b.** Using drop-down menus and "+" buttons, you can define the article.
- **c.** If you need a unique article identifier, you can generate it using the "Generate article code" button.
- d. Click on Save.

Copy article

- **a.** Select an article from the search list in the upper section.
- **b.** Click on Copy item.
- **c.** Edit the article as desired.
- d. Click on Save.

9.2.1.2 Product

Master data r	naintenano	e					
Article data Additio	onal article data	Random sa	ample plans	Test equ	uipment	General	
Article Product	Search	Type to sear	ch				
Product variation Manufacturer Product category Volume range	VITLAB® VITLAB® VITLAB® VITLAB®	0 genius 0 piccolo 1 0 piccolo 2 0 w@ 2 0 product egory er	Einzelhubd Einzelhubd	ispenser ispenser ispenser ispenser	Eppendo VITLAB (VITLAB (VITLAB (Eppendo	GMBH + CO KG orf AG GmbH GmbH GmbH	2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

A product describes a laboratory device. Use this dialog to create new devices or edit devices that have already been created.

Field	Description			
Find method	Enter part of the name you are looking for. The selection list is reduced. Example			
	an			
	This search finds Transferpette, HandyStep etc.			
Search list	Overview of all models.			
Product category	Select the appropriate product category.			
Manufacturer	Select the manufacturer of the model.			
Product designation	Enter a product name.			

Field	Description
	By clicking on the "Language" button you can enter the localized product
	name.
Variations	Select characteristics of the model.

Create new model

- **a.** Click on Neues Modell.
- → The input form will be opened for editing.
- **b.** You can define the model using the drop-down menus.
- c. Click on Save.

Edit model

- **a.** Click Modell in the search list.
- → Click on Edit.
- **b.** Edit the data set.
- c. Click on Save.

9.2.1.3 Product variation

Article data	Addition	al article data	Randor	n samp	le plans	Test equipment	General	
Article Product		Search [Type to s	earch				
Product var	iation	Product va	riation	Vei				
Manufactur Product cat		inkl. Lades braun Schilling:K		0 0 0				
Volume ran	ge	seitlicher H 12-Channe Ercatzbürg	lahn el	0				
		New proc				Edit		
		Product var	ation na	ne [

A product variation is a characteristic that can be used to distinguish product variants from one another (e.g., variable or fixed volume of a Transferpette[®] S). The product variation entered can then be selected in the Item tab.

9.2.1.4 Manufacturer

Article data	Additior	nal article data	Random sample plans	Test equipment	General
Article	[
Product		Search	Type to search		
Product vari	tion	Manufactu	irer		Ve
Manufactur	,	BRAND GN	/IBH + CO KG		0
		Th. Geyer (GmbH & Co. KG.		0
Product cat	gory	Human Ge	esellschaft für Biochemic	a und Diagnostica	mbH 0
Volume rang	e	Eppendorf	AG		0
		STARLAB I	nternational GmbH		0
		Human Gr	mhH		0
		New ma	anufacturer	Edit	
		Manufactur	er name		

Add a new manufacturer to the article selection.

9.2.1.5 Product category

		-		
Article data Ad	ditional article data	Random sample plans	Test equipment General	
Article				
Product	Search	Type to search		
Product variatio	n Main cated	lou	Product category	Vei
Manufacturer	Liquid han		Mikroliterspritze	0
Manufacturer		: instruments	Bürette	
Product catego	y Temperatu	ire and density measurem	ent ASTM-Zentrifugenglas	0
Volume range	Volumetric	instruments	Kippautomat	0
-	Volumetric	: instruments	Mischzylinder	0
	Volumetric	instruments	Freatzbürettenrohr	0
	New	category	Edit	
	Description			
	Description			
	Main catego	ory		

Create a new product category or edit an existing one. Next, use the Main category field to specify the parent group to which this product category should belong.

9.2.1.6 Volume range

Article data Additio	nal article data Random sample plans	Test equipment General
Article Product Product variation Manufacturer Product category Volume range	Search 0.1 μl Volume rang Ver 1μl (0.1 - 1) 0 1μl (1 - 1) 0 2μl (2 - 2) 0 2μl (0.1 - 2) 0	10000 ml
	New volume range Nominal volume Min. volume Max. volume	Edit 0

Use the Volume range tab to add additional volume ranges that you can select for the article. You can narrow your search using the slider bar and define the volume range using Nominal volume, Min. volumeand Max. volume. The selected unit then applies to all volume ranges.

9.2.2 Extended article data

In this section, you can define article data that defines how to handle the article during the test. Here you can define the required accessories, requirements from standards, materials, or how to clean the articles.

9.2.2.1 Standard

🔹 BRAND - EASYC	AL™ 5
Master data	maintenance
Article data Add	itional article data Random sample plans Test equipment General
Standard	
Material	Search Type to search
Quality grade	Standard
Cleaning type	ASTM E 287
Accessories	ASTM E 288 ASTM E 969
	Customer specification DIN 12681 DIN 12689
	New standard Edit
	Description ASTM E 969
	Section
	Title

Enter or edit the name, section, and title of a standard relevant to the test.

9.2.2.2 Material

	maintenance	
Article data Addit	ional article data Random sample plans Te	st equipment General
Standard		
Material	Search Type to search	
Quality grade	Material Vei	
Cleaning type	AR-Glas® 0	
Accessories	Boro 3.3 0 Liquid handling 0	
	Manufacturer's specification 0	
	Perfluoroalkoxy polymers (PFA) 0	
	Polymethylpentene (PMP) 0	
	New material Ed	lit
	Description	
	Short designation	
	Thermal expansion coeffici	

Specify a material that is relevant to the test. Enter the long name of the material in "Designation", a possibly more familiar designation of the material in "Short designation" and the thermal, cubic coefficient of expansion. The coefficient of expansion enters the calculation of the volume via the correction factor.

Example

Designation	Borosilicate glass 3.3
Short designation	Boro 3.3
Coefficient of expansion	0.000099

9.2.2.3 Grades

Master dat	a maintenanc	e		
Article data Ac	ditional article data	Random sample plans	Test equipment	General
Standard Material	Search Typ	e to search		
Quality grade	Quality gra			
Cleaning type	Klasse A Klasse AS			
Accessories	Klasse B			
	New gra	ade	Edit	
	Class name	Klasse A		

Enter grades as quality distinguishing characteristics.

9.2.2.4 Cleaning type

Article data Addi	tional article data Random sample plans Test equipment General
Standard Material	Search Type to search
Quality grade Cleaning type Accessories	Cleaning type Autoclave at 2 bar, 121°C Clean in ultrasonic bath Cleaning in immersion bath with potassium permanganate
	Cleaning in the dishwasher Manual cleaning with brush, water, and surfactant Rince with 2-propagol
	New cleaning type Edit Name of cleaning type

Here you can specify a standard cleaning to be performed during the test.

9.2.2.5 Accessories

BRAND - EASYCAL™ 5						
Master data maintenance						
Article data Additiona	I article data Random s	ample plans	Test equipment	General		
Standard						
Material S	earch Type to search					
Quality grade	Accessories					
Cleaning type	149794 VITLAB® Pipettenspitzen 0,5-20µl					
	149994 VITLAB® Pipettenspitzen 2-200µl 150194 VITLAB® Pipettenspitzen 50-1000µl					
	150294 VITLAB® Pipettenspitzen 0,5-5ml					
1	150394 VITLAB® Pipetten	spitzen 1-10m	h			
	702605 RRAND Dinettence	hitzen 0.5-5ml	I			
	New accessory		Edit			
Na	Name of accessory					

Name accessories to the article. The accessories can be selected during order processing and printed on the calibration certificate.

Select accessories in order processing (see Create order, p. 44, "Create calibration certificate").

Output on the calibration certificate (see Use value fields, p. 103 Calibration certificate data category > Accessories used).

9.2.3 Random sample scheduling

In this section, you can define the parameters for the relative or absolute random sample test. They describe test procedures and specify temperature differences.

9.2.3.1 Plan for absolute sample

an for absolute random sample		equipment				
an for relative random sample	Search Type to search					
st method	Plan for absolute random ISO 2859 - Level G I - AQ		_			
emperature difference	ISO 2859 - Level G II - AQ					
	New plan		Edit			
	Plan designation	ISO 2859 - L	evel G I - AQL 0.4	4		
	Absolute random sample	Start	End	Number	C value	
	ranges	2	8	32	0	
	-					
		9	15	32	0	
		16	25	32	0	
		16 26	25 50	32 32	0	
		16 26 51	25 50 90	32 32 32	0 0 0	
		16 26 51 91	25 50 90 150	32 32 32 32 32	0 0 0 0	
		16 26 51 91 151	25 50 90 150 280	32 32 32 32 32 32 32	0 0 0 0 0	
		16 26 51 91 151 281	25 50 90 150 280 500	32 32 32 32 32 32 32 32	0 0 0 0	
		16 26 51 91 151	25 50 90 150 280	32 32 32 32 32 32 32	0 0 0 0 0 0	
		16 26 51 91 151 281 501	25 50 90 150 280 500 1200	32 32 32 32 32 32 32 32 32 32	0 0 0 0 0 0 0 0	
		16 26 51 91 151 281 501 1201	25 50 90 150 280 500 1200 3200	32 32 32 32 32 32 32 32 32 32 32	0 0 0 0 0 0 0 0 0 0 0	
		16 26 51 91 151 281 501 1201 3201	25 50 90 150 280 500 1200 3200 10000	32 32 32 32 32 32 32 32 32 32 32 32 32 3	0 0 0 0 0 0 0 0 0 1	
		16 26 51 91 151 281 501 1201 3201 10001	25 50 90 150 280 500 1200 3200 10000 35000	32 32 32 32 32 32 32 32 32 32 125 125	0 0 0 0 0 0 0 0 1 1	

Field	Description
New plan	Create a new plan for the absolute <u>>>random sample<<</u> .
Edit	Edit an existing plan. Additionally, a new row will be opened at the bottom
	of the table. Values can be entered here.
Plan designation	Name the plan.
Absolute random sample	You define the random sample areas. Depending on the size of the area,
ranges	more or less devices are required as a random sample to be tested.
	Start: Start of the range
	End: End of range.
	Amount: Corresponds to the random sample size related to the defined
	range from start and end.
	>>C value<<: Corresponds to the number of defective parts allowed in the
	random sample.

9.2.3.2 Plan for relative sampling planning

BRAND - EASYCAL [™] 5		– ø ×
Master data maintenance		
Article data Additional article data Random	n sample plans Test equipment General	
Plan for absolute random sample		
Plan for relative random sample Sear	rch Type to search	
	n for rel	
Iemperature amerence	Nev plan Edt designation us 100% test	μ/ [*]
	Discard	Save
Back EASYCAL Admin Last status: User group "Orde	er processing" was saved Connected to: Local database	v 5.0.13.210 ? Heip

Field	Description
New plan	Create a new plan for the relative <u>>>random sample<<</u> .
Edit	Edit an existing plan.
Plan designation	Name the plan.
N value	Indicates the random sample size in percent. The number 100 means that
	all devices in the sample are tested.

9.2.3.3 Test procedures

b BRAND - EASYCAL™ 5 Ø X						
Master data maintenand	Master data maintenance					
Article data Additional article data	Article data Additional article data Random sample plans Test equipment General					
Plan for absolute random sample						
Plan for relative random sample	Search Type to search					
Test method	Test method		^			
Temperature difference	The calibration was performed according to the gravimetric procedure according to DIN EN ISO 4787.2011. The calibration was performed according to the gravimetric procedure according to DIN EN ISO 8555-62002. The calibration was performed according to the gravimetric procedure according to SCP 1087.2017. Calibration was performed according to the gravimetric procedure according to SCP 1087.2017. Calibration was performed by the gravimetric method using the immersion method under isothermal conditions according to SCP 1088.2017. The calibration was performed by the gravimetric method using the immersion method under isothermal conditions according to SCP 1088.2017.		•			
	New procedure Edit Description		Ş.N			
	Discard		Save			
Back						
Last status: User of Last stat	roup "Order processing" was zaved	Connected to: Local database	v 5.0.13.210 ? Help			

Briefly describe a new test method in one line. The texts are used in the test plan (see Create test plan).

9.2.3.4 Temperature difference

BRAND - EASYCAL™ 5	as BRAND - EASYCAL™ 5				
Master data maintenance					
Article data Additional article data	Random sample plans Test equipment General				
Plan for absolute random sample					
Plan for relative random sample	Search Type to search				
Test method	Tem				
Temperature difference	0.3 0.5 New difference category Edit Delta 0.3 \Rightarrow				

The value Delta refers to the maximum allowable temperature difference between the temperature of the test medium (usually deionized water "quality 3" according to ISO 3696) and the ambient air.

Example:

For DAkkS tests, this value may be only 0.3°C; for other tests, it may be 0.5°C.

The value Delta is selected during test planning; this is to be used for the corresponding test plan.

9.2.4 Test equipment

The software EASYCAL[™] 5 requires that the test equipment must be entered before the test; otherwise, the test cannot be performed. In this section, you can define the test equipment available. Test equipment tested is a tool used to calibrate or test a device such as a micropipette.

Example:

Thermometers, balances, measuring devices.

9.2.4.1 Test equipment

Master data mainten	ance	
Article data Additional article	data Random sample plans Test	equipment General
Test equipment		
Location for test equipment	Search Type to search	
Test equipment device type		tu Test equipment devic S
Manufacturer	EC-Test-Balance EASYCAL EC-Test-Multimeter EASYCAL	EC-Test-Balance
	New test equipment	Edit
	Test equipment device type	
	Test equipment number	
	Serial number	
	Serial number	
	Linked test equipment	
	Location for test equipment	
	Can be used for calibration	
	Out of order	

Field	Description
Test equipment device type	Select the test equipment device type. You can define this in the Test
	equipment device type tab.
Test equipment	Select an internal test equipment number with which you identify the test
	equipment in your quality management system.

Field	Description
Serial number	Enter the serial number of the test equipment as assigned by the manufac-
	turer of the test equipment.
Location for test equipment	Select the test equipment location. You can name this in the "Location"
	tab for test equipment.
Can be used for calibration	Specify whether the test equipment may be used to calibrate other test
	equipment. If selected, assign the target value for the calibration in % or
	another unit. The selection is determined by the Test equipment device
	type.
Out of order	Check if the test equipment is no longer used or is currently not to be used.

9.2.4.2 Location for test equipment

BRAND - EASYCAL™ 5				_ 0	×
Master data maintena	nce				
Article data Additional article d	ta Random sample plans Test equipment General				
Test equipment					
Location for test equipment	Search Type to search				
Test equipment device type	ID Name				
Manufacturer					
	New location Edit				
	Name				₿ Z NI
		* Test equipment device type			Ŧ
		Measurement unit			Ŧ
		Test equipment that can be used for calibration			
		Test notes			
		Set-point for calibration	0 \$		
			Measured value is less than set-point		Ŧ
		Tolerance for calibration	0 \$		
	Discard			Save	
Back					
Dack					

This section describes the characteristics of a room in which tests are performed (i.e., a measuring room). These properties must be tested once per interval and per measurement room (e.g., providing deionized water to the measurement room, where the conductivity of the water must be tested daily against a limit).

For Value to be measured, select one of the properties you are looking for, and specify it in the menu.

Field	Explanation
New location	Define a measuring room. If you click on the "New location" button, the di- alog opens for input.
Edit	Edit a location that has already been created
Test equipment device type	Click the st button to add a new measurement function to the location.
Test equipment that can be used for calibration	In order to calibrate the measuring room yourself, you can define test equipment to be used for calibration.

Field	Explanation
Set-point for calibration	Enter the value to be checked during calibration here. Because no units
	are output, if air pressure is selected, the air pressure target value would
	apply.
Comparison type	Select how you would like to compare target value and measured value.
	Selection:
	Measured value is smaller than the target value
	Measured value is less than or equal to the target value
	Measured value is greater than the target value
	Measured value is greater than or equal to the target value
	Measured value is target value ± tolerance
Tolerance for calibration	Enter the allowed tolerance for the calibration of the test equipment type.
	Example:
	target value for calibration: 20°C
	Comparison type: Measured value is target value ± tolerance
	Tolerance 1°C
	If the measured value is 19.5°C, the calibration was successful.

9.2.4.3 Test equipment device type

BRAND - EASYCAL™ 5					
Master data mainten	ance				
Article data Additional article d	lata Random sample plans Test equip	oment General			
Test equipment Location for test equipment	Search Type to search				
Test equipment device type	Test equipment d				
Manufacturer	1712 004 20210616-RZ-01 20210616-RZ-02 20210616-RZ-03 20210616-RZ-04 20210616-RZ-04				
	20210708-87-01 New device type Manufacturer	Edit	Copy device	e type	
	Type name				
	Measurement functions Commun	ication data			
			; ₩ Ту	ype of test equipment	
				alue to be measured	
			M	feasurement unit	
				recision/measuring range	
				lumber of decimal places fleasuring channel	0 ‡
					Calibration required
			Тс	olerance for calibration	0 🌩
				lumber of channels	1 ‡
			j le	est equipment that can be used for calibration	20210708-RZ-03-W
Back					

In this section, you can define a test equipment device type. The device type can be any device (e.g., a balance) or a calibration weight. In the "Measurement functions" tab, you define the data that are relevant for the measurement. In the "Communication data" tab, that necessary for the communication of the test equipment with the computer.

9.2.4.3.1 Measuring function

New device type	Edit C	opy de	vice type		
Manufacturer	Precisa				Ŧ
Type name	320 XB				
Measurement functions Commu	nication data				
Single-channel balance / Weight /	g	*	Type of test equipment	Single-channel balance	Ŧ
		Ť	Value to be measured	Weight	-
			Measurement unit	g	*
			Precision/measuring range		
			Number of decimal places	7 \$	
			Measuring channel		
				Calibration required	
			Tolerance for calibration	0 ‡ g	
			Number of channels	1 \$	
			Test equipment that can be used for calibration		
					_

III. 5:

Field	Description
Testing instrument type	Select the test equipment to be configured from the list (e.g., balance, hy-
	grometer, or barometer).
Value to be measured	Select the value to be measured from the drop-down menu.
	Example:
	Air pressure:
Measurement unit	Select the unit of measurement.
	Example:
	hPa, l, °C
Precision/measuring range	Enter the precision or the required measuring range.
	The data has no program impact and are informative only.
Number of decimal places	Enter the number of decimal places with which the measured value is out-
	put by the test equipment.
	Note that the test plans marked with the prefix "EC-" assume that the
	weight values are output in the unit grams and that the number of decimal
	places refers to this unit.
Messkanal	There are measuring devices with several channels to which different sen-
	sors are connected (e.g., channel for temperature, pressure, or humidity).
	Enter the designations of the available measuring channels here.
Calibration required	Check the check-box if the measurement function needs to be calibrated.
Tolerance for calibration	Enter the required calibration tolerance.
Test equipment that can be used for calibration	Enter which test equipment can be used to calibrate the test equipment.

New device type

- **a.** Click on New device type.
- **b.** Via the Manufacturer selection field and the Type name field, you create the device.

- c. Click on *.
- d. Configure device, setting at least Testing instrument type, Value to be measured and Measurement unit.

9.2.4.3.2 Communication

ta	
Baud rate	9600
Data bits	7
Stop bits	1
Parity	None
Tare command	ZERO[CR][LF]
Print command	P1[CR][LF]
	Baud rate Data bits Stop bits Parity Tare command

Use the Communication data tab to configure the communication of the test equipment with the computer.

- a. Click the New device type or Edit Edit button.
- ↪ The values can be edited.
- **b.** Drag a point from the field on the left to the field on the right.
- c. Enter the appropriate values (without units) required by the application of the test equipment.

In order to remove a point from the field on the right, drag it to the field on the left.

9.2.4.4 Manufacturer

BRAND - EASYCAL™ 5	
Master data maintena	nce
Article data Additional article da	ta Random sample plans Test equipment General
Test equipment	Search Type to search
Location for test equipment Test equipment device type	Manufacturer
Manufacturer	A&D Ahlborn Amarell
	EASYCAL Kern
	Mettler Toledo
	New manufacturer Edit
	Manufacturer * EASYCAL

Enter a new manufacturer for test equipment, or edit an existing record.

9.2.5 General

In this section, you can make general settings in the master data, including positions within a company.

9.2.5.1 Functional designations

BRAND - EASYCAL™ 5				
Master data mainte	enance			
Article data Additional artic	cle data Random sample	plans Test equipment	General	
Function designation Selection text	Search Type to search			
	Function designation Head of department			
	Deputy			
	New function	Edit		
	Function designation	Head of department		

Enter new function names. You can use it to map a department hierarchy, among other things.

9.2.5.2 Selection texts

BRAND - EASYCAL™ 5		
Master data mair	ntenance	
Article data Additional a	rticle data Random sample plans Test equipment General	
Function designation		
Selection text	Search Type to search	
	Selection text	Area of use
	Value superfluous. Deleted at the beginning or end of the measurement series.	Discard measurement or measurement series
	Value deleted, measurement series repeated.	Discard measurement or measurement series
	Identified as outlier.	Discard measurement or measurement series
	Device adjusted, values deleted.	Discard measurement or measurement series
	New tip or device has been used. Value deleted.	Discard measurement or measurement series
	New selection text Edit	
	Selection text Value superfluous. Deleted at the beginning or end of	the measurement series.
	Area of use Discard measurement or measurement series	*

Enter a selection text, or edit existing texts. The selection text can be used during the test and is used to justify occurrences during the test.

Range of application	Description
Selection text	Enter the text you want to use in the tests.
Range of application	Discard measurement or measurement series:
	Texts assigned here are used as justification in the test.
	Bemerkungen zum Gerätezustand:
	Texts assigned here are used in the test order or calibration certificate.
	Text block:
	The text modules are used for the descriptions of the device states in order
	to use standardized descriptions there. See Create order, p. 44 >

You also still enter the area of use where the selection text should be used.

9.3 Create company

>> Administration > Company data

Company	data			
Company name	Test-Company		Company logo	
Address	Hauptstraße 4/	2		I X
Country	Deutschland			$T\Delta$
Zip code/City	12345	Musterstadt	•	.
Departments				C
Back				Save

In the company data, you enter your address data and as well as the data of departments involved in the testing process. This information as well as the company logo can be printed on certificates.

Create company

- a. Enter address data.
- **b.** Insert logo by clicking on the graphic under company logo (.bmp, .jpg, .gif, .png, .svg).

NOTICE

Paths to files.

If the file (e.g. signature file or logo) is to be available to several users, it is better to store it in a network drive. Because the files are linked only by paths, a locally stored file may then not be usable by all users.

Create departments

Create department	×
Description Responsible persons	
Registration number	00
Cancel	OK

- **a.** In the Company data window, click on the "+" sign. With the "-" key, remove a department or with the "Pencil" key, edit the department.
- → The Create department window opens.
- **b.** Select one or more responsible persons from the drop-down menu. Each selected person can have only one role.
- c. In addition, assign a registration number (e.g., identification number of the DAkkS laboratory).
- d. To exit and save, press the OK key.

9.4 Certificate templates

>> Administration > Certificate templates

Certificate te	mplates			
Create ma layout		Create content structure	Edit content structure	
Print temp allocatio	late Certificate text			
Back				

Use this menu to create and manage layouts and templates from which certificates are generated and certificate creation is triggered.

Menu	Meaning
Create master layout	Create a new master layout.
Edit master layout	Here you can edit an existing Master Layout.
Create content structure	Create a new content structure
Print template allocations	Assign a master layout of the content structure to one or more articles. Both the master layout and the content structure must be released for this purpose.
Certificate text	Create and edit text modules. You can reuse them for all content structures.

A distinction is made between master layout and content structure. The two areas can be customized. The master layout is subdivided into the certificate header and footer as well as general settings for the page layout (e.g., page margins, font size, and font style). The content structure comprises all the elements between the report header and footer (i.e., the actual content of the report). If you wish to adapt the layout to a company-specific format, it is recommended to do this using the master layout.

9.4.1 Master layout

The <u>>>master layout</u> defines the section in which certificate contents can be output.

ă∳ BRAND - EASYCAL™ 5	_ o x
Edit master layout (~Unna	amed)
Content elements H Ab	
Document header	Print preview Settings
Drag an element from the "Content elements" tool bar here Document footer Drag an element from the "Content elements" tool bar here	Your content structure will be generated here Pages header and footer: Header Footer Content Height 0.0 mm @ Hide on first page Font: Text body Heading: 10.0 pt @ Ypeface Anal 10.0 pt @ Ypeface Normal
🗑 Delete	(√ √ 1 von 1)>)> Zoom: 100 % ○ ○ (√ √ 1 von 1)>)> Font width Normal ∨
← Back	Dpen 🗋 Save 📝 Save as

Print preview

The gray section in the center indicates where the content structure will be inserted. This is variable, which means that the master layout can be used for different content structures. Above and below this, content elements are inserted via the Document header and Document footer sections.

Content elements

Use the content elements Free text, Heading, Horizontal line, and Signature line in order to customize the contents of the document footer and document header.

Drag the content elements to the "Document" footer or "Document" header areas, and adjust them using the settings.

Within these areas, you can drag and drop the content elements or remove them from the areas by clicking on **•**.

See also Content elements, p. 102.

Settings

Paper/font tab

Set all the basic settings about the format, margins, and formatting using this section. Click on the pencil to open more dialogs.

In the "Tables" tab, you can customize the table formatting and also visually adjust the display of errors.

Info tab

Release

Change the release status. You can assign content structures and master layouts to articles only if they have been released beforehand. You change this status in this tab. As with the release of other program elements, the following applies: If the dual-control principle has been activated, the creator of the layout cannot release it himself.

Test export

Trigger a test export in order to view the master layout with real data. You can save and print the test export as a PDF.

9.4.2 Content structure

ð∎ BRAND - EASYCAL™ 5.*						- a x
Edit content structure (-	~Unnamed)					
Content element						
Content	Print preview		M	aster layout used	*	Settings X
H H Ling Abj Free text Multi columns layout		Heading Enter your own free text here				Multi columns layout Info Multi columns layout Description: Celumns: 2 Columns: 2 Content: 2 Content
Tolete		44 - 4	1von1 ▶)≱	Zoom: 100 % \Theta — 🗍	• H I	Border color. 🔳 🥖 🗣
e Back					Dpen Open	Save 📝 Save as

Print preview

The selected content elements are displayed in the print preview. From the "Master layout used" drop-down menu, you can select a different master layout. You can thus apply the same content structure to multiple master layouts via "Save as"

Content elements

Use the content elements "Multi-Column Layout", Free text, Heading, Horizontal line, "Page Break", and the following in order to determine the content of the content structure. These are tables of measured values, diagrams, and tables of devices and articles.

Drag the content elements to the "Content structure" section, and customize it using the settings.

Within these areas, you can drag and drop the content elements or remove them from the areas by clicking on **•**.

See also Content elements, p. 102.

Settings

Info tab

Use this tab to release the content structure after you have saved it.

You can also trigger a test export to view your certificate template (see also Master layout, p. 99, Test export)

Tab with content element name

Configure the display using the menu items provided (see the following sections).

9.4.3 Content elements

9.4.3.1 free text

Inserts a text field in which you can enter a free text or a figure (e.g. company logo) via a text editor. Drag the content element to the "Content structure" section.

Settings X	
Free text Info	
Free text	
Description:	
Content:	
Layout	
Outer distance ◆ 0.0 mm ‡ ◆ 0.0 mm ‡ ◆ 0.0 mm ‡	
Background color:	
Hide elements	
Hide background Hide content	

Click *t* o go to the text editor. In the text editor, you can insert a free text or figure and format it. The following actions are available in the text editor for formatting a text:

Free text editor	_
idit your 1 with the editor, or paste already form 2 t from another application here. 3	4 5 6 7
米 印 合 9 C キ () 王 王 三 二 Inter your own free text here	
	*
Edit code	OK Cancel

1 Functions such as cut, copy, and paste text or elements.
3 Paragraph alignments
5 Indentations
6 Create figures and tables. These can be filled either with free text or also by modules (illustrations, value fields (text modules); see also Use value fields, p. 103
2 Font and formatting
2 Font and formatting
2 Font and formatting
4 List formatting
6 Create figures and tables. These can be filled either with free text or also by modules (illustrations, value fields (text modules); see also Use value fields, p. 103

Optional: In the "Settings", make settings for the description and the layout of the text field.

9.4.3.1.1 Use value fields

Free text editor			_
Edit your free text with the editor, or p	Settings of the valu	e field	× ≝ ≝ į ⊠ ⊞ į [V] į
Enter your own free text here	Value to be displayed	Article data	• • • • • • • • •
		Adjustment type (abbreviation)	•
	Display language	English	•
	Preview		
		OK Cancel	
			· ·
Edit code			OK Cancel

Value fields are used to insert variable data and measured values into the certificates. Example: the measured air temperature, the status of a job (completed, released), or the serial number of the device tested.

a. Click on [v].

- → The dialog settings of the value field opens.
- **b.** You can select the desired value from the drop-down lists.
- c. Click on OK.

→ This value field is inserted at the corresponding cursor position in the free text field (e.g., also in tables).

Example:

AdTypeShort-Item:1-en
AdTypeLong-Item:1-en
CAddressB-en
ChargNo-en

Value fields can be static or dynamic.

Static value fields contain text, the statement of which is always the same depending on the test; however, translations into other languages can also be stored. These static texts are created and managed in the "Cer-tificate texts" section.

Dynamic value fields cannot be created by the user; they can only be selected. An example of a dynastic value field is the order number; this is printed in the certificate but is assigned during the creation of the test order. Dynamic value fields are placeholders for values that may differ from test to test.

9.4.3.2 Heading

Drag the content element to the "Content structure" section.

Settings	×
Heading Info	
Heading	
Description:	
Text:	
Heading	
Layout	
Outer distance:	_
← 0.0 mm ≎ → 0.0 mm	-
↑ 0.0 mm ≎ + 0.0 mm	*
On new page	
Hide elements	
Hide background Hide content	

Enter a head line text into the *Text:* field.

Optional: make settings for description and position.

9.4.3.3 Horizontal line

Inserts a horizontal line into the content structure (e.g., as a separator).

Drag the content element to the "Content structure" section.

Settings		×
Horizontal line Inf	nfo	
Horizontal line	e	
Description:		
Layout		
Line thickness:		1.00 pt 🗘
Line color:		— <i>/</i>
Hide elements	s	
Hide content	t	

a. Optional: In the "Settings", make settings for the description, line thickness, and line color.

9.4.3.4 Page break

Inserts a page break.

Drag the content element to the "Content structure" section.

9.4.3.5 Value tables

The tables described below are predefined and cannot be changed. If you need your own tables, they can be created via the Free text field > Tables element and filled with value fields.

The values of the tables are populated when the content structure and master layout are associated with an article and the certificate is issued. But you can preview the output beforehand under "Properties > Preview"

Simple table of measured values

Inserts a simple (because reduced) table of measured values.

Prüfvolumen Test volume Volumen de control Volume de contrôle	10%	50%	100%
Richtigkeit (R) Accuracy (A) Exactitud (E) Exactitude (E)	0%	0.09500%	0.02100%
Variationskoeffizient (VK) Coefficient of variation (CV) Coeficiente de variación (CV) Coefficient de variation (CV)	0%	0%	0%

Table of measured values

Inserts a table of measured values.

Messung Measurement		100µi	500µl	1000µl
1:		0	0	0
2:		0	0	0
3:		0	0	0
4:		0	0	0
5:		0	0	0
8:		0	0	0
7:		0	0	0
8:		0	0	0
9:		0	0	0
10:		0	0	0
Messergebnis Result obtained	[µ]	99,95	500,48	1000,21
Richtigkeit (R) Accuracy (A)	[H]	0,00	0,00	0,00
Toleranz (R) Tolerance (A)	[H]	^{0.8} ✓	0,45	0.020
Variationskoeffizient (VK) Coefficient of variation (CV)	[H]	0	0	0
Toleranz (VK) Tolerance (CV)	[H]	0,30	0,13	0,43

Extended table of measured values

Inserts an extended table of measured values. This table extends the information from the measured table of measured values with information from the test plan.

Result of calibration		Test volume 100µl	Test volume 500µl	Test volume 1000µl
1:	[g]	0	0	0
2:	[g]	0	0	0
3:	[g]	0	0	0
4:	[g]	0	0	0
5:	[g]	0	0	0
6:	[g]	0	0	0
7:	[g]	0	0	0
8:	[g]	0	0	0
9:	[g]	0	0	0
10:	[g]	0	0	0
Result obtained*:	[µ]	99.95	500.48	1000.21
Reference temperature:	[°C]	20.0	20.0	20.0
Measurement uncertainty U:	[µl]	0.71	1.66	1.50
Accuracy/Trueness A (related to the test volume):	[%]	0	0.09500	0.02100
Systematic error (absolute volume):	[µl]	0.00	0.00	0.00
Maximum permissible systematic error ± according to DIN EN ISO 8655:	[µl]	0.8	0.45	0.020
Conformity assessment:		A	A	A
Coefficient of variation CV (related to test volume):	[%]	0	0	0
Random error (absolute volume):	[µl]	0	0	0
Maximum permissible random error according to DIN EN ISO 8655:	[µl]	0.30	0.13	0.43
Conformity assessment beyond scope of accreditation ($Ucv = 0\mu I$):		A	A	A

Detailed table of measured values

Inserts a detailed table of measured values. This table breaks down the measurement results per device.

Device no.	Test characteri stic	Target value	Target accuracy	Target coefficient of variation	Mean	Standard deviation	Accuracy	Coefficie nt of variation
17A704780	1	100 µl	0,8 %	0,30 %	0 µl	0 µl	0 %	0 %
17A704780	2	500 µl	0,45 %	0,13 %	0 µl	0 µl	0,09500 %	0 %
17A704780	3	1000 µl	0,020 %	0,43 %	0 µl	0 µI	0,02100 %	0 %

Order statistics

Inserts a detailed order statistics table. This table breaks down the measurement results per device.

Tes charac stic	teri	Target value	MEAN	STDEV	А	CV

Test characteristic diagram

Inserts a diagram showing the distribution of the test characteristics.

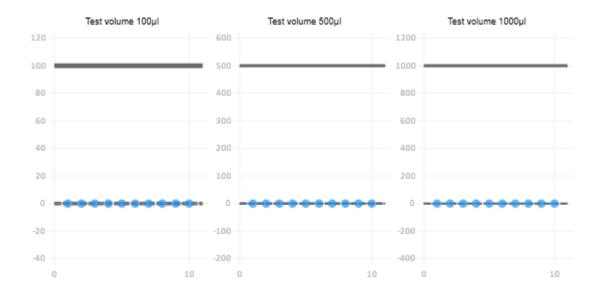


Table of devices

Inserts a table of devices. This table provides information about the devices used in the test and the identification.

Manufacturer/model	Nominal v	olume	Device no.	Your labeling	Maturity date
BRAND	1000	μl	17A704780	LAB 1000 - 1CH	October 2022
BRAND	300	μΙ	17A703732	LAB 300 - 12CH	October 2022
BRAND	1000	μl	21B704782	LAB 1000 - 1CH - Kali	October 2022

Table of test equipment

Inserts a table of test equipment. This table provides information on test equipment used. The test equipment is identified by its test equipment number and output in the empty column.

	Waage Balance	Nr. "Wägewert-1", 1 - 3 / 0.001
l	Gewichte Weights	Nr. "Richtigkeit der Waage-6", 1 - 3 / 0.001
	Thermometer Thermometer	Nr. "Temperatur des Mediums-3", 1 - 3 / 0.001

Measurement information

Inserts a table with information about the measurement.

Mess- und	TLuft / Tair	23,1°C - 23,3°C	PAtmosphäre / PAtmosphere	996mbar - 1003mbar
Umgebungsbedingungen: Measurement and ambient	Twasser / Twater	23,2°C - 23,4°C	rH	45%rh - 49%rh
conditions:	Z-Faktor / Z factor	1,0035452 / - 1,0037452 /	TReferenz / TReference	20°C
	Prüfflüssigkeit: Test liquid:	Wasser nach DIN ISO 369 water according to ISO 3696, qu		
	Kalibriert mit: Calibrated with:	BRAND Pipettenspitzen 50 BRAND Pipettenspitzen 50 - 10		
Prüfmittel: Test equipment:	Nr. "-0"			
Anmerkung: Annotations:				

Insert content element

In the example, the settings show the settings of simple table of measured values. Other settings behave similarly.

Drag the content element to the "Content structure" section.

Settings	×
Simple measurement table	Info
Simple measurement	t table
Description:	
Output	^
Output texts in (language)	:
English	•
Layout	^
Outer distance:	
← 0.0 mm ≎	
Background color:	
Hide elements	^
Hide background	
Preview	^
O Multi-channel 💿 Sing	gle channel
Preview:	
Liquid handling	•

Description

Describe the values shown in the table

Edition

Select the language in which the content item will be output. For example, if you select "English" for the export language, the text will always be output in English – a later change in the printing process is not possi-

ble. Use the **a** vers to sort the arrangement of language-dependent texts in the table.

If "Placeholder" is selected, you can select the language in the certificate printing process. The default language is the one that is stored in the customer management.

Layout

Select distances to other content elements or background color of the table of measured values and the content element.

Preview

Specify how the table should be displayed in the print preview. Depending on which section is selected, the display of this table changes.

Hidden content

Specify which contents should be displayed in the print preview.

9.4.3.6 Additional export notes

Inserts a Additional export notes text field that you can use to specify additional information or notes. You can use only one Additional export notes text field per content structure. This text field appears only if a text has been entered under "Settings".

Drag the content element to the "Content structure" section.

Settings		×
Additional export remarks	Info	
Additional export re	marks	
Description:		
Default text:		*
Layout		Ŧ
Outer distance: Outer distance: Outer distance: Outer distance: Outer distance: Outer distance:		_
✓ Hide empty element		
Hide title		
Hide elements		
Hide background Hide content		

Note

Insert the desired information. After that, the Additional export notes becomes visible.

ilter								
Test type	Not specified •	ID Test type	e Certificate type	Main category Manufacturer Article code	Channel filter Master layout	Content structure	Status	a
Release status	Not specified 🔹	1 STD	Individual certificate	e	=1 DINA4-hochkan	t EC-Kalibrierzertifikat_Einkanal	Released	â
		2 STD	Individual certificate			t EC-Kalibrierzertifikat_Mehrkanal	Released	a
Certificate type	any 🔻	3 STD	Individual certificate	e		t EC-Kalibrierschein mit Grafik	Released	
		4 ST	Batch certificate			t EC-Internes_Chargenzertifikat	Released	
Main category	-	5 ST	Individual certificate	e		t EC-Kurzprüfung	Released	
		6 GEN	Reminder letter			t EC-Erinnerungsservice	Released	
Manufacturer	•	7 GEN	Internal log		DINA4-hochkan	t EC-Internes_Auftragsprotokoll	Released	e
Article code								
Antele code								
Master layout	•							
Master layout	•							
Content structure	-							
	New allocation							
	Edit							
	Release							
	Nelcose							
	Delete							

9.4.4 Certificate template assignment

Use this menu to associate certificate templates and articles so that they can be used in the order verification. Existing assignments can be found via the Filter section. Use the buttons to create new assignments, edit them, release them, or delete them.

9.4.4.1 Create new assignment

In this menu, you assign certificate templates (master layout, content structure) to individual articles.

New certificate	template allocation		×
Certificate type Ir Test type G	Not specified ndividual certificate • GEN – General • Liquid handling • BRAND GMBH + CO KG •	Release status Created/edited Articles concerned EC-4600100 - Dispensette® S Analog, ohne Rückdosierventil; 0. EC-4600101 - Dispensette® S Analog, mit Rückdosierventil; 0.1 EC-4600120 - Dispensette® S Analog, ohne Rückdosierventil; 0.1 EC-4600121 - Dispensette® S Analog, ohne Rückdosierventil; 0.2 EC-4600130 - Dispensette® S Analog, ohne Rückdosierventil; 0.2	•
	DINA4-hochkant	EC-4600131 - Dispensette® S Analog, mit Rückdosierventil; 0.5 EC-4600140 - Dispensette® S Analog, ohne Rückdosierventil; 1 EC-4600141 - Dispensette® S Analog, mit Rückdosierventil; 1 - EC-4600150 - Dispensette® S Analog, ohne Rückdosierventil; 2.	
Content structure	Kalibrierzertifikat_Einkanal 🔻	EC-4600151 - Dispensette® S Analog, mit Rückdosierventil; 2.5 EC-4600160 - Dispensette® S Analog, ohne Rückdosierventil; 5 EC-4600161 - Dispensette® S Analog, mit Rückdosierventil; 5 - EC-4600170 - Dispensette® S Analog, ohne Rückdosierventil; 1(
Required form		EC-4600171 - Dispensette® S Analog, mit Rückdosierventil; 10 EC-4600210 - Dispensette® S Fix, ohne Rückdosierventil; 1 ml EC-4600211 - Dispensette® S Fix, mit Rückdosierventil; 1 ml	↓ n.n.
Cancel		Save	

Field	Explanation
ID	Is generated automatically
Certificate type	Select the certificate type (e.g., single certificate).
Test type	Select the test type.
Main category	Select the main category in order to roughly filter the articles.
Manufacturer	Select the manufacturer of the article.
Item code filter	Enter an article code.
Channel filter	Filter by channel (for micropipettes).
Create master layout	Select the master layout.
Create content structure	Select the content structure to be used.
Required form	Specify here whether a particular stationery should be used for printing.

Create new assignment

- **a.** Select master layout, content structure, and articles.
- **b.** Click save.

→ The assignment is created.

9.5 Test planning

>> Main menu > Administration > Test plan

Test pl	an			
	Test plan overview	Test plan allocations		
Back	k			

In test planning, you create individual test plans. You assign individual characteristics to be inspected to these test plans. Characteristics are, for example, the nominal volume of an article.

Volume target values and defect limits of articles are not stored in the master data of the articles but rather organized via test plans. This makes it possible to use one test plan (e.g., with standard values) for many different articles. Test plans and articles are linked via the Test plan allocations section

9.5.1 Test plan overview

>> Administration > Test plan

In this menu, you create test plans that can be used for device testing.

liter							
Status	Not specified	 Test pi 	ar Version	Description	Status		
lest plan no.		1	0	EC-Manu-ST-StepEI-Epp-stream-25	Released		
iest pier nu.		2	0	EC Manu-PiPip Finn Focus 2000 fix	Released		
Description		3	0	FC-Manu-PiPip-Gil-PipM-I-100	Released		
		4	0	EC-STD-ISO-PiPip-20	Released		
		5	0	EC-Manu-Step-MT-AutoRepS-5	Released		
	Create test plan	6	0	EC-Manu-S1-Dis-Epp-Van-2.5	Released		
		7	0	EC Manu ST PIPip BRAND Trp 25 fix	Released		
	Copy test plan	8	0	EC-Manu-ST-StepEl-Epp-stream-2,5	Released		
		9	0	CC-STD-ST-ISO-PiPip-PosDis-10000(2000)	Released		
	Edit test plan	10	0	EC-Manu-Step-MT-AutoRepS-12,5	Released		
	Outrease main star	11	0	EC Manu ST PiPip BRAND-Itp 50	Released		
	Release test plan	17	a	EC STD-ISO-PiPip-2,5	Released		
		13	0	EC-Manu-ST-Dis-Epp-Vari2-10	Released		
	Show previous versions	14	0	EC-Manu-Step-MT-AutoRepS-10	Released		
	onen preview a contra-	15	0	EC-Manu-PiPip-Gil-PipM-L-1000	Released		
		16	0	EC Manu PiPip Gil PipM F 200 fix	Released		
		17	0	EC-STD-ISO-PiBu-20	Released		
		18	0	EC-STD-ISO-PiPip-6/12K-10	Released		
		19	0	EC-Manu-ST-Dis-BRAND-DISP-2-flx	Released		
		20	Q	EC-STD-ISO-PiPip-8/12K-100	Released		
		21	0	FC Manu ST PiPip BRAND Tripor 100 fix	Released		
		22	0	EC-Manu-PiPip-Finn-Focus-10-fix	Released		
		23	0	EC-Manu-ST-Step-Epp-MultiPI-2,5	Released		
		24	0	EC-STD-ISO-PIPip-8/12K-120	Released		
		-25	0	EC Manu PiPip Epp XplorerPI 8/12K 300	Released		
		26	0	EC-Manu-ST-Dis-8RAND-DISP-5	Released		
		27	0	EC-STD-ISO-PiPip-PosDis-10	Released		
		28	0	EC-Manu-ST-PiPip-Epp-Com-100-fix	Released		

You filter the test plans using the selection field Status and the search fields Test plan no. and Designation.

The search result decreases because of the inputs. If you search for a character string in the Designation field (e.g., "100"), the search will find exactly the character string in the entered order within the designation.

When you select a test plan, activate the buttons under the "Create test plan" button.

Abbreviations in the test plan designation

EC	Test plan was delivered with EASYCAL™ 5			
STD	Test plan based on standard values (standard)			
Manu	This test plan is a test plan based on manufacturer defect limits (manufacturer)			
СТ	Short test with reduced test scope			
вс	Batch check plan			
ISO	Test plan based on the ISO error limits			
ASTM	Test plan based on the ASTM error limits			
G/P	Volumetric glass/plastic instruments			
BP	Bulb pipettes			
grP	Graduated pipette			
Bur	Burette			
vF	Volumetric flask			
grC	Graduated cylinder			
РҮК	Pycnometers			

Dis	Bottle top dispenser
PiBu	Bottle-top burette (piston burette)
Step	Repetitive pipette (stepper)
PiPip	Piston pipette

Furthermore, an abbreviation of the manufacturer, an abbreviation of the model series, the nominal volume, and abbreviations for model variants may follow.

If test plans of one manufacturer are also applicable to other manufacturers (same defect limits), the test plan plans entered first are used for all matching articles.

9.5.1.1 Create test plan

Create test plan		×
Status Creat	ed/edited 👻	?
Main category Description 0.0 Test method Test standard (tolerances) No er Reference temperature Not s Testing instructions Image: construction instruction instructi	ror limits	Random sample plan absolute relative Number of measurem 1 Test characteristic No test characteristic selected Item Description Type Nominal value Number of tests Mai C C C C C C C C C C C C C
Temperature difference	← °C Min Max 20 °C 20 °C 25 °C 20 °C 25 °C	Remarks for test planer
Cancel Discard	d	Save
Field/range	Explanation	

Field/fallge	Explanation
Status	The status is grayed out. Depending on the access right, the user can
	change the status here.
Main category	Select the main category to which you want to assign the test plan.

Field/range	Explanation
Designation	Assign a test plan designation that is as unique as possible.
Test method	Select the test method to be used.
Test standard (tolerances)	If there are standard-based tolerances, select the appropriate standard.
Reference temperature	Specify a temperature value to which a recalculation to this reference
	temperature is to be made.
	This is usually done only with glass volumetric instruments or the BRAND
	bottle-top burette Titrette [®] . Here, the temperature value is included in the
	calculation of the Z factor together with the volume expansion coeffi-
	cient). The resulting volume values are thus recalculated to a set tempera-
	ture of 20°C, for example.
	20°C for temperate climates.
	27°C for warmer climates.
	If this is not needed or if there is no volume expansion coefficient for the
	articles in question, select Not specified
Testing instructions	Click on the "+" sign in order to add a test plan. Note: The test instruction
	is only linked. If you select a file on your desktop, another user may not be
	able to open this test plan. Instead, use network paths or a URL in order to
	make the test instructions available to users.
Temperatur-Differenz	Enter the permitted temperature deviation between air and test medium
	temperature (usually deionized water).
Limits for ambient data	Enter the limit in which a measurement is permissible. This helps you to
	comply with the common standards during the measurements. An entry is
	necessary only if the values differ from the ambient data defined in the
	Global Settings.
Random sample plan	Select whether you want to perform relative or absolute sampling. In the
	selection field, you then choose the desired scope.
Test characteristic	Click on the "+" sign in order to add one or more test characteristics, see
	Test characteristics, p. 116.
	Sort test characteristics
Remarks for test planer	Point out any special features.
Last change	Information about the last change.

9.5.1.2 Test characteristics

Test characteristics are criteria that you want to have processed in the test plan. On one hand, they can be determined by target values to be achieved or by a range of values. They can also name a characteristic for testing as an attribute.

Field/range	Explanation
Test characteristic type	Target value:
	Test for target values.
	Value range:

Field/range	Explanation
	Test for value ranges.
	attributive:
	Test for specific attributes of the test object.
Testing instructions	Here you have the possibility to link the test characteristic with further test
	instructions.
Remarks for tester	Text field for further comments on the test characteristic.
Parameters for variable char-	Range that is displayed for the test characteristic type "target value" and
acteristics	"value range".

Test characteristic type "target value"

r

Create test characteristic			×
Test characteristic type 💿 Target value 🔵 Val	ue range 🔿 Attribute	– Settings for variable characteris	stics
Description	servinge 🖉 Attribute	Number of tests	0 🗘
Testing instructions	O O O	Value to be measured Type of test equipment	Barometer Conductivity measuring device Hygrometer Leak tester Multi-channel balance
Remarks for tester		Number of decimal places	0 🗢
Parameters for variable characteristics	Test value 	Measurement uncertainty Use measurement uncertaint Simplified values Expan Measurement uncertainty ±	
Cancel			Save

Test characteristic type "set point"	Explanation
Nominal value	Enter the nominal value of the characteristic to be inspected and select the unit.
Limit values section	
Grenzwert-Typ:	Check-box A / CV:

Test characteristic type "set point"	Explanation
	The <pre>>limit value<< is determined by the accuracy and the coefficient of variation; see Standard Operating Procedure (SOP) of the device being tested. Check-box Error limit: The limit value is determined by the entered error limits.</pre>
Measurement unit	Select unit.
Accuracy	The <u>>>accuracy<<</u> in terms of statistical quality control corresponds to the mean deviation.
Coefficient of variation	The <u>>>coefficient of variation</u> shows the dispersion of the individual measured values in relation to the mean value of the measured values.
Measurement uncertainty	The measurement uncertainty is the uncertainty of the measurement pro- cedure as used by you in your laboratory. If the check-box is not filled in (factory setting), this has no effect on the measurement result. If you want to include the measurement uncertainty in your measure- ments, choose between the check-boxes Simplified values and Expanded values Incorrect evaluation of the calibration Be sure to understand the calculation and interpretation of measurement uncertainty. No or wrong values for the measurement uncertainty can lead to errors in the evaluation of the calibration. See measurement uncertainty, p. 119
Settings for variable character- istics	Explanation
Number of tests	Specify how often the characteristic should be tested.
Value to be measured	Select the value to be measured from the list (e.g., temperature of the air, conductivity, or air pressure)
Test equipment	Select the type of test equipment to be used (e.g., thermometer).
Number of decimal places	Select the required decimal places and thus how accurate the result must be.
Ambient data query after each measurement	If the check-box is checked, the ambient data will also be queried after each measurement.
Check measured values before entering.	If the check-box is checked, the measured values are checked directly against the target value before saving.

Test characteristic type value range

Create test char	acteristic			×
Test characteristic type Description	○ Target value ● Value range ○ Attribute	¢.N	Settings for variable character	0 🗢
Testing instructions		•	Value to be measured Type of test equipment	Barometer Conductivity measuring device Hygrometer Leak tester
Remarks for tester			Number of decimal places	Multi-channel balance Multi-channel balance Ambient data query after each measurement Check measured values before entering
Parameters for variable characteristics Max. value 0 Min. value 0				
Cancel				Save

Parameters for variable char- acteristics	Explanation
Max. value	Define the range of values that you want to test using the test characteris-
Min. value	tic. Max. value and min. value each have the same unit.

Test characteristic attribute

baka kanaga kanta (bertara (bega kata Kentara)) Bagai kanta (bertara) Bagai kantara Bagai kantara
0
lineaga gu i u milar

Describe the characteristic to be tested (e.g., an expected color change as a result of chemical exposure, labels with appropriate statements, warning signs).

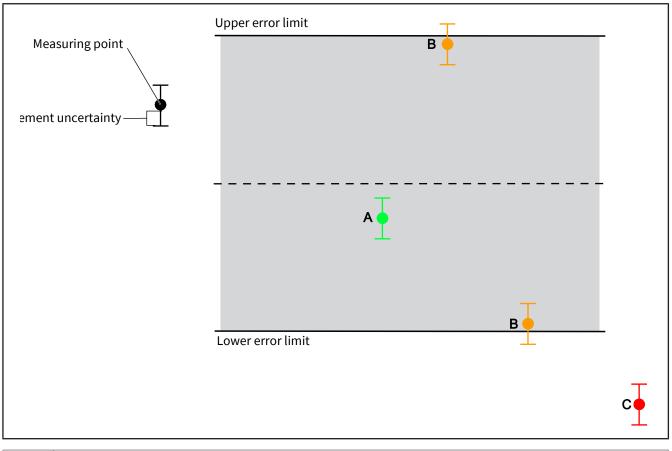
9.5.1.2.1 Measurement uncertainty in general

The following section deals with the test characteristic measurement uncertainty:

- Measurement uncertainty in general (see Measurement uncertainty, p. 119)
- Measurement uncertainty and how EASYCAL 5 deals with it (see Measurement uncertainty in EASYCAL 5, p. 120)

9.5.1.2.1.1 Measurement uncertainty

The mean value of the measured volume is evaluated by including the entered measurement uncertainty.



Case	condition		
A	The determined mean value of the volume is within the error limits/manufacturer's tolerances.		
В	There is a lack of sufficient certainty as to whether the average volume value determined is either		
	within the MPE/manufacturer's tolerances.		
С	The determined mean value of the volume is not within the error limits/manufacturer's tolerances.		

9.5.1.2.1.2 Measurement uncertainty in EASYCAL 5

The program EASYCAL[™] 5 includes the measurement uncertainty in the measurement as follows:

Measurement uncertainty	
Use measurement uncertainty	
Simplified values	
Measurement uncertainty ± 0 🌲	

Measurement uncer-	Behavior	
tainty		
No measurement uncer-	Leave the check-box Use measurement uncertainty unchecked if you do not want	
tainty	to include the measurement uncertainty in the calculation. Note that for many in-	

Measurement uncer- tainty	Behavior
	strument tests, the measurement uncertainty must be issued on certificates in or- der to be valid.
Simplified measure- ment uncertainty	 Activate the check-box Use measurement uncertainty in order to include the measurement uncertainty. Activate check-box Simplified values: Adds a fixed value for the measurement uncertainty to the mean value of the volume determined during the measurement.
Expanded measure- ment uncertainty:	Activate check-box Expanded values: Adds a systematic standard measurement uncertainty measurement uncertainty to the mean value of the volume determined during the measurement.

Simplified values check-box

Measurement uncertainty	
Use measurement uncertainty	
 Simplified values Expanded values 	
Measurement uncertainty ± 3 🖨	

If you are not familiar with the calculation of measurement uncertainty and still want to specify a value, a commonly accepted value is ⅓ of the specified error limit of the respective article. The program EASYCAL[™] 5 uses the value you enter in order to add a static uncertainty range to the mean value of the volume determined in the measurement.

Advanced values check-box

✓ Use measurement uncertainty
Simplified values Expanded values
Systematic default measurement uncertainty u_syst 0 🗢 µl

If you select this option, EASYCAL[™] 5 calculates the expanded measurement uncertainty U with the expansion factor k = 2 based on the systematic standard measurement uncertainty u_syst. The expanded measurement uncertainty U obtained in this way is used in conformity assessment. Observe the following aspects for a correct calculation of the expanded measurement uncertainty U:

- The expanded measurement uncertainty is applicable only for calibration of liquid handling devices in accordance with DIN EN ISO 8655. Volumetric instruments made of glass or plastic are not covered by the expanded measurement uncertainty.
- In order for the expanded measurement uncertainty to be calculated correctly, at least 10 measurements per volume must be performed.
- The systematic standard measurement uncertainty u_syst must be specified with the expansion factor k = 1.

• The entered value of the systematic standard measurement uncertainty u_syst may not include the value of the random measurement uncertainty (repeatability) – EASYCAL[™] 5 calculates this itself; see the following formula for U:

$$U = k \times \sqrt{\frac{u_syst^2 + s^2}{n}}$$

Legend				
u_syst	systematic standard measurement uncertainty; to be entered when creating the test character- istic or test plan			
k Expansion factor; value cannot be changed and is set to 2				
S	Standard deviation of the mean value of the measurement series; calculated from the weight values by EASYCAL [™] 5			
n	Number of measurements per volume; to be specified via the test plan in the test characteristic "Number of tests" field; value must be ≥ 10.			

u_syst = 0

If the user sets the value of u_syst = 0, only the random measurement uncertainty is attributed to the measured value. This can lead to incorrect, reduced measurement uncertainties in the calculation of U because, in practice, the systematic measurement uncertainty exceeds the random measurement uncertainty several times over (see DKD R 8-1 ... 8-3). Information on determining the measurement uncertainty in general and the systematic standard measurement uncertainty (u_syst) in particular can be found in the following sources:

DKD R 8-1 Kalibrierung von Kolbenhubpipetten mit Luftpolster

DKD R 8-2 Kalibrierung von Mehrfachdispensern

DKD R 8-3 Kalibrierung von Einzelhubdispensern und Kolbenbüretten

ISO/TR 20461 First edition 2000-11-01: "Determination of uncertainty for volume measurements made using the gravimetric method".

ISO 8655 – 6

EA-4/02 M: 2013 Evaluation of the Uncertainty of Measurement In Calibration

ILAC-P14:09/2020 ILAC Policy for Measurement Uncertainty in Calibration

Guide to the Expression of Uncertainty in Measurement (GUM)

9.5.1.3 Release test plan

est plan (release)				
atus	Released	•			?
	Created/edited				
	Released				
_	Locked/resubmission				
	Discarded				
st standard (tolerances)	Manufacturer	-			
			Item Description Type	Nominal value Number of	C
			1	Norminal value Number of	
			2		C
			3		-
			S		
					C
Limits for ambient data -					\checkmark
		_	4		
			,		
:=]
Ξ]
Ξ]
ΙΞ]
]
Cancel	Discard				

Prerequisite:

Depending on access rights, you can release test plans. In particular, if the dual control principle is activated, the person who created the test plan themselves cannot release it (see Parameters and limits, p. 135, Options section)

Example:

An employee assigned to the authorization group laboratory creates the test plan; another employee releases it.

- **a.** Click on the Release test planbutton in the Test plan.
- → The Test plan (release) window opens.
- **b.** Select the value Released from the "Status" selection box.
- **c.** Click "Save" to release the test plan or "Discard" if you do not want to release the test plan after all. The moment you select Released, the other values become read-only.

Available status of the test plan

Created/edited	A test plan has been created or is in progress. Example: A laboratory employee designs the test plan.		
Released	A test plan is released and can be used. Example: The laboratory manager releases the drafted plan.		
Locked/resubmission	A test plan must be corrected.		
Discarded	A test plan is obsolete.		

9.5.1.4 Display previous versions of a test plan

rsion 0 🔹 🔪	Vithdraw release	Version 0 🔹	Withdraw release	
Compare				
Test plan 1		Test plan 2		
llocation no. 0		Allocation no. 0		
elease status Released		Release status Released		
Description	EC-Manu-PiPip-HTLDisCom-5000-var	Description	EC-Manu-PiPip-HTLDisCom-5000-var	
/ersion	0	Version	0	
est method	The calibration was performed according to the gravimetric procedure according to DIN EN ISO 8655-6:2002.	Test method	The calibration was performed according to the gravimetric procedure according to DIN EN ISO 8655-6:2002.	
est standard (tolerances)	Manufacturer	Test standard (tolerances)	Manufacturer	
lemarks		Remarks		
Reference temperature	°C	Reference temperature	°C	
emperature difference	0.5 °C	Temperature difference	0.5 °C	
Vater temp. Min	°C	Water temp. Min	°C	
Vater temp. Max	°C	Water temp. Max	°C	
Air temp. Min	°C	Air temp. Min	°C	
Air temp. Max	°C	Air temp. Max	°C	
elative humidity Min	40 %rh	Relative humidity Min	40 %rh	
lelative humidity Max	60 %rh	Relative humidity Max	60 %rh	
Air pressure Min	mbar	Air pressure Min	mbar	
Air pressure Max	mbar	Air pressure Max	mbar	
lumber of measurement serie		Number of measurement se	ries 1	
lan for relative random samp	e 100% test	Plan for relative random san	nple 100% test	
Plan for absolute random sam	ple	Plan for absolute random sa	mple	
est characteristic	3	Test characteristic	3	
2. TV - V 0 1. TV - V 0 NV	- V 0	2. TV - V 0 1. TV - V 0	NV - V 0	
Туре	Target value	Туре	Target value	
Number of tests	10	Number of tests	10	
Type of test equipment	Single-channel balance	Type of test equipment	Single-channel balance	
Value to be measured	Weight	Value to be measured	Weight	

In the "Test plan" window, select the desired test plan in the list, and click Show previous versions.

In the drop-down lists, you can select different versions. Differences between the versions are highlighted.

Example:

Version 1: 0.3°C to version 0: 0.5°C

9.5.2 Test plan assignments

BRAND - EASYCAL™ 5								
Te	Test plan allocations							
	Filter							
	Test type	Not specified 🔹	View	 Existing allocations 	Test plans without allocation			
	Release status	Not specified 🔹						
		Not specifica	ID	Test type	Article codes			
	ID		1	STD – standard values	EC-29501			
			2	STD – standard values	EC-36943;EC-36973;EC-37462;EC-37482			
	Main category	•	3	STD – standard values	EC-36945;EC-36975;EC-37463;EC-37483			
Article information			4	STD – standard values	EC-37464;EC-37484;EC-36977;EC-36947			
Drm	Product category	•	5	STD – standard values	EC-36949;EC-36979;EC-37467;EC-37487			
inf	Manufacturer	•	6	STD – standard values	EC-36950;EC-36980;EC-37468;EC-37488			
ticle	Product		7	STD – standard values	EC-36951;EC-36981;EC-37469;EC-37489			
A	Ploduct		8	STD – standard values	EC-36952;EC-36982;EC-37470;EC-37490			
	Article code	٩	9	STD – standard values	EC-37481;EC-37461;EC-36968;EC-36938			
		· · · · · · · · · · · · · · · · · · ·	10	STD – standard values	EC-36953;EC-36983;EC-37471;EC-37491			
	Volume range	0.1 µl 10000 ml	11	STD – standard values	EC-38204			
			12	STD – standard values	EC-38206			
			13	STD – standard values	EC-38208			
	Test plan no.		14	STD – standard values	EC-38210			
	Test also Description		15	STD – standard values	EC-36170			
	Test plan Description		16	STD – standard values	EC-36172			
			17	STD – standard values	EC-36174			
		Create allocation	18	STD – standard values	EC-36954;EC-36984			
		Create allocation	19	STD – standard values	EC-36176			
			20	STD – standard values	EC-37266;EC-37255			
		Edit allocation	21	STD – standard values	EC-36854;EC-37254;EC-37265			
			22	STD – standard values	EC-36407			
		Allocation as default	23	STD – standard values	EC-36408			
		Release	24	STD – standard values	EC-36838;EC-37238;EC-37256;EC-37401;EC-37438			
		Nereuse	25	STD – standard values	EC-36404;EC-36843;EC-37045;EC-37243;EC-37267;EC-37402;EC-37			
			26	STD – standard values	EC-37446;EC-37403;EC-37257;EC-36406;EC-36845;EC-37046;EC-37			
					FO 3000 FO 3700 FO 3700			
Back								

Use this menu to link the articles to the test plans. Please note that the error limits of an article or device are not stored in the article master data but rather in the test plans. Only in the test plan assignment are the permissible tolerances assigned to the article within which the test is considered successful. This organization of data makes it possible to assign the same test plan with standard values to all piston-stroke pipettes of a particular design. If the standard changes, only the corresponding test plan needs to be adjusted and not each individual article.

View

You can influence the general view using the following fields:

Field	Explanation		
Existing allocations	Filter by test plan assignments to which articles have already been as-		
	signed.		

Field	Explanation
Test plans without allocation	Filter by the test plans to which no articles have been assigned.

Filter

Filter the test plans using the following fields:

Field	Explanation			
Test type	Select the appropriate test type. The search results list is reduced accord-			
	ingly.			
Approval status	Search for a specific status			
	Created/edited, Released, Locked/resubmission, Discarded.			
ID	Search for a test plan assignment (ID). You can also enter parts of ID;			
	searching for "1" will thus find ID 1, 10, 11, 100, and so on.			
	Alternatively, you can scroll all the way down because the last test plan as-			
	signment you created has been added to the bottom of the list.			
Main category	Search all products of a main category.			
	In order reset the filter, select No selection from the drop-down menu. Af-			
	ter that, you can filter again for more categories.			
Product category	Search all products in a product category.			
	In order reset the filter, select No selection from the drop-down menu. Af-			
	ter that, you can filter again for more categories.			
Manufacturer	Search for a specific manufacturer.			
Product	Search for a product name you know.			
Item code	You can either enter the article code directly here or search in a new win-			
	dow using the 🔍 button. You can also enter parts of the article code; a			
	search for "1" will thus find the article code 1, 10, 11, 100, and so on			
Volume range	Use both sliders to narrow the volume range.			
Test plan no.	Search for the Test plan no			
Test plan designation	Search for the test plan designation.			

Test types

Test type	Meaning		
Standard values (STD)	This test type applies to test plans with values as specified in the standard of the corresponding article (e.g., ISO or USP).		
Manufacturer values (MANU)	This test type applies to test plans with values as specified by the device manufacturer (insofar as they deviate from the standard).		
Customer-specific	This test type applies to test plans that do not follow any particular logic. No corresponding test plans are supplied. The EASYCAL [™] 5 software often provides both a test plan based on standard values and manufacturer val- ues for liquid handling equipment. The user must decide in this case.		

Button

Button	Explanation
Create allocation	See Create new assignment, p. 127
Edit allocation	The same dialog opens as under "Create assignment". You can now release the test plan assignment.
Allocation as default	The assignment is marked with a check mark
Release	Select a test plan assignment in the overview, and release the test plan via the dialog that opens, or withdraw the release,

9.5.2.1 Create new assignment

In this menu, you assign test plans to individual articles. You can use the filters on the left to find the appropriate articles and then add them to a test plan using the Assigned items and Items available sections.

N	ew allocation	of a test plan			×
Settings	ID Test type Test plan Release status	Not specified SPEC - Customer specific	Assigned articles		
Article filter	Main category Product category Manufacturer Product		Select/de-select all Articles available	Specific volume range	•
	Article code Channel filter Product variations Volume ranges		EC-10002 - Bürette SILBERBRAND, ohne Hahn, Klasse B, Economy; 0.1 - 25 ml EC-10004 - Bürette SILBERBRAND, ohne Hahn, Klasse B, Economy; 0.1 - 50 ml EC-10012 - Kompakt-Bürette SILBERBRAND, Klasse B, Economy; 0.1 - 25 ml EC-10014 - Kompakt-Bürette SILBERBRAND, Klasse B, Economy; 0.1 - 50 ml EC-100210 - Research® plus Fix; 10 µl EC-100211 - Research® plus Fix; 20 µl EC-100212 - Research® plus Fix; 20 µl		
	Cancel		EC-100213 - Research® plus Fix; 20 µl EC-100214 - Research® plus Fix; 25 µl		Last change: n.n. Save

Settings

In this section, you can define the test plan assignment. This element has its own ID consisting of the information on the test type, the test plan, and the status of the test plan assignment.

Field	Explanation
ID	ID of the test plan assignment. The ID does not correspond to an article number or a test plan ID.
Test type	Select the appropriate test type.
Test plan	Select the desired test plan. You can either select it from the drop-down menu or search for it using the Q button.
Release status	Filter the test plans by release status.

9.6 Data import and export

>> Main menu > Administration > Data import and export

	ficate templates				
rticles	Search Type to search				
est plan assignment	Article code V Manufacturer	Product Product variati	on Volume range Status	Com	
usiness partner	EC-10002 0	Product Product variati	on volumerange status	■ i •	
st equipment device type					
cessories	EC-10012 0				
	EC-10014 0			• •	
	EC-100210 0			• i •	
	EC-100211 0			i •	
	EC-100212 0			i •	
	EC-100213 0			i •	
	EC-100214 0			i •	
	EC-100215 0			■ i •	
	EC-100216 0			i •	
	EC-100217 0			i •	
	EC-100218 0			• • •	
	EC-100219 0 EC-100220 0			i •	
	EC-100220 0			i •	
	EC-100310 0		=		
	EC-100311 0			1	
	EC-100312 0				
	EC-100313 0				
	EC-100314 0			• •	
				i •	
	EC-100315 0				
	EC-100315 0 EC-100316 0			■ i •	

Import and export master data, orders, and certificate templates via .XML, .CSV, and .JSON file formats.

- Master data: Articles, test plan assignment, business partners, test equipment device types
- Orders
- Certificate templates

Compare data sets

In the Compare column, select two data sets. These are opened in a pop-up window for comparison.

9.7 Business partner administration

>> Main menu > Administration > Business partner management

earch Type to search	New partner	Edit partner			
Partner no. Name		🗸 Customer 🗌 Supp	lier		
I BRAND Shanghai	Partner no.	1			
	Name	BRAND Shanghai			
	Address 1				
	Address 2				
	Address 3				
	Country				q
	ZIP CODE, Location				q
	Telephone				
	Fax				
	E-mail				
		Reminder via e-ma	il		
	Export languages	Primary language German	~	Secondary langua	age
		German	*	English	
	Contact person			Remarks	
	Last name	First name	+ * /		

In the business partner management, you can manage the contacts to your customers and suppliers. You can also define other characteristics about your customers or suppliers (e.g., which languages are spoken).

Field	Description
Check-box Customer Supplier	Specify whether the contact is a customer or a supplier.
Partner no.	Assign a number or alphanumeric combination in order to identify
	the supplier or customer.
Name	Assign a name for the customer or supplier.

10 Settings

>> Main menu > Settings

Use the Settings to make basic program settings. You can configure the language, workstation, and server and make global program settings.

10.1 Workstation settings

>> Main menu > Settings > Workstation settings

Settin	ıgs		
	Workstation settings		
Ba	ck		

Under this menu item, you make specific settings for each workstation (e.g., which printers or test equipment are available at this workstation).

10.1.1 Test equipment

Test
Test

Determine the <u>>>test equipment</u> available to you at this workstation.

The test equipment is defined via the test equipment no.; see test equipment number.

- a. Select the test equipment from the list under "Test equipment no."
- **b.** Click on the "+" sign to apply the test equipment. Click on the "-" sign to remove the test equipment.
- \hookrightarrow The test equipment is listed.
- c. If this is electronic or network-capable test equipment, configure the connection to the test equipment.
- **d.** Test the connection by clicking on the icons in the "Test" column after configuration.

Drop-down menu from "Con- nection" column	Explanation
No selection	—
СОМ	Communication via COM interface. Select the corresponding COM port 1 9 from the "Addressing" column.
File server	Enter the path to a directory containing files describing the test equip- ment.

Drop-down menu from "Con- nection" column	Explanation
TCP/IP	Communication via TCP/IP. Enter the corresponding addressing in the "Ad-
	dressing" column.
	Example: 192.168.0.1

Icons from "Test" column	Explanation
3	Connection not yet configured
5	Check connection:
••	Connection is established.
	Connection exists.
8	Error

10.1.2 Paths for certificate export

Workstation se	ttings
Vorkstation designation	EASYCAL - Arbeitsplatz
Test equipment Paths	Default printer
Default paths for certific creation.	cate export. Use <year> as a specification in the path to automatically insert the year of certificate</year>
Test type	Target path
GEN – General	C:\Users\User\Documents
Test type	
STD – standard values	▼ + -

Set default paths for certificate export.

Prerequisite:

✓ The directory must already exist.

- ✓ The user who stores the certificates needs write permissions to the directory.
- **a.** Select Test type.
- **b.** Clicking on the "+" sign opens an input line.
- **c.** Click on **■**. Select folder.
- ✤ The path appears in the input line.

Use <year> to insert a year into the file name.

Example:

C:\Users\Name\Desktop\<year>

10.1.3 Standard printer

Vorkstation designation Test equipment Paths	
	ters per test type for this workstation.
Test type	Description Address
Test type	Description Address

Set the default printers to be used for this workstation.

Field	Value
Test type	Select the appropriate test type. For test types, see Test types (user autho-
	rizations), p. 61
Designation	The original designation is adopted.

Field	Value
Adress	Shows the network address of the printer.

Prerequisite:

- ✓ The desired printer must be set up at the workstation.
- a. Click on 4 . Select printer from the list.
- **b.** Click on Apply.
- → The printer appears in the fields.
- **c.** Click on the "+" sign to apply the printer for this workstation. Click on the "-" sign to remove the printer for this workstation.
- To set up the printer, see Printer configuration, p. 141.

10.2 Language

>> Main menu > Settings > Language

Select the desired interface language.

The following languages are available:

German, English, Spanish, French, and Chinese

The interface language is independent of which language is output on the certificates.

10.3 Global settings

>> Main menu > Settings > Global settings

Global settings

The global settings apply to all EASYCAL[™] 5 clients on the network or only to the individual standalone installation. Set ambient conditions, SMTP, and printer settings

10.3.1 Parameters and limits

BRAND - EASYCAL [™] 5	*5	_ 0	×
Global settings	s		
Parameters and limits SMTP settings Auto-reminder Active users Blockades Printer configuration Database backup Calibration intervals Updates	Ambient data Air temperature (max.) 25.00 °C © Air temperature (min.) 20.00 °C © Water temperature (min.) 20.00 °C © Air pressure (max.) 1,025 mbar © Air pressure (min.) 960 mbar © Relative humidity (min.) 40.00 % ©	Reset to default values	-
	Max. target value deviation 50.00 % 🗘	Reset to default values	-
	Speedcal mobile		- 11
	Overflow warning Activated on Stop before overflow Activated on General values		
	Length of the order preview 15 🗢 in days		
	Options		_
	Activate continuous reading		
	Remember test equipment last used		
	Request manual entry of climate data only once per device		
	Image user mode ✓ Disable dual control principle for release process		-
Back		San	/e

Ambient data

Set the ambient data in which a test typically occurs. These limits define a validity range between minimum and maximum value. The ambient data must lie in this for a measurement to be valid. The standard values must then be adjusted if the ambient conditions or specified limit values (e.g., in accordance with accreditation) deviate.

Example:

Laboratory is located at high altitude in humid, warm, or cold areas.

The global limits can be overridden by specific limits defined in the test plan; see Test planning, p. 113.

Parameter	Default value	
Air temperature (max.)	35.00 °C	
Air temperature (min.)	20.00°C	
Air pressure (max.)	1,025 mbar	
Air pressure (min.)	960 mbar	
Water temperature (max.)	25.00°C	
Water temperature (min.)	20.00°C	
Rel. Relative humidity (max.)	65.00%	
Rel. Relative humidity (min.)	40.00%	

Measurement

Set the range parameters that directly affect the measurement.

Settings

Max. Zielwert-Abweichung is the maximum deviation from the target value. If the value from Max. Zielwert-Abweichung is exceeded, a message is output, and the measurement is marked as invalid. This value therefore represents the maximum target value deviation.

Parameter	Default value
Max. Zielwert-Abweichung	50.00%

General values

Set parameters of the order processing. Length of the order preview specifies the time span of the entries displayed in the menu item Orders and calibration slips.

Parameter	Default value
Length of the order preview	10 T

Options

Option	Default value
Activate continuous reading	Trigger a measurement when you press the "Print" key on your balance. This setting applies to all scales connected to the EASYCAL [™] 5 software (if EASYCAL [™] 5 is operated as a server application) or to the individual workstation.
Remember test equipment last used	Test equipment that was used during the measurement (even if it was not defined as a connected device in the working configu- ration) is saved and automatically selected again for the next calibration certificate.
Request manual entry of climate data only once per device	When activated and if the climate or ambient data have to be entered manually, they are requested only during the first mea- surement. For all other measurements, the values from the first measurement are applied.
Disable dual control principle for release process	Disables the requirement for another user to approve articles, test plans, test plan assignments, certificate templates, and as- signments. The release can thus also be carried out by the cre- ator or processor.
Single user mode	This option is active for standalone installation. When enabled, user management is disabled, and log on is always via a default user.

10.3.2 SMTP settings

BRAND - EASYCAL [™] 5		
Global settings		
Parameters and limits SMTP settings Auto-reminder Active users Blockades Printer configuration Database backup Calibration intervals Updates	E-mail address of the sender User name of the sender Password Server name/address SMTP port	25

Enter the address settings of your SMTP server. You receive this information from your IT administrator.

Field	Value
Email adress of server	Enter the e-mail address to be specified as the sender in the e-
	mail. This can be an alias e-mail address.
	Example:
	noreply.easycal@firma.domain
User name of the sender	Enter user name for sending e-mail. This user must be config-
	ured on the e-mail server outside of EASYCAL [™] 5.
	Example:
	easycal
Password	Password for sending e-mails of the created user.
Server name/address	Enter the name or IP address of the SMTP server.
SMTP port	Enter the port number of the SMTP server.

10.3.3 Automatic reminder

Store	BRAND - EASYCAL [™] 5			_ 0 X
SMP ettings Ictivite autoreminder List check No date available Autoreminder Ictivite autoreminder List check No date available Active user Ictivite autoreminder Tett ange Ictivite divices Biolodabit Ictivite autoreminder Tett and remind now Printer configuration Ictivite autoreminder Tett and remind now Databite backup Ictivite autoreminder Tett and remind now Databite backup Ictivite autoreminder Ictivite autoreminder Calibration intervals Ictivite autoreminder Ictivite autoreminder Subject Ictivite autoreminder Ictivite autoreminder Ictivite autoreminder Ictivite autoremind	Global settings			
Database beckup E-mail settings Calibration intervals Cc Updates Bc Subject Content Image: Image	SMTP settings Auto-reminder Active users Blockades	Test interval Test range	0 ≎ Weeks 0 ≎ Weeks	
Calbration interval Cc Updates Bcc Subject Content Image: Imag		E-mail se	ttings	
Subject Content		Cc		
	Updates	Bcc		
Back Save			※ 凸 凸 ? < 、 1.0 pt ÷) B / ビ ●	×
	Back			Save

Set the automatic reminder e-mail here. The e-mail recipient is addressed when you create a new reminder via the reminder service; see Reminder service, p. 144.

Field	Description
Activate auto-reminder	If this check-box is set, a reminder is sent for each newly tested device af- ter the test interval and the test range have elapsed.
Test interval	This specification determines how often EASYCAL checks the device list for reminders due. The interval must be specified in whole weeks. Specifica- tion "1 week" means: EASYCAL checks the device list weekly for reminders due.
Test range	This specification determines how far EASYCAL looks into the future when checking the device list for reminders due. The range is entered in whole weeks. Indication 1 week means: EASYCAL checks which devices are due for testing in the coming week. Indication 4 weeks means: EASYCAL checks which devices are due for testing in the next 4 weeks (i.e., in the next month).
Include overdue devices	 This specification determines whether devices for which the due date is in the past and have not appeared for testing since then should also be included in the results list. It is important that the SMTP settings for sending the reminders have been set correctly.

The reminder can contain any text. In addition, the following information can be inserted automatically via the placeholder .

Place holder	Scope
Device list (reduced)	Serial number/customer-specific marking
Device list (complete)	Serial number/customer specific marking/article code/manufacturer
	name.

10.3.4 Active users

Parameters and limits Parameters and limits SMTP settings Auto-reminder Active users Active users Blockades Printer configuration Database backup Calibration intervals Updates	Parameters and limits All users can log in Allow only administrators SMTP settings All users can log in Allow only administrators Auto-reminder Active users Active users Active users Name Workstations Blockades EASYCAL Admin - Printer configuration Database backup Image: Calibration intervals	BRAND - EASYCAL™ 5			
SMTP settings Auto-reminder Active users Active users Name Workstations Blockades Printer configuration Database backup Calibration intervals	All users can log in Allow only administrators SMTP settings Active users Auto-reminder Active users Active users Name Blockades EASYCAL Admin Printer configuration EASYCAL Admin Database backup Image: Calibration intervals	Global settings			
Blockades EASYCAL Admin Printer configuration Database backup Calibration intervals	Blockades EASYCAL Admin Printer configuration Database backup Calibration intervals	SMTP settings	_	Allow only administrator	75
Printer configuration Database backup Calibration intervals	Printer configuration Database backup Calibration intervals				
Calibration intervals	Calibration intervals				
		Database backup			
Updates	Updates	Calibration intervals			
		Updates			

Field	Explanation
Allow only administrator	If you click on the button, only users of the "Administrators" group will be
	able to log in (maintenance function).
Aktive Users	All active users are displayed in the list. By clicking on the column headers,
	they can be sorted in either ascending or descending order.

10.3.5 Blockages

BRAND - EASYCAL™ 5	
Global settings	
Parameters and limits SMTP settings Auto-reminder Active users Blockades Printer configuration	Sessions with active locks User name Session token Action
Database backup	
Calibration intervals Updates	Locked orders
	Locked calibration slips User name ID Serial number Action
Back	
Last	status: Test plan *1.0 - EC-Manu-PiPip-HTLDisCom-5000-var* was updated

In order to avoid simultaneous processing of the same order or calibration certificate, it is blocked for further processing. In this view, the currently blocked orders or calibration certificates are displayed. These blocks

can be removed if they remained in place during a program or computer crash. The blocks of the complete user can be removed here or only the locking of an order or calibration certificate.

10.3.6 Printer configuration

BRAND - EASYCAL [™] 5				_ 0	×
Global settings					
Parameters and limits SMTP settings Auto-reminder Active users	Search Type to search Description	New Printer-Config Description Address	Edit	Search printer	
Blockades Printer configuration Database backup Calibration intervals Updates		Print offset correction	Left 0.0 mm ‡ Top 0.0 mm ‡		

Create new printers or edit already created ones. Offset correction needs to be performed only if preprinted paper is used.

Prerequisite:

- ✓ Set up the printer on the computer beforehand. Otherwise, the printer cannot be selected.
- **a.** Select a new printer via Search printer. This printer is then available for all users.
- b. Define an offset via Printer offset correction (e.g., 3 mm from the left page margin and 3 mm from the top page margin). This determines where on the paper in the upper left corner the certificate printing starts. Other page options are set in the certificate editor; see Certificate templates, p. 98.

10.3.7 Database backup (standalone/demo license only)

This menu allows you to make a backup of the database and restore the data from the database. You thus overwrite changes made to the database after the backup.

10.3.8 Calibration intervals

BRAND - EASYCAL [™] 5 *	:		
Global settings			
Parameters and limits	↓ Test type	Calibration required	Calibration interval in days
SMTP settings	STD – standard values ST – Short test		1 0
Auto-reminder Active users	SPEC – Customer specific	✓	3 🗘
Blockades	MANU – Manufacturer values		0
Printer configuration			
Database backup			
Calibration intervals •			
Updates			

Determine whether calibration of test equipment is required for the Test type and specify calibration intervals.

10.3.9 Updates

BRAND - EASYCAL™ 5	*
Global settings	
Parameters and limits SMTP settings	Automatically check for updates for EASYCAL
Auto-reminder Active users	Test interval: Every day Last test: 10/7/2021 4:58:49 PM
Blockades	Check now
Printer configuration Database backup	
Calibration intervals •	
Updates	

In this section, set whether EASYCAL[™] 5 should automatically check for available updates and the interval at which this should happen. Bug fixes are provided to each customer free of charge.

Update available



If an update is detected, the icon appears in the bar at the bottom. You can download and install the update here.

11 Reminder service

Registered reminders due	Reminder service							
	Registered reminders	(CC)) Reminders due						

In this section, you can define reminders to remind laboratory customers or laboratory suppliers to test devices.

11.1 Registered reminder

ð∳ BRAND - EASYCAL™ S*	_ @ X
Registered reminders	
Filter Test type Not specified Reminder no. Owner Location Device Article Test type Reminder interval Last test Next 1	Business partner management
Device ID	Search Type to search New partner Edit partner
Serial number	Partner no. Name Image: Customer Supplier 1 BRAND Shanghai Partner no. 1
	Name BRAND Shanghai
	Address 1
	Address 2
Create new reminder	Country
Create reminder ×	ZIP CODE, Location
	Telephone
Device 1 - 1234 🔍 Recipient 1 BRAND Shanghai 🔹 🔍	E-mail
Test type STD - standard values	Reminder via e-mail Export languages Primary language Secondary language
Test standard (tolerances) DIN EN ISO 4788 Reminder interval Months	German v English
	Contact person Remarks
Remarks	Last name First name +
Cancel	Cancel Save
Back	

Search for existing reminders or create new ones.

In order for an automatic reminder to work, the reminder interval must be entered in the Create reminder window, and the E-mail and Reminder via e-mail field must be filled in in the "Business Partner Manage-ment" window. In addition, the Activate auto-reminder function must be activated in the Global settings (see Automatic reminder, p. 138).

11.2 Reminders due

		Start date	10/3/202	1 15	End date	11/26/2021	15	✓ Include overdue	G
Owner	Test type	Nur	nber						
1 BRAND Shanghai	STD – standard va	llues 1	i P						

Look for reminders that are due and send reminders by mail or e-mail.

Field	Explanation
Include overdue	Include overdue reminders in the search.
0	Refresh the list of results.
i	The devices due for reminder are listed and displayed; the number of these is summed up directly in front of them.
-	Opens the print preview and allows to send individual reminders by e-mail.

The reminder letter (sample application)

You can also create reminder letters with the certificate templates in addition to the automatic reminder by e-mail (see Registered reminder). You can print this, save it as a PDF, or send it as an attachment by e-mail (your e-mail client will open). If no e-mail has been stored in the customer data, you will be asked before-hand whether you still want to send an e-mail.

Example:



BRAND - EASYCAL [™] 5 *		_ 0 X
Export (2021-10-07-Reminder-	-1)	
Content		
Header Content Abi Free text Beschrift Abi Free text Beschrift Derice table Erinnerungsläste Abi Free text Bestellung Abi Free text Unterschrift Frooter		emplates used ekcted master layout: INA4-hochkant
	44 ≤ 1 von 1 ▷ ▷ Zoom: 100 % ⊙ ─ □ ─ ○ ▷ ↓ □	
& Back		Save as PDF

Keyword Index

Α

Accepted quality level (AQL) 45	5
Account	L
Ambient data 135	5

В

Bat	tch test	43
—	Creating order	45
Blo	ockage	
_	Calibration certificate	141
—	Order	141
—	User	141
Blocks		
_	Calibration certificate	141
—	Order	141
—	User	141
Bu	siness partner administration	61

С

Calibration certificate	
— Edit	54
Calibration certificates	43
Certificate	
— PDF	56
 Printing 	56
Certificate templates	61
Change password	40
Cleaning type	47
Continue test	54

D

Data import and export	61
Data Manager	64
Device status	47

F

Fields with red borders	40
Forgot your password?	66

G

Ge	neral		
_	Fields with red borders	40	
_	Localization function	41	
—	Yellow dot	40	
Glo	bal Admin	64	

6	
H Help language7	
l Individual evaluation	

Interface language 134

Global settings 130

ī

L	
Language	130
Layout	6
License	
Localization function	
Log in	40
Log out	40

Μ

Ма	ister data	
_	Article	71
_	Article data	71
_	Expanded article data such as standard, material,	
	grade, accessories, and cleaning type	71
—	General data	71
—	Manufacturer	71
—	Product	71
—	Product category	71
—	Product variation	71
—	Random sample scheduling	71
—	Test equipment	71
—	Volume range	71
Ма	ster data maintenance	61
Ма	ister layout	
_	Release	99
_	Test export	101
Ма	ster layout: error display	100
Me	asurement uncertainty	
_	- general	119
_	- in EASYCAL 5	119
_	- select	118
_	- Sources (norms/standards) of systematic standa	rd
	measurement uncertainty	122
—	- systematic standard measurement uncertainty	
	u_syst	121
—	Expanded measurement uncertainty:	121
—	Simplified measurement uncertainty	121

Ν

Navigate backwards	6
Navigate forward	6

0

•	
Open Source licenses	42
Order overview	43
Orders	43
Orders and calibration certificates	
 Continue test 	54
 Single test 	45, 45

Ρ

R

Re	lease	
_	Master layout	100
Re	eminder	
—	Automatic reminder	144
_	Reminder letter (letter/e-mail)	145

S

5	
Search fields	41
Search help	7
Serial number	47
Settings	
 Certificate export 	132
 Language 	134
 Print certificates 	134
 Test equipment 	131
Single device test	43
Single test	
 Complete order 	53
 Continue test 	54
 Creating order 	45
 Perform measurement 	49
Speed setting	47
Structure	18
Supervisor	64
System Admin	64
System requirements	10, 11

т
Target group6
Test characteristic
– Attributes 119
 Measurement uncertainty 118
 target value 117
 Test equipment 118
 Test instructions 117
— Туре 117
 Value range 119
 Variable characteristics 119
Test history 43
Test plan 47
— Create 124
– Discard 124
– Lock 124
– Release 124
Test plan assignment
 Cancel release 127
– Release 127
Test planning 61
Test Staff 64
Test type 61

U

0	
Updates	
 Troubleshooting 	143
User	61
 Configure 	66
— Create	70
— Edit	70
 Reset password: 	67
— Search	69

V

Version info 4	2
Volume range 4	7

W
Warning triangle 41

Y	
Yellow dot	

Glossary

"Ex" adjustment

The volume of liquid dispensed corresponds to the volume specification printed on it. The liquid residue remaining in the measuring device as a result of wetting was taken into account during adjustment. These measuring devices include graduated pipettes, volumetric pipettes, and burettes.

"In" adjustment

The amount of liquid taken up corresponds to the volume specification printed on the device. These measuring devices include graduated cylinders, volumetric flasks, and capillary pipettes up to 200 µl.

Accuracy

The accuracy indicates how close the mean value is to the target value (i.e., the systematic measurement deviation). The accuracy is calculated as the difference between the mean value and the target value, related to the nominal value in %.

C value

Corresponds to the number of defective parts allowed in the random sample.

Coefficient of variation:

The coefficient of variation (CV) indicates how close the individual measured values are to each other (i.e., random measurement deviation). The coefficient of variation is defined as the standard deviation in % relative to the mean value.

Error limit

The error limit specified in the relevant standards indicates the maximum permissible deviation of the device from the target value.

Instrument

In the sense of EASYCAL 5, an instrument is an object that has not yet been described (e.g., the test item). See also: device

Lot

A lot is a compiled, fixed quantity of units. A test lot may consist of several batches or parts of batches (ISO 2859-1).

Master data

Master data is a designation for data containing basic information about objects and is necessary for ongoing processing.

Master layout

Template for a certificate page

Sample, absolute

Specifies the exact number of devices belonging to the sample.

Test equipment

Test equipment is any measuring device used to verify warranted product characteristics.

Test plan

The test plan specifies which test criteria must be met by the device to be tested. The device is then tested against the test plan and its test characteristics.

Test type

A test type describes the circumstances of the test. What are the basic measures that must be observed. The test type is a sorting criterion for grouping similar tests. Алматы (7273)495-231 Ангарск (3955)60-70-56 Архангельск (8182)63-90-72 Астрахань (8512)99-46-04 Барлаул (3852)73-04-60 Белгород (4722)40-23-64 Благовещенск (4162)22-76-07 Брянск (4832)59-03-52 Владивосток (423)249-28-31 Владимар (4922)49-43-18 Волгоград (844)278-03-48 Волоград (8472)26-41-59 Воронеж (473)204-51-73 Екатеринбург (343)384-55-89

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