

# Beamex CMX calibration software

78977348759834759843  
87984654346346  
7987465465465132132131  
62587965836458734657  
655387875684653400

# BEAMEX CMX

## CALIBRATION MANAGEMENT SOFTWARE



### Maximize quality and productivity of calibration asset management with Beamex CMX calibration software

- Plan & schedule calibrations
- Manage & store all calibration data
- Analyze & optimize calibration interval
- Easy and efficient to use
- Explorer-type user-interface
- Calibrator communication/manual entry
- Mobile device interface available
- Automatically produce reports, labels & certificates (electronic format/paper)

14

### Why use software for calibration management

Every plant has some kind of system for managing calibration operations and data. There are several different ways for managing calibrations and they differ greatly in terms of quality, efficiency, accuracy of data, cost-effectiveness and level of automation. A plant can overcome the typical challenges related to calibration and improve the quality, productivity and cost-effectiveness of its entire calibration process by using software specifically designed for managing calibrations, such as the CMX calibration software.

### Typical challenges related to managing calibrations:

- Huge number of instruments requiring calibration
- Planning and scheduling calibrations is a challenging and labor-intensive task
- Documentation is necessary, but it takes time and typing errors are common
- Calibration data should be accessible for audits
- Calibration interval planning and analysis

| CMX PRODUCT FEATURES                                                                               | PROFESSIONAL | ENTERPRISE |
|----------------------------------------------------------------------------------------------------|--------------|------------|
| Optional 500 positions/tags in the database                                                        | ○            |            |
| Optional 1 000 positions/tags in the database                                                      | ○            |            |
| Optional 5 000 positions/tags in the database                                                      | ○            |            |
| Optional 10 000 positions/tags in the database                                                     | ○            |            |
| Unlimited number of positions in the database                                                      | ○            | ●          |
| Single workstation license                                                                         | ●            |            |
| Floating server licenses                                                                           | ○            | ●          |
| Networking/multi-user support                                                                      | ●            | ●          |
| Position/tag and device database                                                                   | ●            | ●          |
| Position/tag and device sets                                                                       | ●            | ●          |
| Calibrator database                                                                                | ●            | ●          |
| Wizard for database population                                                                     | ●            | ●          |
| Communication with Beamex calibrators                                                              | ●            | ●          |
| Manual data entry                                                                                  | ●            | ●          |
| Average and uncertainty calculation                                                                | ●            | ●          |
| Plant structure                                                                                    | ●            | ●          |
| User accounts, groups and permissions                                                              | ●            | ●          |
| Pickup lists                                                                                       | ●            | ●          |
| Saveable filters                                                                                   | ●            | ●          |
| Standard paper reporting templates                                                                 | 17           | 17         |
| Importing/exporting paper reporting templates                                                      | ●            | ●          |
| SQL server express version                                                                         | ●            | ●          |
| CMX database manager tool                                                                          | ●            | ●          |
| Oracle database support                                                                            | ○            | ●          |
| Communication with 3 <sup>rd</sup> -party calibrators                                              | ○            | ○          |
| Configurable user interface                                                                        | ○            | ●          |
| History trend                                                                                      | ○            | ●          |
| Report design                                                                                      | ○            | ●          |
| Change management with audit trail and electronic signature                                        | ○            | ●          |
| Weighing instrument support                                                                        | ○            | ●          |
| Lightweight directory access protocol (LDAP)                                                       | ○            | ●          |
| Maintenance inspection with bMobile application                                                    | ○            | ●          |
| “Mobile Security Plus” technology                                                                  | ○            | ●          |
| Communication with bMobile calibration application                                                 | ●            | ●          |
| Enhanced work order handling                                                                       | ○            | ●          |
| Calibration Web Service Interface (CWSI)<br>– calibrator communication in virtualized environments | ●            | ●          |
| Integration capability to various ERP/CMMS/other third-party systems                               | ○            | ○          |
| Factory type validation – URS/FDS/IQ/OQ/PQ                                                         | ○            | ●          |
| Possibility to import data from third-party systems to CMX                                         | ○            | ○          |
| Availability of report design services                                                             | ○            | ○          |
| Availability of on-site validation services                                                        | ○            | ○          |

● = Standard feature

○ = Optional feature

*Note: Certain capabilities and functions listed above may require purchasing of professional services from Beamex.*

# Benefits of using CMX

Improve every phase of the calibration process

| 1 PLANNING AND DECISION-MAKING                     | 2 ORGANIZING CALIBRATION ACTIVITIES                                               | 3 PERFORMING CALIBRATIONS                                                                                                                     | 4 DOCUMENTATION                                                                                       | 5 ANALYSIS AND PROCESS IMPROVEMENTS                                                                      |
|----------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Plan procedures and calibration strategies         | Create calibration instructions that guide the technician through the calibration | With documenting mobile devices, calibration results stored in the device's memory can be automatically uploaded back to calibration software | Produce reports automatically                                                                         | Analyze what is the optimal calibration interval with history trend function in the calibration software |
| Manage all calibration assets                      | Download calibration instructions to a documenting calibrator                     | No typing errors                                                                                                                              | All calibration data is stored in the database and can be signed electronically                       | All calibration records are easily accessible for audits                                                 |
| Maintain position, device and calibrator databases | No need for pen and paper                                                         |                                                                                                                                               | Print calibration certificates, reports and labels in electronic format, or on paper                  |                                                                                                          |
| Automated alerts for scheduled calibrations        |                                                                                   |                                                                                                                                               | Documentation meets regulatory requirements (e.g. ISO 9001, ISO 17025, FDA, GMP/GAMP, 21 CFR Part 11) |                                                                                                          |

16

## BUSINESS BENEFITS OF USING CMX

| REDUCE COSTS                                                                                                                                 | IMPROVE QUALITY AND REDUCE RISK                                  | INCREASE EFFICIENCY                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Paperless calibration management                                                                                                             | Regulatory compliance (e.g. ISO, FDA, GMP/GAMP, 21 CFR Part 11)  | Streamline and automate the entire calibration process, reduce time spent from start to finish |
| Analyze whether you need to increase or decrease calibration frequency – good instrument performance justifies reduced calibration frequency | Create, manage and store calibration data safely and efficiently | Replace manual procedures with an automated and validated process                              |
|                                                                                                                                              | No more typing errors when documenting calibration data          | Cut production down-time                                                                       |



## What the customers say

"The connection to SAP allows us to integrate the system of work instructions, planning and programming of tasks with calibrations. We can now say that we have a calibration management system which is simple, efficient and adapted to our particular needs and requirements."

**Juan José Mora Mora,**  
Head of Instrumentation Maintenance Dept., Spain

"With this software integration project, we were able to realize a significant return on investment during the first unit overhaul. It's unusual, since ROI on software projects is usually nonexistent at first. It's extremely simple, if you think of how complicated it could be."

**Jody Damron, Business Analyst, USA**

"Tasks that would take a month to two months to complete, could be performed in a few weeks, time is money. By removing all the manual steps in the workflow, and eliminating all the paper from the dataflow, the plant has realized a documented time savings up to 75% on calibrating pressure transmitters and pressure switches".

**Faran Rolingson, Senior Control Engineer in the I&C department, USA**

"We have improved regulatory compliance in relation to ISO 9001, calibration documentation stored safely, with less possibility of human error. In terms of calibration, these are excellent pieces of equipment".

**Peter Vandenberg, Senior Technical Officer Instrumentation & Controls, AGL Torrens Island Pty Ltd, Australia**



## Automated calibration management procedures

CMX automates calibration management procedures in various ways, including:

- Automated alerts of scheduled calibrations
- Automatic downloads of instruments and calibration procedures to calibrators
- Downloaded procedures guide the technician through the calibration
- Calibration results are automatically uploaded from calibrators back to calibration software
- Uncertainty calculation of traceable calibration results
- Calibration documents are prepared – automatically

## Communication with mobile devices

### Beamex calibrator support

CMX offers built-in communication with Beamex documenting calibrators for downloading and uploading calibration information. It's fast and efficient and there's no need for pen and paper.

CMX also communicates with Beamex bMobile calibration application installed on a mobile device, such as a tablet or a mobile phone. The bMobile can be used for inspection check-lists and calibration of weighing scales and process instruments.

CMX also supports communication with many other major field calibrator brands.

## Documentation

### Paperless calibration data management

Storing documents in the CMX database is easy, safe and efficient. The CMX comes with a selection of ready-made standard calibration reports and certificates. All these reports can be saved in different electronic formats (e.g. Word, HTML, PDF, Excel).

### Paper documenting

If you want to print and store paper copies of calibration certificates, reports, route lists and other documents, just simply drag and drop a work order to a local or network printer. You can also link or store external documents in the CMX.

## Easy to use

### Explorer-like browser interface

The explorer-type user-interface allows you to navigate through calibration records quickly and easily.

### "Drag and drop" functionality

In CMX, you can move equipment by simply dragging and dropping it.

## Meeting regulatory requirements

### ISO 17025, cGMP and 21 CFR Part 11

CMX stores and documents calibration information in auditable and traceable format by meeting regulatory requirements such as ISO 17025, cGMP and 21 CFR Part 11.

### Change management and audit trail

The change management function in the CMX complies with FDA requirements (21 CFR Part 11 Electronic Records and Electronic Signatures). Change management stores record history including timestamp, record author or editor, record status and a unique key to the Audit Trail. Audit Trail tracks detailed information of what data fields have been added, modified or deleted, by whom, when and why. Audit Trail also saves illegal login attempts.

### Data Integrity

The Beamex CMX also offers enhanced functionality with mobile device to lower the risk of ALCOA data integrity violations by identifying offline mobile device users with electronic signature and protecting data against tampering.

## Optimize calibration interval

Reduce calibration costs and improve quality by planning the optimal calibration interval for instruments.

- Every calibration event is stored into the database; the history trend is created automatically.
- Analyze and determine the optimal calibration interval for instruments.
- Make decisions regarding increasing or decreasing the calibration interval.
- Graphical display of the history trend.
- Make conclusions concerning the quality of the instruments.

## Adapts to your needs

- A database between 500 and unlimited positions (CMX Professional / CMX Enterprise)
- Installed into a single workstation or onto a floating server
- Report design and ability to customize user interfaces
- Mobile device interface allows manual entry of data on site, download of work orders, and testing of procedures and routines
- Multilingual

