

Data Loggers for Routine Control

WASHER-DISINFECTORS / WASHER-DISINFECTORS FOR ENDOSCOPES /
STEAM STERILIZERS / BEDPAN WASHERS

CSSD | MEDICAL | HYGIENE CONTROL

-ebro-
a xylem brand

Routine control made easy

with ebro data loggers



EBI 100 data loggers

With the EBI 100 data loggers, ebro offers reliable measurement devices for routine control of steam sterilizers, washer-disinfectors and washer-disinfectors for endoscopes according to German guidelines and ISO 15883.

The data loggers are available in different versions including temperature or temperature / pressure loggers with and without external probes. They record the temperature and pressure variation over time during the washer-disinfector or sterilizer process and can easily be read out on a computer with the help of Winlog.med software. This software will make the test evaluation easy, and automatically calculates the A_0 value.

Starter sets

EBI 100

With the EBI 100 starter sets you can start your routine control process immediately according to the German guideline.

In addition: Extend your sets with an EBI 15 data logger, and you will be able to perform daily electronic Bowie Dick Tests.

Starter set SL 1010

For temperature monitoring and A_0 value calculation in bed pan washers and washer-disinfectors.

The set contains:

- **EBI 100-T100** temperature data logger
- pH tester
- Conductivity tester
- Software and interface
- Aluminium carrying case



Starter set SL 1110

For temperature and pressure monitoring as well as for A_0 value calculation in washer-disinfectors, washer-disinfectors for endoscopes and steam sterilizers.

The set contains:

- **EBI 100-TP231** pressure / temperature data logger with Luer-Lock connection
- pH tester
- Conductivity tester
- Silicone protection box for logger
- Software and interface
- Aluminium carrying case





Electronic Bowie Dick Test with the EBI 15 data logger

With the EBI 15 data logger, ebro has developed an easy to use and very reliable measurement system for comprehensive routine control of steam sterilizers as well as for the execution of the Bowie Dick Test according to EN ISO 11140-4 and ISO 17665.

In addition, the system can check relevant sterilization parameters such as vacuum, compensation time, hold time and sterilization temperature as well as steam penetration. After completing the test, data read-out and graphic test evaluation is done with ebro's Winlog.med software.



EBI 15 Bowie Dick Test

With the EBI 15 starter sets you can start your Bowie Dick Test immediately according to the norms EN 285 / ISO 17665.

SL 1610 set

For performing the daily Bowie Dick Test and for routine control of steam sterilizers, washer-disinfectors and washer-disinfectors for endoscopes.

The set contains:

- Bowie Dick Test **EBI 15**
- **EBI 100-T100** temperature data logger
- pH tester
- Conductivity tester
- Software and interface
- Aluminium carrying case



SL 1500 set

For performing the daily Bowie Dick Test in steam sterilizers.

The set contains:

- Bowie Dick Test **EBI 15**
- Software and interface
- Aluminium carrying case





What does the EBI 15 accomplish?

- **Bowie Dick Test:**
The EBI 15 delivers clear results during daily checks of the air evacuation test and steam penetration test according to ISO 17665, EN ISO 11140-4 and DIN EN 285.
- **Early warning system:**
The EBI 15 provides early identification of possible failures in steam-sterilizers. Even the smallest quantities of residual air that doesn't lead to a failed Bowie Dick Test yet are detected.
- **Vacuum check:**
The EBI 15 allows a reasonable vacuum check also for sterilizers without pressure display according to DIN EN 285.
- **Verification of sterilization parameters:**
The EBI 15 checks the sterilization temperature and the sterilization time at +134 °C (+273 °F) for 3 minutes according to DIN EN 285.
- **Calculation of lethality (F_0):**
The EBI 15 monitors deviations between cycles by calculating total quantity of energy expended during sterilization process which is displayed by the F_0 value.



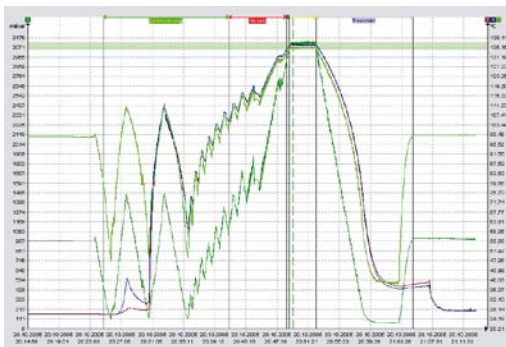
Benefits

- Easy use, evaluation and documentation of the Bowie Dick Test
- Clear, automatic passed / fail evaluation
- Reusable after 500 cycles with service and calibration by ebro
- Conforms with ISO 17665, EN ISO 11140-4 and EN 285
- Certified by TÜV Industrial Services and SMP





Easy data read-out with Winlog.med software



During the routine monitoring of washer-disinfectors, washer-disinfectors for endoscopes and steam sterilizers the pressure and temperature variation in time is documented with the help of the data loggers. During the evaluation, the software recognizes and checks all relevant phases of the sterilization. In addition, all of the required parameters are calculated and graphically displayed with the help of the software. Winlog.med software allows the simultaneous start or readout of multiple data loggers.

Criterion	Nominal value	Actual value
✓ Sterilization temperature band	134.00 - 137.00 °C	
✓ Maximum equilibration time	<= 15 Seconds	9 Seconds
✓ Minimum sterilization time	>= 180 Seconds	208 Seconds
✓ Lethality	>= 100.00	124.64
✓ Fluctuation	<= 1.00 K	0.60 K
✓ #10187120 [2]	<= 1.00 K	0.50 K
✓ #10187120 [3]	<= 1.00 K	0.60 K
✓ #10187120 [4]	<= 1.00 K	0.38 K

Criterion	Nominal value	Actual value
✗ Sterilization temperature band	134.00 - 137.00 °C	
✗ Maximum equilibration time	<= 15 Seconds	21 Seconds
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✓ Fluctuation	<= 1.00 K	0.60 K
✓ #10187120 [2]	<= 1.00 K	0.50 K
✓ #10187120 [3]	<= 1.00 K	0.38 K
✓ #10187120 [4]	<= 1.00 K	0.38 K
✓ Variance	<= 2.00 K	1.58 K

After the routine monitoring process is concluded, Winlog.med delivers a clear and error-free pass/fail evaluation. The evaluation is fully automated by Winlog.med, which facilitates the daily work of the user.

Benefits

- Only one software is required: Winlog.med software can be used for the evaluation of EBI 100 data loggers as well as for the EBI 15 Bowie Dick Test
- Only one interface is required, which can be applied for EBI 100 data loggers and for the EBI 15 Bowie Dick Test

System requirements

For the software to operate smoothly on your computer, your computer must meet the following requirements:

- Processor speed with at least 1 GHz
- At least 1 GB working storage
- At least 1 GB free hard disc storage
- USB 2.0 (Universal Serial BUS)
- Microsoft Windows XP® or Windows 7®





Technical Data

	EBI 100-T100 Temperature data loggers	EBI 100-TP231 Temperature / pressure data loggers	EBI 15 Bowie Dick Test
Temperature measurement range:	-40 °C ... +150 °C	0 °C ... +150 °C	0 °C ... +150 °C
Temperature accuracy:	±0.3 °C	±0.3 °C	±0.1 °C
Pressure measurement range:		1 mbar to 4000 mbar	1 mbar ... 4000 mbar
Pressure accuracy:		± 20 mbar	± 15 mbar
Protection class:	IP 68	IP 68	IP 68
Battery:	3.6 V, user replaceable	3.6 V, user replaceable	3.6 V, user replaceable
Factory calibration certificate:	According to ISO 9001/2000	According to ISO 9001/2000	According to ISO 9001/2000

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