



The solution for increased patient safety

INDEPENDENT TESTING SYSTEMS FOR ENDOSCOPE WASHER-DISINFECTORS

-ebro-
a xylem brand



Finding a simple and reproducible means of testing correct endoscope washer-disinfector functionality has been a problem which has remained unsolved until now.

The corporate developed Routine Control Set by *ebro Electronic* and *spypach medical services* now allows reproducible tests to be performed on the cleaning and disinfecting performance of various makes of device.

The **endoscope surrogate device** is suitable both for single-channel inspections and for pressure chamber devices. This testing system is modelled on a thermo-labile flexible gastroscope or bronchoscope and is simply placed into the endoscope washer-disinfector which is being tested instead of an endoscope.

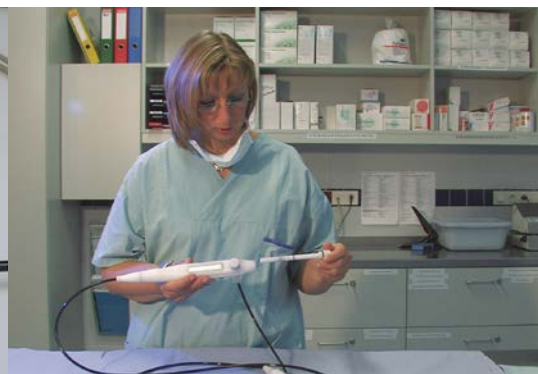
The reproducibility results from the possibility of positioning the endoscope, the indicators for cleaning and/or disinfection and the **data logger** at precisely identical positions in a variety of tests on the same device.

This innovative solution permits simple and rapid routine inspections and simplifies validation, thus ensuring the utmost patient safety and minimal test costs.

By using the data logger it is possible to measure and evaluate the pressures and temperatures inside the endoscope.

The Endoscope Set for Routine Control BASIC includes:

- 1 x Mini temperature data logger EBI 11-T235, needle length = 25 mm
- 1 x Mini pressure data logger EBI 11-P111
- 1 x Sealing kit EBI 11-Valiset
- 1 x EBI IF 300, 4-port interface
- 1 x Winlog.med, software
- 1 x spypach endoscope surrogate device "spo-pro" Basic
- 1 x Aluminum carrying case





ebro Electronic and spypach medical services offers a flexible and reproducible test system for the validation of processes in endoscope washer-disinfectors according to ISO 15883.

The pressure and temperature can be monitored with the **data logger EBI 11** at exact defined positions inside the **dummy**. Commercial stainless steel test plates can be used for the validation of the cleaning performance. A test contamination according to EN ISO 15883 part 5 is also possible.

Through the defined positions of the data loggers and the test plates is given highest reproducibility. Also, all endoscopes on the market can be simulated by using the two six-channel blocks with the optional accessories in a very short time.

The system can be used universal and is not depending on machine or endoscope manufacturers.

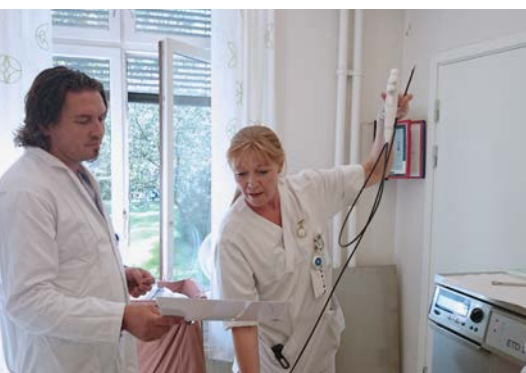
The reliable test and measurement system contains easy-to-use mini data loggers, which are placed directly on the *spypach medical service* endoscope surrogate device.

The **evaluation software Winlog.validation** allows the programming and readout of the ebro EBI 11 data loggers, as well as the reproducible assessment of the temperature and pressure data readings.

So it is possible to evaluate the cleaning performance and the pressures and temperatures inside the endoscope.

The Endoscope Set for Validation PROFESSIONAL includes:

- 3 x Mini temperature data logger EBI 11-T235, needle length = 25 mm
- 1 x Mini pressure data logger EBI 11-P111
- 1 x Sealing kit EBI 11-Valiset
- 1 x EBI IF 300, 4-port interface
- 1 x Winlog.validation, software
- 1 x spypach endoscope surrogate device "spo-pro" Professional
- 1 x Aluminum carrying case



**Technical Data****EBI 11-T235****EBI 11-P111**

Measurement range: Temperature	-30 °C ... +150 °C	0 °C ... +150 °C
Accuracy Temperature		± 0.1 K
Resolution Temperature		0.01 °C
Measurement range: Pressure	-	1 mbar ... 10,000 mbar
Accuracy Pressure	-	± 15 mbar (0 mbar ... 4000 mbar) ± 20 mbar (4000 mbar ... 10000 mbar)
Resolution Pressure	-	1 mbar
Sensor: Temperature	Pt 1000, Ø 2 mm, L = 25 mm, blunt	Pt 1000, internal
Sensor: Pressure	-	Piezo resistive, temperature compensated, internal, Luer-Lock-connection
Data memory	15,000 measurement values	2 x 7,500 measurement values
Sampling rate	adjustable 1 sec to 24 hours	
Measurement mode	Endless measurement Measurement start / stop time Measure upon start time Start immediately until end of memory	
Operating temperature	-30 °C ... +150 °C	0 °C ... +150 °C
Storage temperature	0 °C ... +60 °C	
Battery	Lithium, 2 x BR1225 A, 3V, user replacable	
Dimensions (Ø x H)	16.5 mm x 24 mm (without probe)	16,5 mm x 37 mm (without Luer-Lock)
Weight	approx. 25 g	approx. 45 g
Housing material	V4A	
Protection class	IP 68	
Certificate	Factory calibration certificate	

How to order:

Set Type	Description	Part No.
SL 1200	Endoscope set for routine control BASIC	1340-6083
SL 1220	Endoscope set for validation PROFESSIONAL	1340-6085
Type	Description	Part No.
EBI 11-T235	Mini-Temperature Data Logger, Needle = 25 mm, blunt	1340-6270
EBI 11-P111	Mini-Pressure Data Logger	1340-6296
Seals	Sealing kit EBI 11-Valiset	1340-0006
EBI IF 300	4-port Interface for EBI 11 Data Logger	1340-6003
Winlog.validation	Software for evaluation validation and routine control	1340-2394
Winlog.med	Software for evaluation routine control	1340-2363



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