

Please enter these **calibration parameters** and the **Lot No.** into the BioLecture software!

### pH calibration parameters Lot No. 1849 (BioLector® II/Pro, filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	67.48	67.53	67.58	67.63	67.67	67.72	67.77
$\phi$ max	16.36	16.40	16.45	16.50	16.54	16.59	16.64
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
pH <sub>0</sub>	5.34	5.33	5.33	5.33	5.33	5.33	5.32
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	67.82	67.87	67.91	67.96	68.01	68.06	68.11
$\phi$ max	16.68	16.73	16.78	16.82	16.87	16.92	16.96
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
pH <sub>0</sub>	5.32	5.32	5.32	5.32	5.31	5.31	5.31
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	68.16	68.20	68.25	68.30	68.35	68.40	68.44
$\phi$ max	17.01	17.06	17.10	17.15	17.20	17.24	17.29
dpH	-0.40	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH <sub>0</sub>	5.31	5.31	5.31	5.30	5.30	5.30	5.30

### pH sensor properties

Dynamic range	pH 3.80 - 6.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.10 - 4.30; ± 0.1 pH at pH 4.30 - 6.10; ± 0.25 pH at pH 6.10 - 6.30 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 6 min)
Temperature range	15 °C to 40 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 5 % v/v)
Sensor stability	sensor material can be degraded by some microorganisms
Cross-sensitivity	Reduced to ionic strength (salinity);
Basic material	pH sensor pH51-184500005 (at least stable for 7 days with CertiPUR-buffer) <b>pH sensors are light-sensitive; please protect them from direct light!</b>

### pH calibration

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 1.00 ± 0.01 / pH 2.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360,68 (pH Ser.prototype, gain 6)
Date of calibration	2018/12/05

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### DO calibration parameters Lot No. 1849 (BioLector® II/Pro, filter module ID-228)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.68	67.66	67.64	67.62	67.60	67.58	67.56
φ cal100	41.14	41.04	40.93	40.83	40.72	40.61	40.51
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.54	67.52	67.50	67.48	67.46	67.44	67.42
φ cal100	40.40	40.30	40.19	40.09	39.98	39.87	39.77
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.40	67.38	67.36	67.34	67.32	67.30	67.28
φ cal100	39.66	39.56	39.45	39.35	39.24	39.14	39.03

### DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O <sub>2</sub> (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O <sub>2</sub> per day (sampling interval of 6 min)
Response time (t90)	< 30 s
Temperature range	5 – 50°C
Sensor stability	sensor material can be degraded by some microorganisms
Cross-sensitivity to	Organic solvents, such as acetone, toluene, chloroform or methylene chloride, Chlorine gas; high concentration of fluorescent molecules in the visible range can interfere (mCherry, tdTomato, dsRed, Nile red); complex media can cause a DO-shift
Basic material	Oxygen sensor RF-07/2018 (at least stable for 7 days with CertiPUR-buffer) <b>DO sensors are light-sensitive; please protect them from direct light!</b>

### DO calibration

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2018/12/05

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	567029
Date of sterilization	2018/11/22

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