

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

### pH calibration parameters Lot No. 1934 (BioLector® II/Pro, filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	66.79	66.79	66.79	66.79	66.78	66.78	66.78
φ max	17.85	17.86	17.88	17.89	17.90	17.91	17.93
dpH	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42
pH <sub>0</sub>	5.28	5.27	5.27	5.27	5.27	5.27	5.26
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.78	66.77	66.77	66.77	66.76	66.76	66.76
φ max	17.94	17.95	17.96	17.98	17.99	18.00	18.01
dpH	-0.42	-0.42	-0.42	-0.42	-0.42	-0.43	-0.43
pH <sub>0</sub>	5.26	5.26	5.26	5.26	5.26	5.25	5.25
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	66.76	66.75	66.75	66.75	66.75	66.74	66.74
φ max	18.03	18.04	18.05	18.06	18.08	18.09	18.10
dpH	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43
pH <sub>0</sub>	5.25	5.25	5.25	5.24	5.24	5.24	5.24

### pH sensor properties

Dynamic range	pH 3.65 - 6.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.00 - 4.25; ± 0.1 pH at pH 4.25 - 6.05; ± 0.25 pH at pH 6.05 - 6.25 (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 pH51-484500011 (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 2.00 ± 0.01 / pH 3.00 ± 0.015 / pH 7.00 ± 0.01 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-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. 3289-RD, gain 6)
Date of calibration	2019/07/08

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### DO calibration parameters Lot No. 1934 (BioLector® II/Pro, filter module ID-228/428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	67.10	67.08	67.06	67.03	67.01	66.99	66.97
ϕ cal100	41.23	41.12	41.00	40.88	40.77	40.65	40.53
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	66.95	66.93	66.90	66.88	66.86	66.84	66.82
ϕ cal100	40.42	40.30	40.18	40.07	39.95	39.83	39.72
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	66.80	66.77	66.75	66.73	66.71	66.69	66.67
ϕ cal100	39.60	39.48	39.37	39.25	39.14	39.02	38.90

### 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-12/2018 (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	2019/07/08

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	645838
Date of sterilization	2019/07/02

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