

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

**pH calibration parameters Lot No. 1929 (BioLector® II/Pro, filter module ID-202/-402)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.31	63.27	63.23	63.20	63.16	63.13	63.09
φ max	13.89	13.89	13.88	13.88	13.88	13.88	13.88
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH <sub>0</sub>	6.29	6.28	6.28	6.27	6.27	6.26	6.26
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.06	63.02	62.98	62.95	62.91	62.88	62.84
φ max	13.88	13.88	13.88	13.87	13.87	13.87	13.87
dpH	0.54	0.54	0.53	0.53	0.53	0.53	0.53
pH <sub>0</sub>	6.25	6.25	6.25	6.24	6.24	6.23	6.23
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.81	62.77	62.73	62.70	62.66	62.63	62.59
φ max	13.87	13.87	13.87	13.87	13.86	13.86	13.86
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH <sub>0</sub>	6.22	6.22	6.21	6.21	6.20	6.20	6.19

**pH sensor properties**

Dynamic range	pH 4.35 - 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.10; ± 0.1 pH at pH 5.10 - 7.05; ± 0.25 pH at pH 7.05 - 7.35 (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	5 °C to 50 °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); high concentration of fluorescent molecules in the visible range can interfere (GFP, (e)YFP); complex media can cause a pH-shift (peptone, yeast extract)
Basic material	pH sensor HP8-1811-01 (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 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111, gain 7)
Date of calibration	2019/06/11

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### DO calibration parameters Lot No. 1929 (BioLector® II/Pro, filter module ID-203/403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.57	71.55	71.53	71.51	71.49	71.47	71.44
ϕ cal100	43.45	43.34	43.23	43.12	43.02	42.91	42.80
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.42	71.40	71.38	71.36	71.34	71.32	71.30
ϕ cal100	42.69	42.58	42.47	42.36	42.26	42.15	42.04
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.28	71.26	71.24	71.22	71.20	71.18	71.16
ϕ cal100	41.93	41.82	41.71	41.60	41.50	41.39	41.28

### 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 Pst3-HG-1810-01 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103, gain 7)
Date of calibration	2019/06/11

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	634165
Date of sterilization	2019/05/29

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