

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

**pH calibration parameters Lot No. 1919 (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	63.37	63.33	63.28	63.24	63.20	63.15	63.11
φ max	13.38	13.38	13.38	13.37	13.37	13.37	13.37
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.19	6.19	6.19	6.18	6.18	6.18	6.17
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.07	63.02	62.98	62.94	62.89	62.85	62.80
φ max	13.36	13.36	13.36	13.35	13.35	13.35	13.35
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.17	6.17	6.16	6.16	6.15	6.15	6.15
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.76	62.72	62.67	62.63	62.59	62.54	62.50
φ max	13.34	13.34	13.34	13.34	13.33	13.33	13.33
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.14	6.14	6.14	6.13	6.13	6.13	6.12

**pH sensor properties**

Dynamic range	pH 4.30 - 7.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75 - 5.05; ± 0.1 pH at pH 5.05 - 7.05; ± 0.25 pH at pH 7.05 - 7.30 (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	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	2019/04/24

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### DO calibration parameters Lot No. 1919 (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	71.55	71.51	71.48	71.44	71.40	71.36	71.32
ϕ cal100	44.20	44.08	43.96	43.84	43.72	43.60	43.48
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.28	71.24	71.20	71.16	71.12	71.09	71.05
ϕ cal100	43.36	43.24	43.12	43.00	42.88	42.76	42.64
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.01	70.97	70.93	70.89	70.85	70.81	70.77
ϕ cal100	42.52	42.40	42.28	42.16	42.04	41.92	41.80

### 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-1742-02 (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	2019/04/24

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	617573
Date of sterilization	2019/04/15

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