

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

### pH calibration parameters Lot No. 2001121 (BioLector® Pro, filter module ID-202/402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	63.62	63.56	63.50	63.43	63.37	63.31	63.25
$\phi$ max	14.04	14.05	14.06	14.07	14.08	14.09	14.10
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.25	6.25	6.24	6.24	6.23	6.22	6.22
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	63.19	63.13	63.07	63.00	62.94	62.88	62.82
$\phi$ max	14.10	14.11	14.12	14.13	14.14	14.15	14.16
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.21	6.21	6.20	6.19	6.19	6.18	6.18
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	62.76	62.70	62.64	62.57	62.51	62.45	62.39
$\phi$ max	14.16	14.17	14.18	14.19	14.20	14.21	14.22
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.17	6.16	6.16	6.15	6.15	6.14	6.13

### pH sensor properties

Dynamic range	pH 4.25 - 7.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75 - 5.00; ± 0.1 pH at pH 5.00 - 7.00; ± 0.25 pH at pH 7.00 - 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-MF32C-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.35 (pH Ser.3111-hc, gain 7)
Date of calibration	2020/03/20

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### DO calibration parameters Lot No. 2001121 (BioLector® Pro, filter module ID-203/403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.70	72.67	72.64	72.61	72.58	72.55	72.52
ϕ cal100	43.02	42.80	42.57	42.35	42.13	41.91	41.69
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.49	72.46	72.43	72.40	72.37	72.34	72.31
ϕ cal100	41.47	41.25	41.02	40.80	40.58	40.36	40.14
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.28	72.25	72.22	72.19	72.16	72.13	72.10
ϕ cal100	39.92	39.70	39.48	39.25	39.03	38.81	38.59

### 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_2 (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-MF32C-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.53 (DO Ser.4103-hc, gain 7)
Date of calibration	2020/03/20

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	739808
Date of sterilization	2020/03/12

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