

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

**pH calibration parameters Lot No.2114121 (BioLector® Pro, filter module ID-202/-402)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.25	63.18	63.11	63.04	62.97	62.90	62.82
φ max	13.00	13.00	12.99	12.98	12.98	12.97	12.97
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.29	6.28	6.28	6.27	6.26	6.26	6.25

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	62.75	62.68	62.61	62.54	62.47	62.40	62.32
φ max	12.96	12.96	12.95	12.95	12.94	12.93	12.93
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.57
pH <sub>0</sub>	6.24	6.24	6.23	6.23	6.22	6.21	6.21

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.25	62.18	62.11	62.04	61.97	61.90	61.83
φ max	12.92	12.92	12.91	12.91	12.90	12.90	12.89
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH <sub>0</sub>	6.20	6.20	6.19	6.18	6.18	6.17	6.17

**pH sensor properties**

Dynamic range	pH 4.25 - 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80-5.10; ± 0.1 pH at pH 5.10-7.10; ± 0.25 pH at pH 7.10-7.40 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_5 (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 ± 0.02 / pH 4.00 ± 0.02 / pH 9.00 ± 0.03 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -1.46 (pH Ser. 3111, gain 7)
Date of calibration	2021-10-15

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**DO calibration parameters Lot No.2114121 (BioLector® Pro, filter module ID-203/-403)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	73.01	72.97	72.92	72.88	72.84	72.80	72.76
ϕ cal100	42.34	42.14	41.93	41.73	41.53	41.33	41.12

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.71	72.67	72.63	72.59	72.55	72.50	72.46
ϕ cal100	40.92	40.72	40.52	40.32	40.11	39.91	39.71

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.42	72.38	72.34	72.29	72.25	72.21	72.17
ϕ cal100	39.51	39.31	39.10	38.90	38.70	38.50	38.29

**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 (t <sub>90</sub> )	< 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-1921-01_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 = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.26 (DO Ser. 4103, gain 7)
Date of calibration	2021-10-15

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	952124
Date of sterilization	2021-10-05

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