

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

**pH calibration parameters Lot No.2112101 (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	63.81	63.74	63.67	63.60	63.53	63.45	63.38
φ max	13.72	13.71	13.70	13.69	13.68	13.67	13.66
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH <sub>0</sub>	6.25	6.25	6.24	6.23	6.23	6.22	6.22

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.31	63.24	63.17	63.09	63.02	62.95	62.88
φ max	13.66	13.65	13.64	13.63	13.62	13.61	13.60
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
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
φ min	62.81	62.73	62.66	62.59	62.52	62.45	62.37
φ max	13.60	13.59	13.58	13.57	13.56	13.55	13.54
dpH	0.55	0.55	0.55	0.55	0.56	0.56	0.56
pH <sub>0</sub>	6.17	6.17	6.16	6.16	6.15	6.14	6.14

**pH sensor properties**

Dynamic range	pH 4.30 - 7.85
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 7.05-7.35 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_4 (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 = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -1.46 (pH Ser. 3111, gain 7)
Date of calibration	2021-09-06

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**DO calibration parameters Lot No.2112101 (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	73.14	73.08	73.03	72.97	72.91	72.86	72.80
ϕ cal100	43.85	43.65	43.45	43.25	43.05	42.86	42.66

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.75	72.69	72.63	72.58	72.52	72.46	72.41
ϕ cal100	42.46	42.26	42.06	41.86	41.66	41.46	41.26

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.35	72.30	72.24	72.18	72.13	72.07	72.01
ϕ cal100	41.06	40.86	40.66	40.46	40.26	40.06	39.86

**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-1810-01_3 (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 = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.26 (DO Ser. 4103, gain 7)
Date of calibration	2021-09-06

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	932566
Date of sterilization	2021-08-17

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