

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

**pH calibration parameters Lot No.2102101 and 2102107 (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	64.03	63.95	63.88	63.80	63.72	63.65	63.57
φ max	12.93	12.93	12.93	12.93	12.94	12.94	12.94
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.15	6.15	6.14	6.13	6.13	6.12	6.12

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.50	63.42	63.35	63.27	63.20	63.12	63.05
φ max	12.94	12.94	12.95	12.95	12.95	12.95	12.95
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.11	6.11	6.10	6.10	6.09	6.08	6.08

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.97	62.90	62.82	62.75	62.67	62.59	62.52
φ max	12.96	12.96	12.96	12.96	12.96	12.97	12.97
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.07	6.07	6.06	6.06	6.05	6.05	6.04

**pH sensor properties**

Dynamic range	pH 4.15 - 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65-4.95; ± 0.1 pH at pH 4.95-6.95; ± 0.25 pH at pH 6.95-7.30 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_3 (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	2021-03-10

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**DO calibration parameters Lot No.2102101 and 2102107 (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	73.06	73.00	72.94	72.88	72.82	72.77	72.71
ϕ cal100	43.84	43.62	43.40	43.18	42.96	42.74	42.53

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.65	72.59	72.53	72.47	72.42	72.36	72.30
ϕ cal100	42.31	42.09	41.87	41.65	41.43	41.21	40.99

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.24	72.18	72.13	72.07	72.01	71.95	71.89
ϕ cal100	40.77	40.55	40.33	40.12	39.90	39.68	39.46

**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	2021-03-10

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	867189
Date of sterilization	2021-03-03

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