

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

**pH calibration parameters Lot No.2102117 (BioLector® Pro, filter module ID-202/-402)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.55	63.50	63.46	63.41	63.36	63.31	63.26
φ max	13.20	13.22	13.23	13.24	13.26	13.27	13.28
dpH	0.59	0.59	0.59	0.59	0.59	0.58	0.58
pH <sub>0</sub>	6.28	6.27	6.26	6.25	6.24	6.23	6.22

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.21	63.16	63.11	63.06	63.01	62.96	62.91
φ max	13.30	13.31	13.32	13.33	13.35	13.36	13.37
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH <sub>0</sub>	6.21	6.20	6.19	6.18	6.17	6.16	6.15

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.86	62.81	62.76	62.71	62.66	62.61	62.56
φ max	13.39	13.40	13.41	13.42	13.44	13.45	13.46
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH <sub>0</sub>	6.14	6.13	6.12	6.11	6.10	6.09	6.08

**pH sensor properties**

Dynamic range	pH 4.15 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.70-5.05; ± 0.1 pH at pH 5.05-7.00; ± 0.25 pH at pH 7.00-7.35 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_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 = Microfluidic Flower (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -1.46 (pH Ser. 3111, gain 7)
Date of calibration	2021-03-12

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**DO calibration parameters Lot No.2102117 (BioLector® Pro, filter module ID-203/-403)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.74	72.70	72.66	72.62	72.57	72.53	72.49
ϕ cal100	43.66	43.43	43.19	42.96	42.73	42.49	42.26

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.45	72.41	72.37	72.33	72.29	72.25	72.21
ϕ cal100	42.02	41.79	41.55	41.32	41.08	40.85	40.62

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.17	72.12	72.08	72.04	72.00	71.96	71.92
ϕ cal100	40.38	40.15	39.91	39.68	39.44	39.21	38.97

**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 = Microfluidic Flower (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.26 (DO Ser. 4103, gain 7)
Date of calibration	2021-03-12

**Sterilization procedure**

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

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