

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

**pH calibration parameters Lot No.2107217 (BioLector® Pro, filter module ID-221/-421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.77	69.66	69.56	69.46	69.35	69.25	69.14
φ max	14.67	14.57	14.46	14.36	14.26	14.15	14.05
dpH	0.79	0.79	0.79	0.79	0.79	0.79	0.79
pH <sub>0</sub>	6.63	6.62	6.61	6.61	6.60	6.60	6.59

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	69.04	68.93	68.83	68.72	68.62	68.51	68.41
φ max	13.95	13.85	13.74	13.64	13.54	13.44	13.33
dpH	0.79	0.79	0.79	0.79	0.79	0.79	0.79
pH <sub>0</sub>	6.59	6.58	6.57	6.57	6.56	6.56	6.55

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.30	68.20	68.09	67.99	67.88	67.78	67.68
φ max	13.23	13.13	13.02	12.92	12.82	12.72	12.61
dpH	0.79	0.79	0.79	0.79	0.79	0.79	0.79
pH <sub>0</sub>	6.55	6.54	6.53	6.53	6.52	6.52	6.51

**pH sensor properties**

Dynamic range	pH 4.05 - 8.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75-5.25; ± 0.1 pH at pH 5.25-7.60; ± 0.25 pH at pH 7.60-8.10 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 LG1 1939-01_2 (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 2.00 ± 0.01 / pH 3.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Round Well Plate (MTP-RMF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-06-22

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**DO calibration parameters Lot No.2107217 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.76	71.75	71.75	71.74	71.74	71.73	71.73
ϕ cal100	42.06	41.89	41.71	41.54	41.36	41.19	41.01

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.72	71.72	71.71	71.71	71.71	71.70	71.70
ϕ cal100	40.83	40.66	40.48	40.31	40.13	39.96	39.78

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.69	71.69	71.68	71.68	71.67	71.67	71.66
ϕ cal100	39.60	39.43	39.25	39.08	38.90	38.72	38.55

**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 RF-210250002 (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 = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Round Well Plate (MTP-RMF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-06-22

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	901348
Date of sterilization	2021-05-31

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