

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

**pH calibration parameters Lot No.2102221 and 2102227 (BioLector® Pro, filter module ID-221/-421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	66.65	66.58	66.51	66.44	66.37	66.30	66.23
φ max	13.23	13.17	13.11	13.04	12.98	12.91	12.85
dpH	0.85	0.85	0.85	0.85	0.85	0.84	0.84
pH <sub>0</sub>	6.60	6.59	6.58	6.57	6.56	6.55	6.54

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.16	66.09	66.02	65.95	65.88	65.81	65.74
φ max	12.79	12.72	12.66	12.60	12.53	12.47	12.41
dpH	0.84	0.84	0.84	0.84	0.84	0.83	0.83
pH <sub>0</sub>	6.53	6.52	6.51	6.50	6.49	6.48	6.47

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	65.67	65.60	65.53	65.46	65.39	65.32	65.25
φ max	12.34	12.28	12.22	12.15	12.09	12.03	11.96
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.82
pH <sub>0</sub>	6.46	6.45	6.44	6.43	6.42	6.41	6.40

**pH sensor properties**

Dynamic range	pH 3.80 - 8.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65-5.25; ± 0.1 pH at pH 5.25-7.35; ± 0.25 pH at pH 7.35-7.90 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-RMF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-03-09

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**DO calibration parameters Lot No.2102221 and 2102227 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.11	72.10	72.08	72.07	72.06	72.05	72.03
φ cal100	42.20	41.99	41.79	41.59	41.39	41.19	40.99

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.02	72.01	72.00	71.98	71.97	71.96	71.95
φ cal100	40.78	40.58	40.38	40.18	39.98	39.77	39.57

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.93	71.92	71.91	71.90	71.88	71.87	71.86
φ cal100	39.37	39.17	38.97	38.77	38.56	38.36	38.16

**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-204150648 (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-RMF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-03-09

**Sterilization procedure**

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

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