

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

**pH calibration parameters Lot No.2113321 (BioLector® Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.13	69.25	69.37	69.49	69.61	69.72	69.84
φ max	12.43	12.46	12.49	12.52	12.55	12.58	12.61
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
pH <sub>0</sub>	5.44	5.43	5.43	5.42	5.41	5.41	5.40

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	69.96	70.08	70.20	70.32	70.44	70.56	70.68
φ max	12.64	12.67	12.70	12.73	12.76	12.79	12.82
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.39	-0.39
pH <sub>0</sub>	5.39	5.39	5.38	5.37	5.37	5.36	5.35

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	70.80	70.92	71.04	71.16	71.27	71.39	71.51
φ max	12.85	12.88	12.91	12.94	12.97	13.00	13.03
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.35	5.34	5.33	5.33	5.32	5.31	5.31

**pH sensor properties**

Dynamic range	pH 4.00 - 6.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30-4.45; ± 0.1 pH at pH 4.45-6.15; ± 0.25 pH at pH 6.15-6.30 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 pH51-200950180 (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 ± 0.02 / pH 3.00 ± 0.02 / pH 7.00 ± 0.02 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-09-17

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**DO calibration parameters Lot No.2113321 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.36	71.35	71.34	71.33	71.32	71.31	71.30
φ cal100	41.20	41.03	40.87	40.70	40.54	40.38	40.21

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.29	71.28	71.27	71.26	71.25	71.23	71.22
φ cal100	40.05	39.89	39.72	39.56	39.40	39.23	39.07

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.21	71.20	71.19	71.18	71.17	71.16	71.15
φ cal100	38.91	38.74	38.58	38.42	38.25	38.09	37.93

**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-21160296 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-09-17

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	941459
Date of sterilization	2021-09-09

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