

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

**pH calibration parameters Lot No.2109311 (BioLector® Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.83	69.86	69.90	69.93	69.97	70.00	70.03
φ max	13.34	13.37	13.41	13.45	13.49	13.53	13.57
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.40	-0.40
pH <sub>0</sub>	5.42	5.41	5.41	5.40	5.40	5.39	5.39

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	70.07	70.10	70.13	70.17	70.20	70.23	70.27
φ max	13.61	13.64	13.68	13.72	13.76	13.80	13.84
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
pH <sub>0</sub>	5.38	5.38	5.37	5.37	5.36	5.36	5.35

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	70.30	70.33	70.37	70.40	70.44	70.47	70.50
φ max	13.88	13.91	13.95	13.99	14.03	14.07	14.11
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.34	5.34	5.33	5.33	5.32	5.32	5.31

**pH sensor properties**

Dynamic range	pH 3.85 - 6.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20-4.35; ± 0.1 pH at pH 4.35-6.10; ± 0.25 pH at pH 6.10-6.30 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 pH51-200950178 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-07-01

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**DO calibration parameters Lot No.2109311 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.67	71.66	71.65	71.64	71.63	71.62	71.61
ϕ cal100	41.71	41.53	41.36	41.19	41.01	40.84	40.67

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.61	71.60	71.59	71.58	71.57	71.56	71.55
ϕ cal100	40.49	40.32	40.15	39.97	39.80	39.63	39.45

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.54	71.53	71.52	71.51	71.50	71.49	71.48
ϕ cal100	39.28	39.11	38.93	38.76	38.59	38.41	38.24

**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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-07-01

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	911184
Date of sterilization	2021-06-24

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