

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

**pH calibration parameters Lot No.2105321 (BioLector® Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	70.50	70.58	70.67	70.75	70.83	70.92	71.00
φ max	11.40	11.42	11.44	11.47	11.49	11.51	11.54
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.51	5.50	5.50	5.49	5.49	5.48	5.48

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	71.09	71.17	71.25	71.34	71.42	71.50	71.59
φ max	11.56	11.59	11.61	11.63	11.66	11.68	11.70
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.38	-0.38
pH <sub>0</sub>	5.48	5.47	5.47	5.46	5.46	5.45	5.45

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	71.67	71.76	71.84	71.92	72.01	72.09	72.17
φ max	11.73	11.75	11.77	11.80	11.82	11.84	11.87
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.44	5.44	5.43	5.43	5.42	5.42	5.41

**pH sensor properties**

Dynamic range	pH 4.05 - 6.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.35-4.50; ± 0.1 pH at pH 4.50-6.15; ± 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 pH51-200950174 (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 7.00 ± 0.01 / 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 Round Well Plate (MTP-RMF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-04-09

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**DO calibration parameters Lot No.2105321 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.64	71.63	71.62	71.61	71.60	71.59	71.57
ϕ cal100	41.60	41.41	41.22	41.03	40.84	40.65	40.46

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.56	71.55	71.54	71.53	71.52	71.51	71.50
ϕ cal100	40.27	40.08	39.89	39.70	39.51	39.32	39.13

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.49	71.47	71.46	71.45	71.44	71.43	71.42
ϕ cal100	38.94	38.76	38.57	38.38	38.19	38.00	37.81

**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-210250001 (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 Round Well Plate (MTP-RMF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-04-09

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	880581
Date of sterilization	2021-04-02

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