

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

**pH calibration parameters Lot No.2107321 and 2107327 (BioLector® Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.20	67.28	67.36	67.44	67.51	67.59	67.67
φ max	10.45	10.47	10.49	10.51	10.53	10.55	10.57
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
pH <sub>0</sub>	5.49	5.49	5.48	5.48	5.47	5.47	5.46

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	67.74	67.82	67.90	67.98	68.05	68.13	68.21
φ max	10.59	10.61	10.63	10.65	10.67	10.69	10.71
dpH	-0.40	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.46	5.46	5.45	5.45	5.44	5.44	5.43

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.29	68.36	68.44	68.52	68.60	68.67	68.75
φ max	10.73	10.75	10.77	10.78	10.80	10.82	10.84
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.43	5.42	5.42	5.42	5.41	5.41	5.40

**pH sensor properties**

Dynamic range	pH 3.95 - 6.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.25-4.45; ± 0.1 pH at pH 4.45-6.20; ± 0.25 pH at pH 6.20-6.35 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 pH51-202850560 (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 (Round Well) Plate (MTP-(R)MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-06-09

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**DO calibration parameters Lot No.2107321 and 2107327 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.93	71.92	71.92	71.91	71.90	71.90	71.89
ϕ cal100	41.55	41.39	41.23	41.07	40.91	40.76	40.60

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.88	71.88	71.87	71.86	71.86	71.85	71.84
ϕ cal100	40.44	40.28	40.13	39.97	39.81	39.65	39.50

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.84	71.83	71.82	71.82	71.81	71.80	71.80
ϕ cal100	39.34	39.18	39.02	38.87	38.71	38.55	38.39

**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 (Round Well) Plate (MTP-(R)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	2021-06-09

**Sterilization procedure**

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

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