

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

**pH calibration parameters Lot No.2106391 and 2106307 (BioLector® II/Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.86	67.92	67.98	68.04	68.10	68.15	68.21
φ max	13.67	13.71	13.75	13.78	13.82	13.86	13.89
dpH	-0.44	-0.44	-0.44	-0.44	-0.44	-0.43	-0.43
pH <sub>0</sub>	5.41	5.41	5.40	5.40	5.39	5.39	5.38

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.27	68.33	68.39	68.45	68.51	68.57	68.63
φ max	13.93	13.97	14.00	14.04	14.08	14.11	14.15
dpH	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43
pH <sub>0</sub>	5.38	5.37	5.36	5.36	5.35	5.35	5.34

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.68	68.74	68.80	68.86	68.92	68.98	69.04
φ max	14.19	14.22	14.26	14.30	14.33	14.37	14.41
dpH	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42
pH <sub>0</sub>	5.34	5.33	5.33	5.32	5.31	5.31	5.30

**pH sensor properties**

Dynamic range	pH 3.65 - 6.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.00-4.20; ± 0.1 pH at pH 4.20-6.00; ± 0.25 pH at pH 6.00-6.20 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 pH51-200950175+176 (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 = Round Well Plate (MTP-R48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-06-07

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**DO calibration parameters Lot No.2106307 (BioLector® II/Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.09	72.08	72.07	72.05	72.04	72.03	72.02
ϕ cal100	42.57	42.39	42.21	42.03	41.85	41.67	41.49

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.01	72.00	71.99	71.98	71.97	71.96	71.95
ϕ cal100	41.31	41.13	40.95	40.77	40.59	40.41	40.23

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.94	71.93	71.91	71.90	71.89	71.88	71.87
ϕ cal100	40.05	39.87	39.69	39.51	39.33	39.15	38.97

**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 = Round Well Plate (MTP-R48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-06-07

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	899513
Date of sterilization	2021-05-26

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