

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

**pH calibration parameters Lot No.2104307 (BioLector® II/Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.69	67.80	67.91	68.01	68.12	68.22	68.33
φ max	14.81	14.85	14.89	14.92	14.96	15.00	15.04
dpH	-0.42	-0.42	-0.42	-0.42	-0.42	-0.41	-0.41
pH <sub>0</sub>	5.35	5.35	5.34	5.34	5.33	5.33	5.32

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.43	68.54	68.64	68.75	68.86	68.96	69.07
φ max	15.08	15.12	15.16	15.20	15.24	15.28	15.32
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH <sub>0</sub>	5.32	5.31	5.31	5.30	5.30	5.29	5.29

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	69.17	69.28	69.38	69.49	69.60	69.70	69.81
φ max	15.36	15.40	15.44	15.48	15.52	15.55	15.59
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.40	-0.40
pH <sub>0</sub>	5.28	5.28	5.27	5.27	5.26	5.25	5.25

**pH sensor properties**

Dynamic range	pH 3.65 - 6.45
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.00-4.20; ± 0.1 pH at pH 4.20-5.95; ± 0.25 pH at pH 5.95-6.15 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 pH51-200950173 (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 = 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	2021-04-21

**HEADQUARTERS EUROPE**

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2  
52499 Baesweiler, Germany  
Phone +49 -2401 805 330  
Fax +49 -2401 805 33  
info@m2p-labs.com

**SUPPORT**

**EUROPE**  
Phone +49 - 2401 805 335  
support@m2p-labs.com

**N./S. AMERICAS**  
Phone +1 631 501 1878  
supportUS@m2p-labs.com

**ASIA PACIFIC**  
Phone +852 6092 6778  
supportAsia@m2p-labs.com

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

**DO calibration parameters Lot No.2104307 (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	70.63	70.69	70.76	70.82	70.89	70.95	71.02
ϕ cal100	42.43	42.24	42.05	41.85	41.66	41.46	41.27

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.08	71.14	71.21	71.27	71.34	71.40	71.47
ϕ cal100	41.08	40.88	40.69	40.50	40.30	40.11	39.91

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.53	71.60	71.66	71.73	71.79	71.85	71.92
ϕ cal100	39.72	39.53	39.33	39.14	38.95	38.75	38.56

**DO sensor properties**

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O2 (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O2 per day (sampling interval of 6 min)
Response time (t90)	< 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-m2p-A 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 = 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	2021-04-21

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	879108
Date of sterilization	2021-03-30

**HEADQUARTERS EUROPE**

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2  
52499 Baesweiler, Germany  
Phone +49 -2401 805 330  
Fax +49 -2401 805 33  
info@m2p-labs.com

**SUPPORT**

**EUROPE**  
Phone +49 - 2401 805 335  
support@m2p-labs.com

**N./S. AMERICAS**  
Phone +1 631 501 1878  
supportUS@m2p-labs.com

**ASIA PACIFIC**  
Phone +852 6092 6778  
supportAsia@m2p-labs.com