

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

### pH calibration parameters Lot No. 1712 (BioLector® II/Pro, filter module ID-221)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	66.33	66.03	65.72	65.42	65.11	64.81	64.50
$\phi$ max	8.28	8.20	8.12	8.03	7.95	7.87	7.79
dpH	0.66	0.66	0.66	0.66	0.66	0.66	0.66
pH <sub>0</sub>	6.04	6.02	6.01	6.00	5.99	5.98	5.96
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	64.20	63.89	63.59	63.29	62.98	62.68	62.37
$\phi$ max	7.71	7.63	7.55	7.47	7.39	7.31	7.23
dpH	0.66	0.66	0.66	0.66	0.66	0.67	0.67
pH <sub>0</sub>	5.95	5.94	5.93	5.92	5.90	5.89	5.88
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	62.07	61.76	61.46	61.15	60.85	60.55	60.24
$\phi$ max	7.15	7.07	6.99	6.91	6.83	6.75	6.67
dpH	0.67	0.67	0.67	0.67	0.67	0.67	0.67
pH <sub>0</sub>	5.87	5.86	5.84	5.83	5.82	5.81	5.80

### pH sensor properties

Dynamic range	pH 3.20 - 8.30
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.65 - 4.15; ± 0.1 pH at pH 4.15 - 7.20; ± 0.25 pH at pH 7.20 - 7.85 (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 LG1-1629 (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 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.78 (pH Ser.3167-RD, gain 8)
Date of calibration	2017/07/27

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### DO calibration parameters Lot No. 1712 (BioLector® II/Pro, filter module ID-228)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.98	67.95	67.92	67.89	67.86	67.83	67.80
φ cal100	43.15	42.93	42.71	42.48	42.26	42.04	41.81
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.77	67.74	67.71	67.68	67.65	67.62	67.59
φ cal100	41.59	41.37	41.14	40.92	40.70	40.48	40.25
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.56	67.53	67.50	67.47	67.45	67.42	67.39
φ cal100	40.03	39.81	39.58	39.36	39.14	38.91	38.69

### 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 (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-1602 (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 = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.52(DO Ser.4170-RD, gain 4)
Date of calibration	2017/07/27

### Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	394731
Date of sterilization	2017/07/22

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