

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

pH calibration parameters Lot No. 1602 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.75	58.66	58.57	58.48	58.39	58.30	58.21
ϕ max	18.52	18.49	18.45	18.41	18.38	18.34	18.31
dpH	0.48	0.48	0.48	0.48	0.48	0.48	0.48
pH ₀	6.66	6.66	6.65	6.65	6.64	6.64	6.63
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	58.12	58.03	57.94	57.85	57.76	57.67	57.58
ϕ max	18.27	18.23	18.20	18.16	18.12	18.09	18.05
dpH	0.48	0.48	0.48	0.48	0.48	0.48	0.48
pH ₀	6.63	6.62	6.62	6.61	6.61	6.60	6.60
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.49	57.40	57.31	57.22	57.13	57.04	56.95
ϕ max	18.02	17.98	17.94	17.91	17.87	17.83	17.80
dpH	0.48	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.59	6.59	6.59	6.58	6.58	6.57	6.57

pH sensor properties

Dynamic range	pH 4.00 – 8.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.60 - 5.40; ± 0.1 pH at pH 5.40 – 7.30; ± 0.25 pH at pH 7.30 – 8.15 (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 HP8-1427-02_2(at least stable for 7 days with CertiPUR-buffer) pH sensors are light-sensitive; please protect them from direct light!

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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 30)
Date of calibration	2016/04/04

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DO calibration parameters Lot No. 1602 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.93	72.91	72.88	72.85	72.82	72.80	72.77
ϕ cal100	45.11	44.87	44.62	44.37	44.13	43.88	43.63
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.74	72.71	72.69	72.66	72.63	72.60	72.58
ϕ cal100	43.38	43.14	42.89	42.64	42.39	42.15	41.90
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.55	72.52	72.50	72.47	72.44	72.41	72.39
ϕ cal100	41.65	41.40	41.16	40.91	40.66	40.41	40.17

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Precision (CV)	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ 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 PST3-HG-1426-03_2 (at least stable for 7 days with CertiPUR-buffer) DO sensors are light-sensitive; please protect them from direct light!

DO calibration

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (nitrogen, sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 40)
Date of calibration	2016/04/04

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	228097
Date of sterilization	2016/03/26

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