

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

### pH calibration parameters Lot No. 1404

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	58.43	58.35	58.27	58.19	58.11	58.03	57.95
$\phi$ max	18.24	18.21	18.17	18.14	18.11	18.07	18.04
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH <sub>0</sub>	6.67	6.66	6.65	6.64	6.63	6.62	6.61
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	57.87	57.79	57.71	57.63	57.55	57.47	57.39
$\phi$ max	18.00	17.97	17.93	17.90	17.86	17.83	17.79
dpH	0.52	0.52	0.52	0.52	0.52	0.51	0.51
pH <sub>0</sub>	6.60	6.59	6.59	6.58	6.57	6.56	6.55
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	57.31	57.23	57.15	57.07	56.99	56.91	56.83
$\phi$ max	17.76	17.73	17.69	17.66	17.62	17.59	17.55
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.54	6.53	6.52	6.51	6.50	6.49	6.48

### pH sensor properties

Dynamic range	pH 4.00 - 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.60 - 5.45; ± 0.02 pH at pH 5.45 - 7.20; ± 0.2 pH at pH 7.20 - 8.05 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 1 min)
Temperature range	5 °C to 50 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 5 % v/v)
Sensor stability	sensor material can be destructed 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 HP8-1329-01 (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 = 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 32)
Date of calibration	2014/08/20

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### DO calibration parameters Lot No. 1404

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	67.51	67.63	67.75	67.86	67.98	68.10	68.21
ϕ cal100	44.86	44.63	44.39	44.16	43.92	43.69	43.45
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	68.33	68.45	68.56	68.68	68.80	68.91	69.03
ϕ cal100	43.22	42.99	42.75	42.52	42.28	42.05	41.81
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	69.15	69.27	69.38	69.50	69.62	69.73	69.85
ϕ cal100	41.58	41.34	41.11	40.88	40.64	40.41	40.17

### DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O <sub>2</sub> (software)
Precision (CV)	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.03% O <sub>2</sub> within 30 days (sampling interval of 1 min)
Response time (t90)	< 30 s
Temperature range	0 – 50°C
Sensor stability	sensor material can be destructed 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-1326-03 (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 (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 38)
Date of calibration	2014/08/20

### Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	37707
Date of sterilization	2014/08/11

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