SEA-BIRD SCIENTIFIC
Sea-Bird Scientific
13431 NE 20th Street
Bellevue, WA 98005
USA

+1 425-643-9866
seabird@seabird.com
www.seabird.com

SENSOR SERIAL NUMBER: 2320
CALIBRATION DATE: 21-Aug-19

SBE 63 OXYGEN CALIBRATION DATA

COEFFICIENTS:

A0 = 1.0513e+000	B0 = -2.4573e-001	C0 = 1.0461e-001	E = 1.1000e-002
A1 = -1.5000e-003	B1 = 1.6297e+000	C1 = 4.4528e-003	
A2 = 4.0029e-001		C2 = 6.1198e-005	

BATH OXYGEN (ml/l)	BATH TEMPERATURE (° C)	BATH SALINITY (PSU)	INSTRUMENT OUTPUT (µsec)	INSTRUMENT OXYGEN (ml/l)	RESIDUAL (ml/l)
0.696	30.00	0.00	31.24	0.694	-0.002
0.729	26.00	0.00	31.84	0.727	-0.002
0.782	20.00	0.00	32.81	0.780	-0.002
0.867	12.00	0.00	34.15	0.866	-0.001
0.952	6.00	0.00	35.17	0.953	0.001
1.039	2.00	0.00	35.76	1.040	0.001
2.148	30.00	0.00	22.90	2.148	-0.000
2.273	26.00	0.00	23.46	2.274	0.001
2.437	20.00	0.00	24.54	2.437	0.001
2.936	12.00	0.00	25.44	2.937	0.001
3.313	6.00	0.00	26.46	3.315	0.002
3.576	30.00	0.00	18.94	3.573	-0.002
3.646	2.00	0.00	27.13	3.645	-0.002
3.814	26.00	0.00	19.38	3.814	-0.000
4.256	20.00	0.00	20.07	4.255	-0.001
4.993	12.00	0.00	21.11	4.991	-0.003
5.025	30.00	0.00	16.48	5.026	0.001
5.448	26.00	0.00	16.77	5.451	0.003
5.685	6.00	0.00	22.00	5.688	0.002
6.132	20.00	0.00	17.33	6.130	-0.002
6.275	2.00	0.00	22.61	6.277	0.003
7.160	12.00	0.00	18.30	7.161	0.001
8.176	6.00	0.00	19.10	8.175	-0.001
8.664	2.00	0.00	19.99	8.662	-0.002

T = temperature (°C) , P = pressure (dbar), U = Instrument output (µsec)

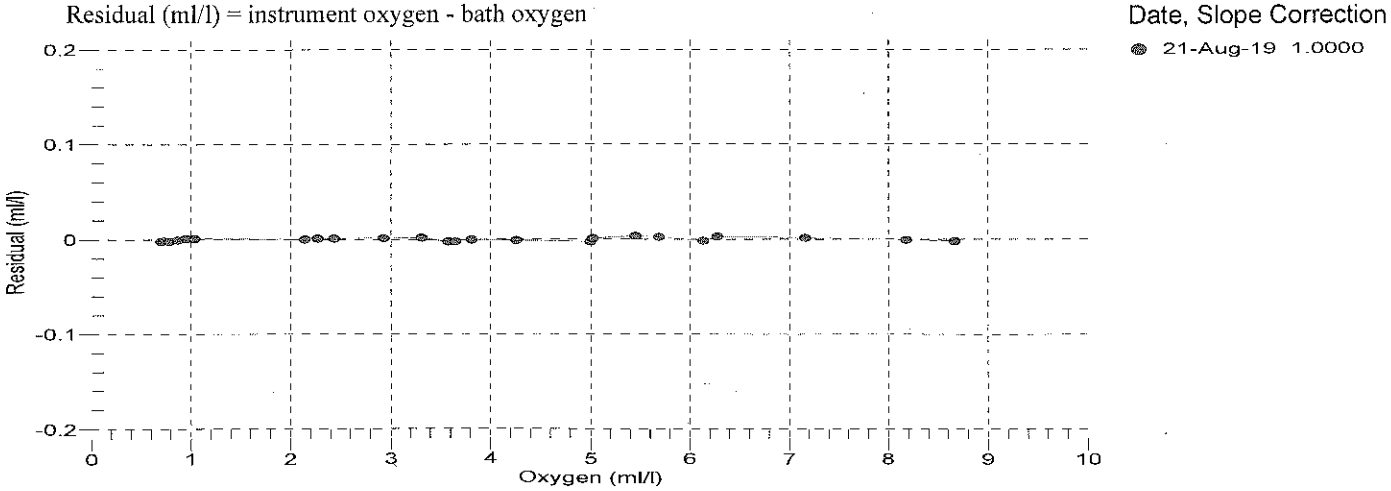
S_{corr} (salinity correction function) = 1.0 for calibration in DI water

See the user manual for more information on S_{corr} calculation

V = U / 39.457071

Oxygen (ml/l) = $\{((A0 + A1*T + A2 * V^2)/(B0 + B1 * V) - 1.0)/(C0 + C1 * T + C2 * T^2)\} * S_{corr} * \exp(E * P / (T + 273.15))$

Residual (ml/l) = instrument oxygen - bath oxygen



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SBE 63 OXYGEN TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

TA0 = 6.945640e-004 TA2 = 4.509181e-007
TA1 = 2.532947e-004 TA3 = 1.081029e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT(V)	INST TEMP (° C)	RESIDUAL (° C)
2.0000	1.12328	1.9999	-0.00010
2.0000	1.12328	1.9999	-0.00010
2.0000	1.12327	2.0002	0.00021
2.0002	1.12327	2.0002	0.00001
5.9998	0.99867	5.9998	0.00002
6.0000	0.99866	6.0002	0.00015
6.0001	0.99867	5.9998	-0.00028
6.0001	0.99866	6.0002	0.00005
11.9999	0.83222	11.9997	-0.00018
11.9999	0.83221	12.0001	0.00021
12.0001	0.83221	12.0001	0.00001
12.0001	0.83221	12.0001	0.00001
20.0000	0.64782	20.0001	0.00009
20.0001	0.64782	20.0001	-0.00001
20.0001	0.64782	20.0001	-0.00001
20.0002	0.64782	20.0001	-0.00011
25.9998	0.53537	25.9995	-0.00026
26.0000	0.53536	26.0001	0.00013
26.0000	0.53536	26.0001	0.00013
26.0001	0.53536	26.0001	0.00003
29.9999	0.47128	29.9999	0.00001
30.0001	0.47128	29.9999	-0.00019
30.0001	0.47128	29.9999	-0.00019
30.0002	0.47127	30.0006	0.00037

V = Instrument Output (Volts)

L = ln (100000 * V / (3.3 - V))

Temperature ITS-90 (°C) = $1 / (TA0 + (TA1 * L) + (TA2 * L^2) + (TA3 * L^3)) - 273.15$

Residual (°C) = instrument temperature - bath temperature