

Pressure calibration Check

ORIGINAL
SBE9plus s/n 484. December 18, 2002.

original - blue ink
M. Swartz

Unit: SBE9plus s/n 484 with Paroscientific model 410K-105 s/n 69685 pressure transducer.
Pressure calibration at room temperature (20.1 +/- 0.5 °C). CTD oriented vertically, powered from SBE11plus s/n 528.
Calibration performed on Dec 18, 2002 at WHOI CTD Calibration Lab by M. Swartz. File: SBE9_484_20021218_Pcal.xls
Pressure standard is Paroscientific 760-10K s/n 63489, with pressure source Ruska model 2480 deadweight tester.

P760-10K offset, dbars **9.497**

Conversion: dbar/PSI= **0.689476**

Pstd gage	Pstd abs	tp, ctd	tp counts	tp °C calc	Pcalc	Pcorr	Pcorr-Pstd
Pstd gage, dbars	Pstd abs, dbars	tpd pressure, Hz	Pcounters (temp counts)	tp std pres sensor, °C	P factory calc, dbars	P corrected, dbars	P error, dbars
		(SBE11+ chan Z)	(SBE11+ chan A)			using factory coefficients	
						of slope and offset.	

Data from observing CTD in vertical orientation during calibration:

0.00	9.50	32929.773	2752	26.0	9.97	9.43	-0.07
385.89	395.39	33125.953	2753	26.1	395.97	395.41	0.02
730.46	739.95	33299.968	2753	26.1	740.64	740.08	0.10
1419.59	1429.09	33644.824	2753	26.1	1429.88	1429.28	0.18
2108.81	2118.31	33985.652	2754	26.1	2119.18	2118.54	0.23
2798.12	2807.62	34322.593	2755	26.1	2808.60	2807.91	0.30
3487.45	3496.95	34655.640	2755	26.1	3497.86	3497.14	0.19
4176.81	4186.31	34985.046	2755	26.1	4187.26	4186.51	0.20
4866.24	4875.74	35310.835	2755	26.1	4876.63	4875.85	0.11
5555.73	5565.23	35633.164	2756	26.1	5568.10	5565.27	0.05
6245.07	6254.57	35952.062	2756	26.1	6255.50	6254.65	0.08
5555.74	5565.24	35633.164	2756	26.1	5566.10	5565.27	0.04
4866.26	4875.76	35310.867	2756	26.1	4876.70	4875.82	0.16
4176.84	4186.34	34985.097	2756	26.1	4187.37	4186.62	0.28
3487.48	3496.98	34655.699	2756	26.1	3497.98	3497.26	0.29
2798.16	2807.66	34322.621	2756	26.1	2808.85	2807.97	0.31
2108.86	2118.36	33985.679	2757	26.1	2119.24	2118.59	0.23
1419.63	1429.13	33644.847	2757	26.1	1429.92	1429.31	0.18
730.53	740.03	33300.003	2757	26.1	740.71	740.13	0.10
385.92	395.42	33126.011	2757	26.1	396.08	395.52	0.10
0.02	9.52	32929.800	2757	26.1	9.96	9.42	-0.10

Determination of pressure offset at atmospheric pressure due to horizontal orientation of CTD:

Hor:	0.00	9.50	32929.058	2752	26.0	8.57	8.03	-1.47
Ver:	0.00	9.50	32929.753	2752	26.0	9.94	9.39	-0.10

Digiquartz Factory Coefficients: as of 05 Jun 1998	
C1=	-4.680530E+04
C2=	-8.320595E-01
C3=	1.450810E-02
D1=	3.903100E-02
D2=	0.000000E+00
T1=	3.038361E+01
T2=	-5.411459E-04
T3=	4.085080E-06
T4=	2.564540E-09
T5=	0.000000E+00
AD590M=	0.0128082
AD590B=	-9.2101980

Digiquartz correction factors:		12/18/2002:	06/05/1998:
Slope	0.99995		0.99995
Offset, dbar	-0.5422		-0.5422

Note:
Factory coefficient data from Paroscientific report on Calibration coefficients for 410K-105 s/n 69685, dated 11-12-1997, updated by Paroscientific in writing on 05 June 1998.
AD590 coefficients, Slope/offset and the report format are from:
SBE Pressure Calibration Check report for SBE9plus s/n 484, dated 25 July 2001.