

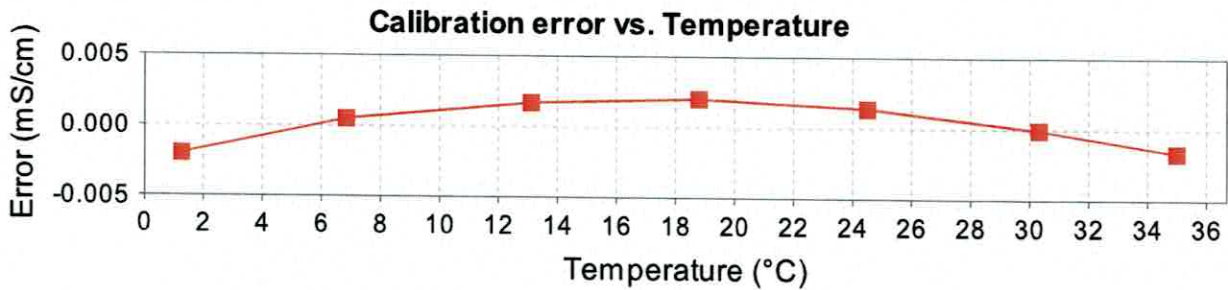
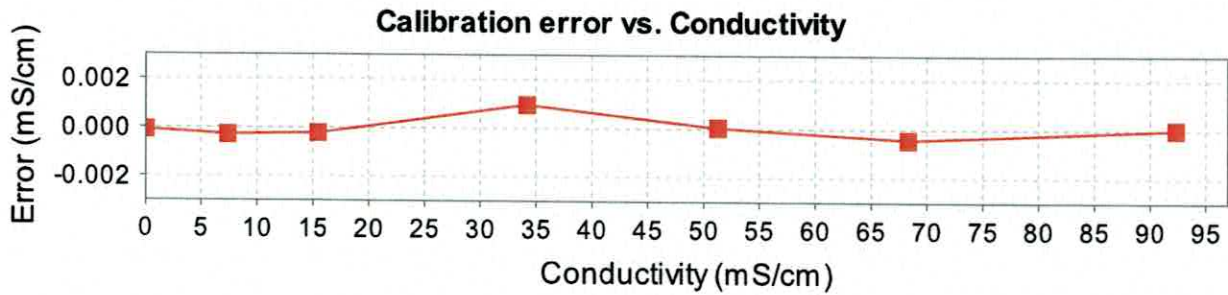
# RBR Conductivity Calibration Certificate

RBRlegato<sup>3</sup> C.T.D, Teledyne Webb Slocum, dry bay (1000dbar) s/n: 210315  
 References: Autosal8400B#66289, MS-315#15506, SSW P164, RC#002


Reference Resistance (ohm)	Reference Conductivity (mS/cm)	Voltage Ratio, V	Measured Conductivity (mS/cm)	Calibration Error (mS/cm)	Coefficients
open	0.0000	-0.000081	-0.0001	-0.0001	
694.033	7.3859	0.038977	7.3856	-0.0003	C1: 189.09398
331.927	15.4434	0.081588	15.4431	-0.0002	(K) C2: 1.001942
150.016	34.1701	0.180629	34.1711	0.0009	X0: 334.75895E-6
100.011	51.2550	0.270975	51.2551	0.0000	X1: -3.297162E-6
75.019	68.3307	0.361275	68.3303	-0.0004	X2: 1.8469999E-6
55.516	92.3353	0.488223	92.3353	-0.0000	X3: -947.2E-12
					X4: 211.199E-15
<b>Bath</b>	<b>Voltage Ratio</b>	<b>Temperature (ITS-90)</b>	<b>Salinity (PSS-78)</b>	<b>Conductivity (mS/cm)</b>	X5: 15.00011
T15S35	0.2268318	15.00011	34.9910	42.9078	X6: 10
T25S35	0.2783574	24.60428	34.9935	52.6494	

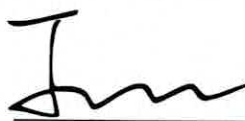
Cell Constant @T15S35 = 5.12607 1/cm

$$C_c = \frac{C_0 + C_1 * C_2 * V - X_0 * (T - X_5)}{1 + X_1 * (T - X_5) + X_2 * (P - X_6) + X_3 * (P - X_6)^2 + X_4 * (P - X_6)^3}$$



Calibration Date: 2022-03-28  
 Issue Date: 2022-03-28  
 File Name: 210315\_20220328\_1706C.rsk

Operator:   
 sadem

Approver:   
 jwang



# Pressure Calibration Certificate

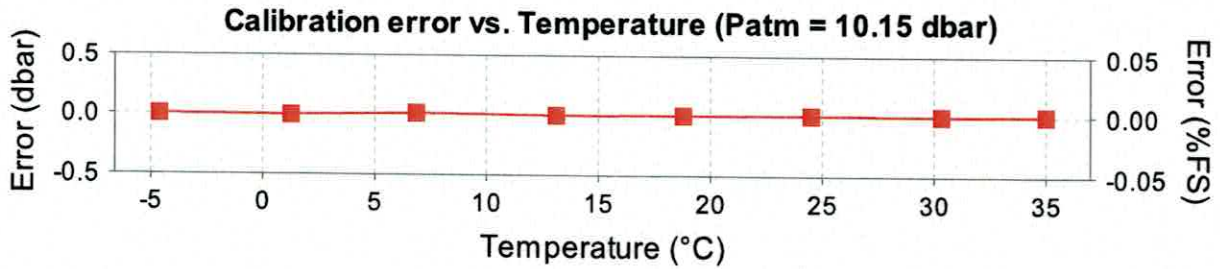
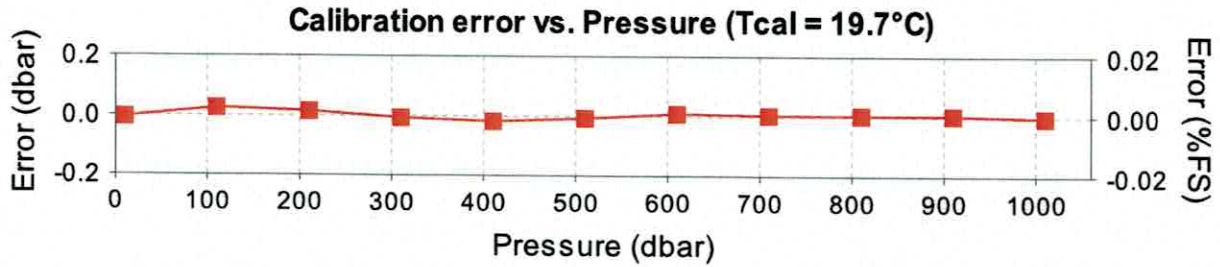
RBRlegato<sup>3</sup> C.T.D, Teledyne Webb Slocum, dry bay (1000dbar) s/n: 210315  
 Instrument rating: 1000 s/n: N121926  
 Nominal accuracy: 0.05%FS (0.5 dbar)  
 Reference instrument: Mensor CPC6050 s/n: 410018YM

Applied pressure, P <sub>app</sub> (dbar)	Voltage ratio, V	Measured pressure, P <sub>c</sub> (dbar)	Calibration error (dbar)	Coefficients
10.406	0.016318	10.401	-0.0052	C0: -26.690182
110.262	0.060246	110.288	0.0257	C1: 2.2719575E3
210.261	0.104176	210.277	0.0155	C2: 27.812414
310.260	0.148061	310.253	-0.0072	C3: -17.782383
410.261	0.191920	410.243	-0.0177	X0: 10.1438
510.260	0.235758	510.254	-0.0062	X1: 38.75414E-3
610.259	0.279571	610.269	0.0095	X2: -40.08116E-6
710.264	0.323356	710.268	0.0041	X3: 1.1626976E-6
810.265	0.367124	810.270	0.0047	X4: -85.823565E-6
910.264	0.410877	910.268	0.0040	X5: 19.744701
1010.262	0.454617	1010.258	-0.0039	

Head (mm) = 262

$$P_c = X_0 + \frac{P_m - X_0 - X_1(T - X_5) - X_2(T - X_5)^2 - X_3(T - X_5)^3}{1 + X_4(T - X_5)}$$

$$P_m = C_0 + C_1V + C_2V^2 + C_3V^3$$



Calibration Date: 2022-03-23  
 Issue Date: 2022-03-28  
 File Name: 210315\_20220323\_1523P.rsk

Operator: *Anupreet Kaur*  
 akaur

Approver: *[Signature]*  
 kmalorny



# Temperature Calibration Certificate

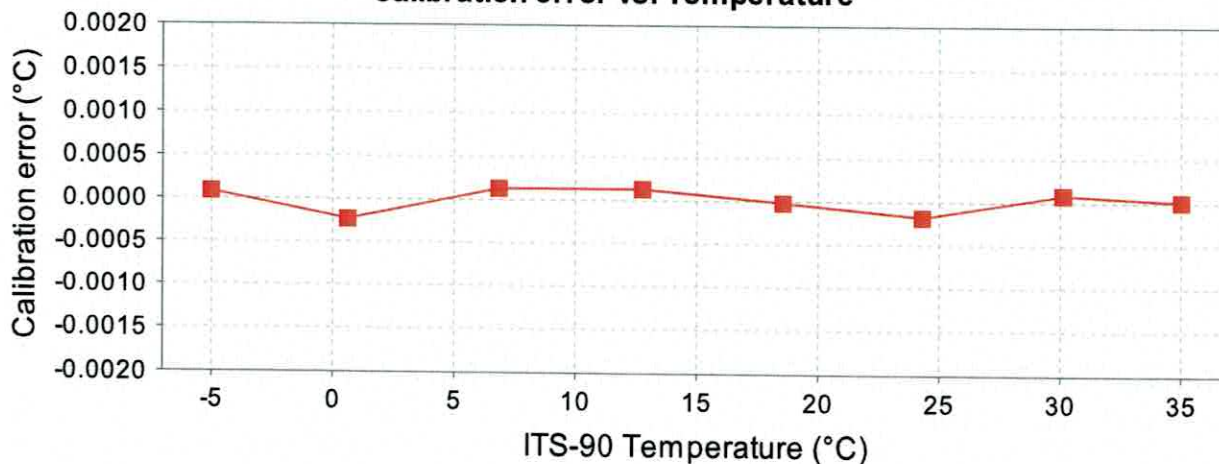
Logger ID: RBRlegato<sup>3</sup> Serial No: 210315 Channel No: 2

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
-5.04140	0.719015	-5.04131	0.00009	C0: 3.4901402E-3
0.60992	0.654675	0.60968	-0.00024	C1: -252.79404E-6
6.84311	0.579547	6.84324	0.00013	C2: 2.4000062E-6
12.76000	0.507377	12.76014	0.00013	C3: -61.088556E-9
18.54328	0.438966	18.54326	-0.00002	
24.30035	0.375265	24.30017	-0.00018	
30.10474	0.317063	30.10482	0.00008	
35.00024	0.273308	35.00025	0.00001	


$$T_m = \ln\left(\frac{1}{V-1}\right)$$


$$T_c = \frac{1}{(C_0 + C_1T_m + C_2T_m^2 + C_3T_m^3)} - 273.15$$

Calibration error vs. Temperature



Calibration Date: 2022-03-23  
 Issue Date: 2022-03-23  
 Calibration ID: 53662

Operator:   
 kmalorny

Approver:   
 kmalorny