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



# **Pressure Test Certificate**

Test Date: 2019-08-22

Description: SBE-37 Microcat

### Sensor Information:

Model Number: SBE-37

Serial Number: 21148

### **Pressure Test Protocol:**

Low Pressure Test: 40

PSI

Held For: 15

Minutes

High Pressure Test: 2900

PSI

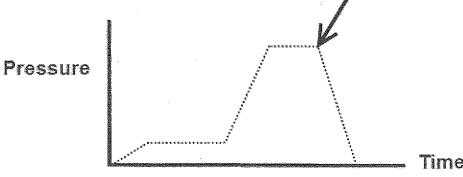
Held For: 15

Minutes

Passed Test: True

Tested By: db

High pressure is generally equal to the maximum depth rating of the instrument



**Typical Test Profile** 



Sea-Bird Scientific 13431 NE 20<sup>th</sup> Street Bellevue, WA 98005 USA +1 425-643-9866 seabird@seabird.com www.seabird.com

## SENSOR SERIAL NUMBER: 21148 CALIBRATION DATE: 22-Aug-19

# SBE 37 V2 PRESSURE CALIBRATION DATA 2900 psia S/N 5059701

### COEFFICIENTS:

PAO =	-2.262003e+000	PTCA0	=	5.236666e+005
PA1 =	8.964117e-003	PTCA1	=	-1.410288e+001
PA2 =	3.452364e-011	PTCA2	=	9.898535e-002
PTEMPA0 =	-9.390802e+001	PTCB0	=	1.027948e+002
PTEMPA1 =	3.968933e-002	PTCB1	=	-6.491298e-003
PTEMPA2 =	1.220902e-006	PTCB2	=	0.000000e+000

### PRESSURE SPAN CALIBRATION

### THERMAL CORRECTION

PRESSURE (PSIA)	INSTRUMENT OUTPUT (counts)	THERMISTOR OUTPUT (counts)	COMPUTED PRESSURE (PSIA	RESIDUAL ) (%FSR)	TEMP (°C)	THERMISTOR OUTPUT (counts)	INSTRUMENT OUTPUT (counts)
14.66	525300.0	2699.0	14.76	0.00	32.50	2922	525202.32
614.87	592119.0	2708.0	614.79	-0.00	29.00	2847	525219.52
1214,88	658904.0	2709.0	1214.79	-0.00	24.00	2740	525267.93
1714.81	714540.0	2710.0	1714.87	0.00	18.50	. 2621	525325.64
2314.75	781258.0	2711.0	2314.84	0.00	15.00	2545	525366.04
2914.66	847910.0	2712.0	2914.53	-0.00	4.50	2315	525486,87
2314.75	781259.0	2711.0	2314.85	0.00	1.00	2237	525538.51
1714.83	714537.0	2711.0	1714.85	0.00			
1214.87	658906.0	2712.0	1214.83	-0.00	TEMPE	RATURE (°C)	SPAN
614.89	592120.0	2711.0	614.82	-0.00	, ,		102.83
14.65	525281.0	2713.0	14.65	-0.00		34.49	102.57
	(PSIA) 14.66 614.87 1214.88 1714.81 2314.75 2914.66 2314.75 1714.83 1214.87 614.89	(PSIA)         OUTPUT (counts)           14.66         525300.0           614.87         592119.0           1214.88         658904.0           1714.81         714540.0           2314.75         781258.0           2914.66         847910.0           2314.75         781259.0           1714.83         714537.0           1214.87         658906.0           614.89         592120.0	(PSIA)         OUTPUT (counts)         OUTPUT (counts)           14.66         525300.0         2699.0           614.87         592119.0         2708.0           1214.88         658904.0         2709.0           1714.81         714540.0         2710.0           2314.75         781258.0         2711.0           2914.66         847910.0         2712.0           2314.75         781259.0         2711.0           1714.83         714537.0         2711.0           1214.87         658906.0         2712.0           614.89         592120.0         2711.0	(PSiA)         OUTPUT (counts)         OUTPUT (counts)         PRESSURE (PSIA)           14.66         525300.0         2699.0         14.76           614.87         592119.0         2708.0         614.79           1214.88         658904.0         2709.0         1214.79           1714.81         714540.0         2710.0         1714.87           2314.75         781258.0         2711.0         2314.84           2914.66         847910.0         2712.0         2914.53           2314.75         781259.0         2711.0         2314.85           1714.83         714537.0         2711.0         1714.85           1214.87         658906.0         2712.0         1214.83           614.89         592120.0         2711.0         614.82	(PSiA)         OUTPUT (counts)         OUTPUT (counts)         PRESSURE (PSIA)         (%FSR)           14.66         525300.0         2699.0         14.76         0.00           614.87         592119.0         2708.0         614.79         -0.00           1214.88         658904.0         2709.0         1214.79         -0.00           1714.81         714540.0         2710.0         1714.87         0.00           2314.75         781258.0         2711.0         2314.84         0.00           2914.66         847910.0         2712.0         2914.53         -0.00           2314.75         781259.0         2711.0         2314.85         0.00           1714.83         714537.0         2711.0         1714.85         0.00           1214.87         658906.0         2712.0         1214.83         -0.00           614.89         592120.0         2711.0         614.82         -0.00	(PSiA)         OUTPUT (counts)         OUTPUT (counts)         PRESSURE (PSIA)         (%FSR)         (°C)           14.66         525300.0         2699.0         14.76         0.00         32.50           614.87         592119.0         2708.0         614.79         -0.00         29.00           1214.88         658904.0         2709.0         1214.79         -0.00         24.00           1714.81         714540.0         2710.0         1714.87         0.00         18.50           2314.75         781258.0         2711.0         2314.84         0.00         15.00           2914.66         847910.0         2712.0         2914.53         -0.00         4.50           2314.75         781259.0         2711.0         2314.85         0.00         1.00           1714.83         714537.0         2711.0         1714.85         0.00         1.00           1214.87         658906.0         2712.0         1214.83         -0.00         TEMPE           614.89         592120.0         2711.0         614.82         -0.00	(PSiA)         OUTPUT (counts)         OUTPUT (counts)         PRESSURE (PSIA)         (%FSR)         (°C)         OUTPUT (counts)           14.66         525300.0         2699.0         14.76         0.00         32.50         2922           614.87         592119.0         2708.0         614.79         -0.00         29.00         2847           1214.88         658904.0         2709.0         1214.79         -0.00         24.00         2740           1714.81         714540.0         2710.0         1714.87         0.00         18.50         2621           2314.75         781258.0         2711.0         2314.84         0.00         15.00         2545           2914.66         847910.0         2712.0         2914.53         -0.00         4.50         2315           2314.75         781259.0         2711.0         2314.85         0.00         1.00         2237           1714.83         714537.0         2711.0         1714.85         0.00         1.00         2237           1214.87         658906.0         2712.0         1214.83         -0.00         TEMPERATURE (°C)           614.89         592120.0         2711.0         614.82         -0.00         -5.50 </td

y = thermistor output (counts)

 $t = PTEMPA0 + PTEMPA1 * y + PTEMPA2 * y^2$ 

 $x = instrument output - PTCA0 - PTCA1 * t - PTCA2 * t^2$ 

 $n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$ 

