



REPORT OF CALIBRATION

This instrument is calibrated and tested to verify compliance with Martel's test specifications for all ranges and parameters required to meet 1 year performance specifications. The calibration uses measurement standards traceable to the National Institute of Standards and Technology (NIST). This calibration complies with the requirements of ANSI/NCSL Z540-1-1994 part 2. Calibration and verification are performed at an ambient temperature of $23 \pm 5^\circ\text{C}$ and relative humidity of $> 20\%$ to $< 70\%$.

Any test uncertainty (TUR) less than 4:1 appears under the TUR heading on the data record. Where the TUR meets or exceeds 4:1, the TUR field is blank.

Tom Fatur

Tom Fatur
President

Florin Visuian

Calibrated By
Florin Visuian

Manufacturer: Martel Corporation
Model: 321A 50kPa/2000kPa
Serial Number: 1992131

Cal Date: January 8, 2014
Report Date: January 8, 2014
Temperature: 20.8°C
Relative Humidity: 31 %

Calibration Procedure: SR/DR MASTER : (1 year) FINAL VER MAN/8100 7310C J
Procedure Revision: 2.1



Standards Used

Asset	Manufacturer	Model Number	Description	Cal. Date	Due Date
47794	Ruska	7010D0007	Pressure Controller	17-Sep-13	17-Jan-14
48221	Ruska	7010D0015S10	CALIBRATOR	26-Dec-13	25-Apr-14
48222	Ruska	7010-710	CALIBRATOR	10-Dec-13	10-Apr-14
1205100	Martel Corporation	M3001	Calibrator	2-Dec-13	28-Feb-14

Test Data

PARAMETER	RESULT	ACCEPTANCE LIMITS			TUR
		LOW	HIGH		
P1 -7.000 to 7.000 psi Verification.					
7.0000_psi	7.0001	6.9975	7.0025	PASS	2.8
5.0000_psi	5.0007	4.9975	5.0025	PASS	3.1
3.0000_psi	3.0001	2.9975	3.0025	PASS	3.6
1.0000_psi	1.0002	0.9975	1.0025	PASS	
0.0000_psi	0.0000	-0.0025	0.0025	PASS	
-1.0000_psi	-0.9991	-1.0025	-0.9975	PASS	
-3.0000_psi	-2.9995	-3.0025	-2.9975	PASS	3.6
-5.0000_psi	-4.9998	-5.0025	-4.9975	PASS	3.1
-7.0000_psi	-7.0003	-7.0025	-6.9975	PASS	2.8
P1 -0.4826 to 0.4826 Bar Verification.					
0.4826"Bar"	0.4826	0.4824	0.4828	PASS	3.3
0.3447"Bar"	0.3448	0.3445	0.3449	PASS	3.3
0.2068"Bar"	0.2068	0.2066	0.2070	PASS	
0.0689"Bar"	0.0690	0.0687	0.0691	PASS	
0.0000"Bar"	0.0000	-0.0002	0.0002	PASS	
-0.0689"Bar"	-0.0689	-0.0691	-0.0687	PASS	
-0.2068"Bar"	-0.2068	-0.2070	-0.2066	PASS	

PARAMETER	RESULT	ACCEPTANCE LIMITS		TUR
		LOW	HIGH	
-0.3447"Bar"	-0.3447	-0.3449	-0.3445	PASS 3.3
-0.4826"Bar"	-0.4827	-0.4828	-0.4824	PASS 3.3
P1 -48.263 to 48.263 kPa Verification.				
48.263_kPa	48.264	48.246	48.280	PASS 2.8
34.474_kPa	34.479	34.457	34.491	PASS 2.8
20.684_kPa	20.685	20.667	20.701	PASS 3.4
6.895_kPa	6.896	6.878	6.912	PASS
0.000_kPa	0.000	-0.017	0.017	PASS
-6.895_kPa	-6.889	-6.912	-6.878	PASS
-20.684_kPa	-20.681	-20.701	-20.667	PASS 3.4
-34.474_kPa	-34.472	-34.491	-34.457	PASS 2.8
-48.263_kPa	-48.265	-48.280	-48.246	PASS 2.8
P2 -12.00 to 300.00 psi Verification.				
300.00_psi	300.01	299.92	300.08	PASS
277.50_psi	277.49	277.42	277.58	PASS
240.00_psi	239.99	239.92	240.08	PASS
205.50_psi	205.49	205.42	205.58	PASS
150.00_psi	150.01	149.92	150.08	PASS
127.50_psi	127.51	127.42	127.58	PASS
90.00_psi	90.01	89.92	90.08	PASS
52.50_psi	52.50	52.42	52.58	PASS
19.50_psi	19.49	19.42	19.58	PASS
0.00_psi	0.00	-0.08	0.08	PASS
-12.00_psi	-12.01	-12.08	-11.92	PASS
P2 -0.827 to 21.000 Bar Verification.				
20.684"Bar"	20.685	20.679	20.689	PASS
19.133"Bar"	19.132	19.128	19.138	PASS
16.547"Bar"	16.547	16.542	16.552	PASS
14.169"Bar"	14.168	14.164	14.174	PASS
10.342"Bar"	10.343	10.337	10.347	PASS
8.791"Bar"	8.792	8.786	8.796	PASS
6.205"Bar"	6.206	6.200	6.210	PASS
3.620"Bar"	3.620	3.615	3.625	PASS
1.345"Bar"	1.344	1.340	1.350	PASS
0.000"Bar"	0.000	-0.005	0.005	PASS
-0.827"Bar"	-0.828	-0.832	-0.822	PASS
P2 -82.7 to 2100.0 kPa Verification.				
2068.4_kPa	2068.5	2067.9	2068.9	PASS
1913.3_kPa	1913.2	1912.8	1913.8	PASS
1654.7_kPa	1654.7	1654.2	1655.2	PASS
1416.9_kPa	1416.8	1416.4	1417.4	PASS
1034.2_kPa	1034.3	1033.7	1034.7	PASS
879.1_kPa	879.2	878.6	879.6	PASS
620.5_kPa	620.6	620.0	621.0	PASS
362.0_kPa	362.0	361.5	362.5	PASS
134.5_kPa	134.4	134.0	135.0	PASS
0.0_kPa	0.0	-0.5	0.5	PASS
-82.7_kPa	-82.8	-83.2	-82.2	PASS
Voltage Read Verification.				
0.000V	0.000	-0.002	0.002	PASS
15.000V	15.000	14.996	15.004	PASS
30.000V	30.000	29.993	30.007	PASS
Loop Verification.				
29.000V	24.660	23.000	35.000	PASS
Current Read Verification.				
4.000mA	4.000	3.997	4.003	PASS

PARAMETER	RESULT	ACCEPTANCE LOW	LIMITS HIGH	TUR
12.000mA	12.000	11.996	12.004	PASS
20.000mA	20.000	19.995	20.005	PASS
PT385-100 Read Verification.				
-40.00degC	-40.00	-40.10	-39.90	PASS
0.00degC	0.00	-0.10	0.10	PASS
150.00degC	150.00	149.90	150.10	PASS