

Calibration Report: Pressure Transducer

9 April 2003

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Summary

Calibration Date: 9 April 2003

Next Calibration Date: 9 April 2004

A collection, analysis and calibration of data from Pressure Transducers, S/N P1730016, S4620032 and U1120013 has been completed. The calibrations were performed by the calibration laboratory, Wyle Laboratories. These data were collected by Wyle Laboratories on April 9, 2003.

MODEL : PTB101B (for all three)

SERIAL NUMBER : P1730016, S4620032 and U1120013

The test data presented in data table format show the transducers deviation in volts and percent transducer deviation of full scale (FS). Note: Units in millibars per user's request.

APPLICATION: Add corrections to measurements per post calibration table.

REPORT OF CALIBRATION-WYLE LABORATORIES

STATIC CALIBRATION OF PRESSURE TRANSDUCER

MANUFACTURER	VAISALA	ECN	A022384	DATE	4/9/03
MODEL NUMBER	PTB101B	SER #	P1730016	CAL BY	W2104
INPUT RANGE	600-1060 hPa	WO #	470543	ORDER #	

CALIBRATION NO. 1

REFERENCE STANDARD TORR X1	REF STD CORRECTED hPa X	TRANSDUCER OUTPUT VOLTS Y1	LEAST SQUARES STRAIGHT LINE VOLTS Y	TRANSDUCER DEVIATION VOLTS (Y1-Y)	TRANSDUCER DEVIATION % OF FS
457.54	610.00	0.0586	0.0586	-0.0000	-0.002
525.04	700.00	0.5469	0.5467	0.0002	0.009
592.55	790.00	1.0348	1.0348	0.0000	0.001
660.05	879.99	1.5225	1.5228	-0.0003	-0.013
727.56	970.00	2.0107	2.0109	-0.0002	-0.009
795.07	1060.01	2.4997	2.4990	0.0007	0.028
727.56	970.00	2.0106	2.0109	-0.0003	-0.013
660.05	879.99	1.5224	1.5228	-0.0004	-0.017
592.55	790.00	1.0349	1.0348	0.0001	0.005
525.04	700.00	0.5470	0.5467	0.0003	0.013
457.54	610.00	0.0586	0.0586	-0.0000	-0.002

ZERO BALANCE	-133.152 % OF FS	CONVERSION FACTOR	1.333223
MAX DEVIATION	+/- 0.028 % OF FS	AMBIENT TEMPERATURE	21.2 DEG C.
HYSTERESIS	+/- 0.002 % OF FS	AMBIENT HUMIDITY	37 PERCENT
SENSITIVITY	0.00542 V/hPa	AMBIENT PRESSURE	14.731 PSIA
STD DEVIATION	0.00034 VOLTS	OUTPUT AT BAROMETRIC PRESSURE	= 2.2524 VDC
INPUT VOLTAGE	12.000 VOLTS DC		
INSTRUMENT TEMPERATURE	21.2 DEG C.		

*COMBINED NONLINEARITY AND HYSTERESIS

REPORT OF CALIBRATION-WYLE LABORATORIES

STATIC CALIBRATION OF PRESSURE TRANSDUCER

MANUFACTURER	VAISALA	ECN	A022384	DATE	4/9/03
MODEL NUMBER	PTB101B	SER #	P1730016	CAL BY	W2104
INPUT RANGE	600-1060 hPa	WO #	470543	ORDER #	

AUX EQUIP	FLUKE DVM, MODEL NO 8842A, GFE NO. 5338
AUX EQUIP	H.P. POWER SUPPLY MODEL NO. 6102A, GFE NO. 2124
REF STD	RUSKA QUARTZ PRESSURE STANDARD, 0-1000 TORR
REF STD	S/N 27607, GFE# 3925, CALIBRATION DUE 2/3/04
MFR SPEC	COMBINED NONLINEARITY AND HYSTERESIS = 0.11 % OF FS

SUMMARY OF CALIBRATION DATA

EXCITATION VOLTAGE 12.000 VOLTS DC BAROMETRIC PRESSURE 14.731 PSIA
 INSULATION RESIST 1000 MOHM(50 VDC) OUTPUT AT BAROMETRIC PRESSURE = 2.2524 V

OUTPUT AT 610.00 hPa	=	0.0586 VOLTS
OUTPUT AT 1060.01 hPa	=	2.4997 VOLTS
OUTPUT AT 610.00 hPa	=	0.0586 VOLTS

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:   :   :   :   :   :   :   :   :   :   :   :   :
:CAL: INST : ZERO INTERCEPT : SENSITIVITY : ZERO : COMBINED :HYSTERESIS:
:NO  : TEMP  : (X) : (Y) : (X/Y) : (Y/X) :BALANCE:NONLIN+HYST:
:   : DEG C  : hPa  : V    :       :       :% OF FS: % OF FS : % OF FS :
:   :   :   :   :   :   :   :       :       :       :
: 1  : 21.2  :599.189 :-3.2494:184.39899:0.00542:-133.152:+/- 0.028 :+/- 0.002 :
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REPORT OF CALIBRATION-WYLE LABORATORIES

STATIC CALIBRATION OF PRESSURE TRANSDUCER

MANUFACTURER	VAISALA	ECN	A014753	DATE	4/9/03
MODEL NUMBER	PTB101B	SER #	S4620032	CAL BY	W2104
INPUT RANGE	600-1060 hPa	WO #	470544	ORDER #	

CALIBRATION NO. 1

REFERENCE STANDARD TORR X1	REF STD CORRECTED hPa X	TRANSDUCER OUTPUT VOLTS Y1	LEAST SQUARES STRAIGHT LINE VOLTS Y	TRANSDUCER DEVIATION VOLTS (Y1-Y)	TRANSDUCER DEVIATION % OF FS
457.54	610.00	0.0547	0.0546	0.0001	0.003
525.04	700.00	0.5441	0.5437	0.0004	0.016
592.55	790.00	1.0328	1.0329	-0.0001	-0.002
660.05	879.99	1.5215	1.5219	-0.0004	-0.018
727.56	970.00	2.0107	2.0111	-0.0004	-0.016
795.07	1060.01	2.5012	2.5002	0.0010	0.039
727.56	970.00	2.0107	2.0111	-0.0004	-0.016
660.05	879.99	1.5216	1.5219	-0.0003	-0.014
592.55	790.00	1.0328	1.0329	-0.0001	-0.002
525.04	700.00	0.5439	0.5437	0.0002	0.008
457.54	610.00	0.0546	0.0546	-0.0000	-0.001

ZERO BALANCE	-133.322 % OF FS	CONVERSION FACTOR	1.333223
MAX DEVIATION	+/- 0.039 % OF FS	AMBIENT TEMPERATURE	20.8 DEG C.
HYSTERESIS	+/- 0.004 % OF FS	AMBIENT HUMIDITY	37 PERCENT
SENSITIVITY	0.00543 V/hPa	AMBIENT PRESSURE	14.732 PSIA
STD DEVIATION	0.00044 VOLTS	OUTPUT AT BAROMETRIC PRESSURE	= 2.2566 VDC
INPUT VOLTAGE	12.000 VOLTS DC		
INSTRUMENT TEMPERATURE	20.8 DEG C.		

*COMBINED NONLINEARITY AND HYSTERESIS

REPORT OF CALIBRATION-WYLE LABORATORIES

STATIC CALIBRATION OF PRESSURE TRANSDUCER

MANUFACTURER	VAISALA	ECN	A014754	DATE	4/9/03
MODEL NUMBER	PTB101B	SER #	U1120013	CAL BY	W2104
INPUT RANGE	600-1060 hPa	WO #	470545	ORDER #	

CALIBRATION NO. 1

REFERENCE STANDARD TORR X1	REF STD CORRECTED hPa X	TRANSDUCER OUTPUT VOLTS Y1	LEAST SQUARES STRAIGHT LINE VOLTS Y	TRANSDUCER DEVIATION VOLTS (Y1-Y)	TRANSDUCER DEVIATION % OF FS
457.54	610.00	0.0754	0.0755	-0.0001	-0.002
525.04	700.00	0.5603	0.5601	0.0002	0.007
592.55	790.00	1.0447	1.0449	-0.0002	-0.008
660.05	879.99	1.5292	1.5296	-0.0004	-0.015
727.56	970.00	2.0140	2.0143	-0.0003	-0.013
795.07	1060.01	2.5000	2.4991	0.0009	0.038
727.56	970.00	2.0139	2.0143	-0.0004	-0.017
660.05	879.99	1.5293	1.5296	-0.0003	-0.011
592.55	790.00	1.0449	1.0449	0.0000	0.001
525.04	700.00	0.5604	0.5601	0.0003	0.011
457.54	610.00	0.0757	0.0755	0.0002	0.010

ZERO BALANCE	-132.442 % OF FS	CONVERSION FACTOR	1.333223
MAX DEVIATION	+/- 0.038 % OF FS	AMBIENT TEMPERATURE	21.5 DEG C.
HYSTERESIS	+/- 0.006 % OF FS	AMBIENT HUMIDITY	38 PERCENT
SENSITIVITY	0.00539 V/hPa	AMBIENT PRESSURE	14.747 PSIA
STD DEVIATION	0.00041 VOLTS	OUTPUT AT BAROMETRIC PRESSURE	= 2.2604 VDC
INPUT VOLTAGE	12.000 VOLTS DC		
INSTRUMENT TEMPERATURE	21.5 DEG C.		

*COMBINED NONLINEARITY AND HYSTERESIS

REPORT OF CALIBRATION-WYLE LABORATORIES

STATIC CALIBRATION OF PRESSURE TRANSDUCER

MANUFACTURER	VAISALA	ECN	A014754	DATE	4/9/03
MODEL NUMBER	PTB101B	SER #	U1120013	CAL BY	W2104
INPUT RANGE	600-1060 hPa	WO #	470545	ORDER #	

AUX EQUIP	FLUKE DVM, MODEL NO 8842A, GFE NO. 5338
AUX EQUIP	H.P. POWER SUPPLY MODEL NO. 6102A, GFE NO. 2124
REF STD	RUSKA QUARTZ PRESSURE STANDARD, 0-1000 TORR
REF STD	S/N 27607, GFE# 3925, CALIBRATION DUE 2/3/04
MFR SPEC	COMBINED NONLINEARITY AND HYSTERESIS = 0.11 % OF FS

SUMMARY OF CALIBRATION DATA

EXCITATION VOLTAGE 12.000 VOLTS DC BAROMETRIC PRESSURE 14.747 PSIA
 INSULATION RESIST 1000 MOHM(50 VDC) OUTPUT AT BAROMETRIC PRESSURE = 2.2604 V

OUTPUT AT 610.00 hPa	=	0.0754 VOLTS
OUTPUT AT 1060.01 hPa	=	2.5000 VOLTS
OUTPUT AT 610.00 hPa	=	0.0757 VOLTS

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:   :   :   :   :   :   :   :   :   :   :   :   :
:CAL: INST : ZERO INTERCEPT : SENSITIVITY : ZERO : COMBINED :HYSTERESIS:
:NO  : TEMP  : (X) : (Y) : (X/Y) : (Y/X) :BALANCE:NONLIN+HYST:
:   : DEG C : hPa  : V   :       :       :% OF FS: % OF FS : % OF FS :
:   :   :   :   :   :   :   :       :       :       :
: 1  : 21.5 :595.992 :-3.2099:185.67442: 0.00539:-132.442: +/- 0.038 : +/- 0.006
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