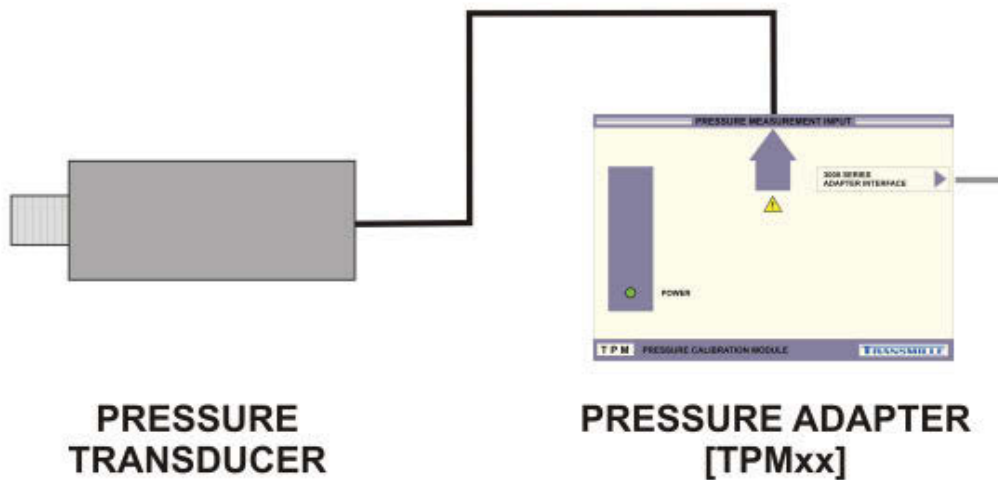


PRESSURE CALIBRATION

USING THE PROEDIT PROCEDURE WIZARD AND CALIBRATING USING PROCAL



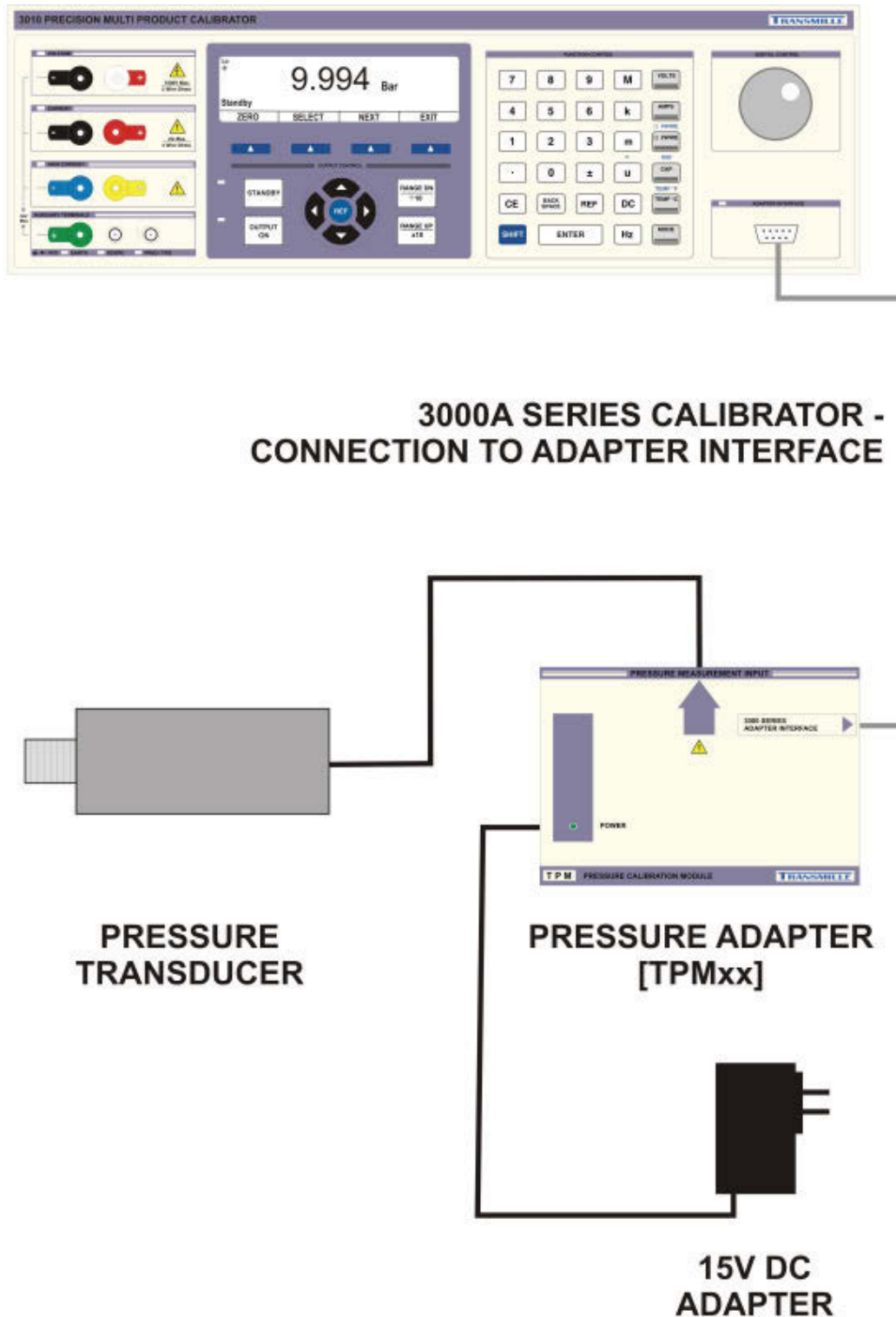
3000A SERIES CALIBRATOR - CONNECTION TO ADAPTER INTERFACE



Pressure Calibration - Overview

The Transmille 3000A Series pressure calibration option uses the TPM pressure adapter with attached transducer and ProCal calibration software to provide pressure measurement for pressure gauges and indicators.

Configuration of the adapter (with power supply), transducer and calibrator :

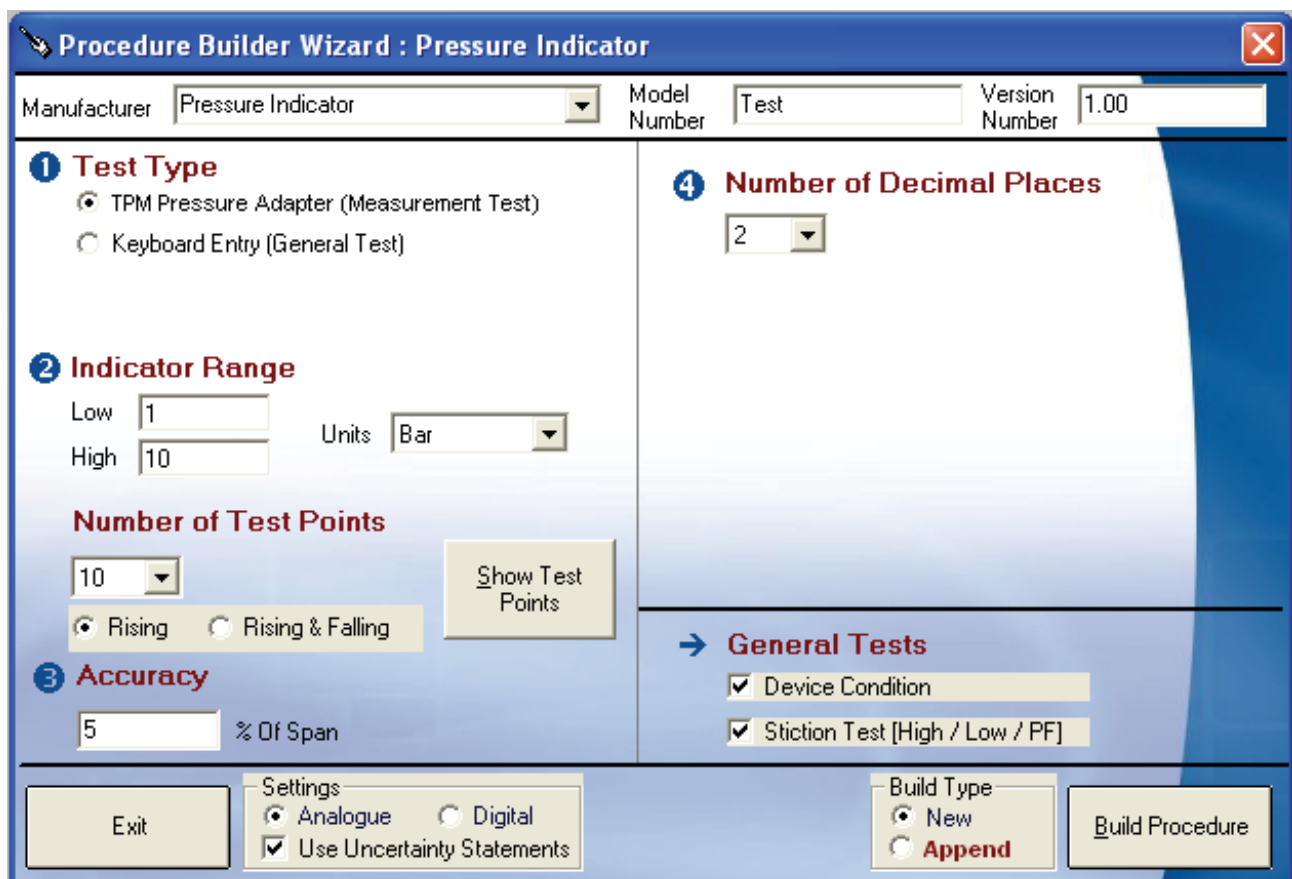


ProEdit – Torque Procedure Wizard

ProEdit incorporates a built-in wizard for creating procedures for torque wrenches and screwdrivers.



The main wizard screen is laid out as follows :



To set up a new procedure enter the following information :

1. Instrument Information

Enter the basic instrument information and a version number (default is 1.00)

Manufacturer Model Number Version Number

2. Test Type

1 Test Type

- TPM Pressure Adapter (Measurement Test)
- Keyboard Entry (General Test)

Select the TPM pressure adapter test type

3. Pressure range and test values

2 Indicator Range

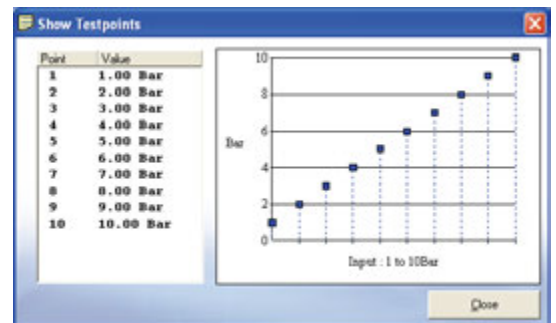
Low Units

High

Number of Test Points

- Rising
- Rising & Falling

Show Test Points



Enter the Low and high pressure range values and the number of test points – once selected the values can be viewed in a graph display by clicking 'Show Test Points'.

4. Accuracy

3 Accuracy

% Of Span

Enter the accuracy (specification of pressure gauge) – this is entered as % of span – the range is determined by the High pressure value.

5. Accuracy

4 Number of Decimal Places

Select the number of decimal places for the reading.

6. Additional Checks

→ General Tests

- Device Condition
- Stiction Test [High / Low / PF]

Additional 'general operation' YES / NO type test can also be added to the procedure – these tests are performed at the beginning of the procedure.

7. Final Settings



Select Analogue or Digital to allow the correct uncertainty statement to be set for the procedure.

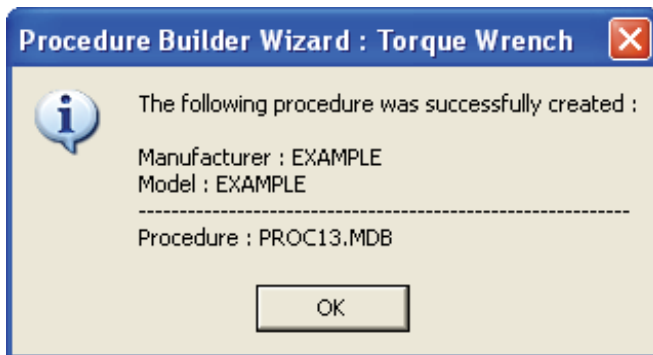
To create an entirely new procedure, select **Build Type – NEW**.

If these tests are to be appended to an existing procedure select **Build Type – APPEND**

Click **BUILD PROCEDURE** to proceed with procedure creation –

Note if any information is detected as being missing, a message will be displayed detailing what information is required before proceeding.

On completion a message will be displayed confirming the procedure details :



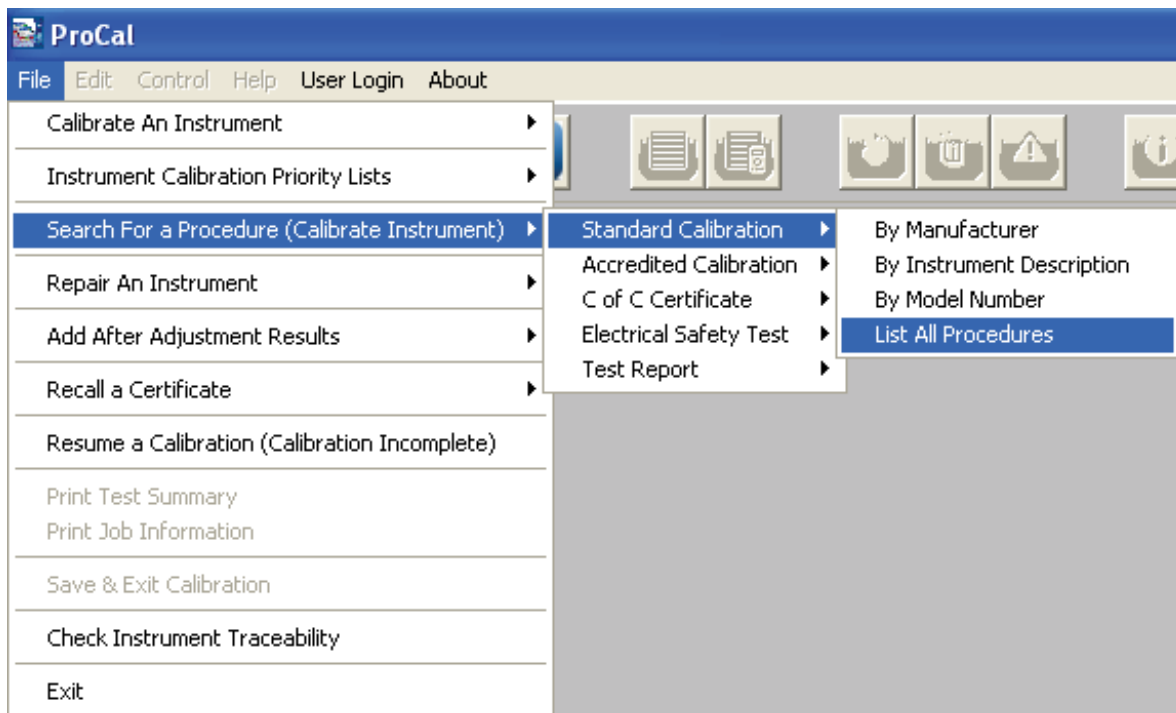
Running a Pressure procedure using ProCal

Once a procedure is created using the procedure wizard, it is ready to be run using ProCal. The procedure will be set up to read back values automatically from the calibrator if using the TPMxx pressure calibration adapters (with associated transducer).

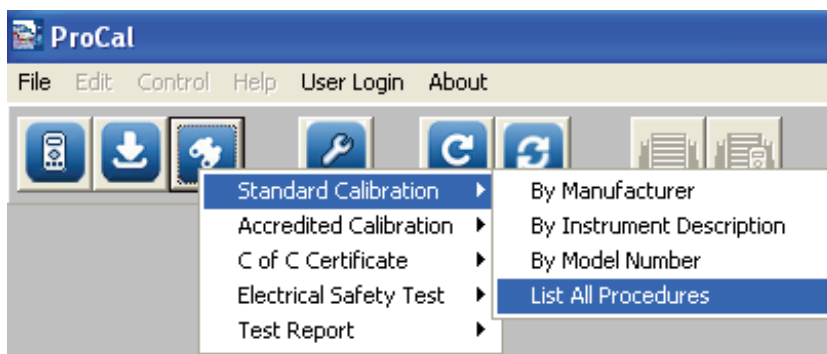
Image prompts will also have been created and linked to the procedure to aid the user in setting the calibrator to the correct mode and zeroing the calibrator between each test point

1. Start calibration

Select 'Search For a Procedure (Calibrate Instrument)' from the File menu :



Or use the toolbar to select the procedure select function



2. Select the required procedure from the list

Procedure List - 17 Match(es) found

No.	Manufacturer	Model	Description	Version
1	TEST	TEST	Power Supply (EA3023)	TEST
2	TEST	TEST	Process Meter (EA015)	TEST
3	TEST	TEST	Thermometer (EA015)	TEST
4	TEST	TEST	Pressure Indicator	TEST
5	TEST	TEST	Tachometer (EA015)	TEST
6	TEST	TEST	TORQUE WRENCH	TEST
7	TEST	TEST	Torque Wrench	1.00
8	Pressure Indicator	TEST	Pressure Indicator	TEST

Print Procedure Procedure Type : Standard Certificate

View Technical File Search Cancel Next >>

Highlight the required procedure then click [Next >>](#)

3. Confirm the traceability and uncertainties data is correct

Confirm Procedure Settings - Pressure Indicator TEST procedure [PROC8]

TRACEABILITY INFORMATION

This procedure uses the following traceable instruments :

01 : [LOCAL] : 3010A Precision Multi-Product Calibrator : 101213

UNCERTAINTY STATEMENTS

Analogue Pressure : 0.05% of F.S. ± 1d

Is the information listed above correct ?

No Yes

This screen shows a summary of the traceable instrument and uncertainties information set for the selected procedure – click **YES** if this is correct or **NO** if this needs to be changed in the procedure (clicking NO will abort the calibration).

4. Begin calibration

Calibration Information - Standard Certificate

Instrument Information

System ID: 416
Customer Ref.:
Manufacturer: EXAMPLE
Serial Number: 1234
Model Number: EXAMPLE
Cal. Interval: 52 Weeks

Environmental Information

Room Temperature: 20 °C
Mains Voltage: 240 Volts
Humidity: 50 %RH
Mains Frequency: 50 Hz

Calibration Information

Date of Receipt:
Date of Calibration: 18/05/2012
Job Number:
Tested By:

Certificate Type

Standard Certificate

Customer Information

Customer Name: [Dropdown] Add Contact
Customer Address:

Cancel Next >>

Enter serial number, cal. interval, tested by name and customer address as applicable

5. Select Calibration Option

Calibration Options

Select one of the available options below, then click 'Next >>' to proceed or '<< Back'.

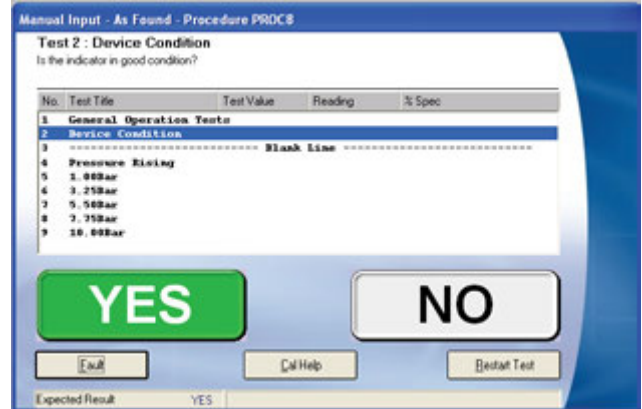
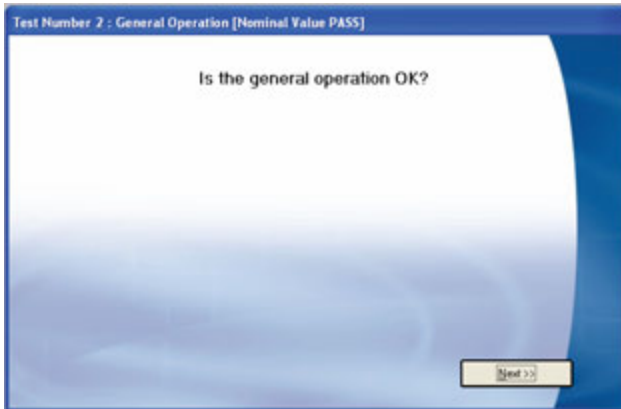
As Found Readings

After Adjustment Readings

Cancel << Back Next >>

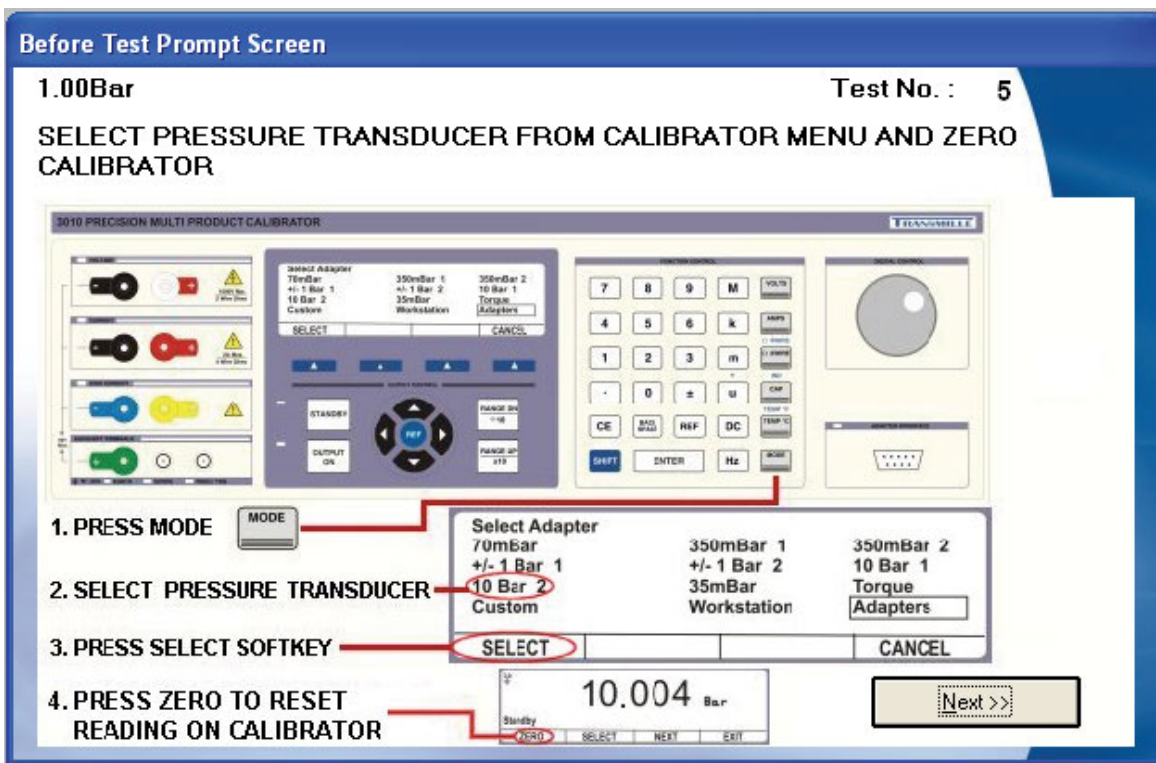
Select **As Found Readings** or **After Adjustment Readings** as required.

6. General operation check



A PASS / FAIL type test allows the general operation to be recorded – simply click on PASS or FAIL to record result.

7. Pressure Tests – Pre-Test Prompt



An on-screen prompt shows how to set the calibrator to the require torque mode :

- i. PRESS THE MODE BUTTON ON THE CALIBRATOR
- ii. SELECT THE PRESSURE TRANSDUCER FROM THE MENU USING THE CURSOR KEYS
- iii. PRESS SELECT TO CONFIRM CHOICE
- iv. PRESS THE ZERO SOFTKEY TO ZERO THE CALIBRATOR READING (ENSURE TRANSDUCER IS CONNECTED PRIOR TO PRESSING ZERO)

Click **NEXT >>** to continue to measurement screen

8. Pressure Tests – Calibration Screen

Signal Source Calibration - As Found - Procedure PROCB

Test 5 : 1.00Bar

SELECT PRESSURE TRANSDUCER FROM CALIBRATOR MENU AND ZERO CALIBRATOR

TEST PASSED

No.	Test Title	Test Value	Reading	% Spec
1 General Operation Tests				
2	Device Condition	---	Pass	---
3	----- Blank Line -----			
4 Pressure Rising				
5	1.00Bar	1.00Bar	1.12Bar	30
6	3.25Bar			
7	5.50Bar			
8	7.75Bar			
9	10.00Bar			

Averaging...
1.00Bar

1.12Bar
Restart Test
Next >>

AUTO STEP ON

Apply pressure to transducer – the measured value will be displayed by ProCal.

Before Test Prompt Screen

3.25Bar Test No. : 6

APPLY PRESSURE FROM HANDPUMP UNTIL GAUGE REACHES TEST VALUE

1. APPLY PRESSURE FROM PUMP / PRESSURE SOURCE TO TRANSDUCER
2. MONITOR PRESSURE GAUGE UNTIL PRESSURE REACHES TEST VALUE (NOMINAL VALUE)

Lo

10.004 Bar

Standby

ZERO	SELECT	NEXT	EXIT
------	--------	------	------

Next >>

Between each measurement a prompt is shown detailing measurement method (as shown above).

9. Finishing & Saving the calibration

Review Calibration Results - All Tests Passed - Procedure PROC8

Calibration Results (As Found)

Tests Incomplete : 0 Tests Marginal Pass : 0 Tests Failed : 0

No.	Test Title	Test Value	Reading	As Found	
				% Spec	Uncert.
1 General Operation Tests					
2	Device Condition	---	Pass	---	
3	----- Blank Line -----				
4 Pressure Rising					
5	1.00Bar	1.00Bar	1.12Bar	30	
6	3.25Bar	3.25Bar	3.11Bar	35	
7	5.50Bar	5.50Bar	5.46Bar	10	
8	7.75Bar	7.75Bar	7.74Bar	2	
9	10.00Bar	10.00Bar	9.86Bar	35	

Click on any test to repeat.
 Current View All Tests

Uncertainty Control Panel

Export Uncertainties to PROC8

Import Uncertainties from PROC8

Set Procedure as Verified PROC8

Certificate Comments

Enter any required certificate comments below - to import an external text file click on 'Import Comments' and select the required file. To edit the contents of the 'drop down' lists click on the button marked '...'

Instrument Status Information

i Select an instrument status from the available options below.

Instrument Status Selection

- Calibration Complete**
- Adjustment Required**
- Awaiting Customer Response / Information**
- Calibration Incomplete**
- Other**

<< Back

Next >>

Set Certificate Number & Save Calibration

i Check the certificate number below. If not acceptable, change to the required number and then click 'Finish' to save the calibration.

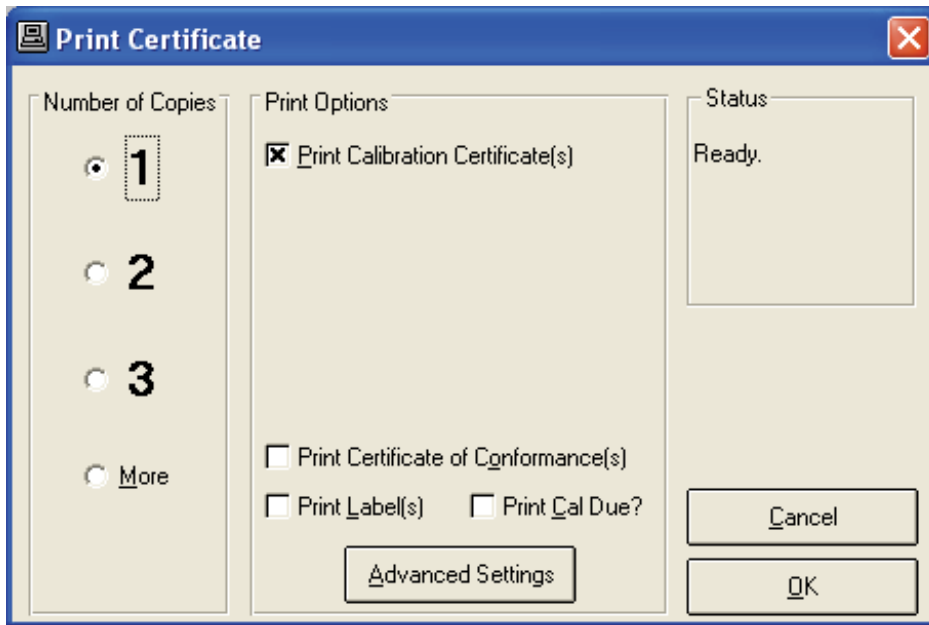
Note : If the certificate number already exists a warning will be shown and another number may be chosen.

Certificate Number

STD00057

<< Back

Finish



The image shows a Windows-style dialog box titled "Print Certificate" with a close button (X) in the top right corner. The dialog is divided into three main sections:

- Number of Copies:** A vertical list of radio buttons with the numbers 1, 2, 3, and the word "More". The radio button for "1" is selected and highlighted with a dashed border.
- Print Options:** A group box containing four checkboxes:
 - Print Calibration Certificate(s)
 - Print Certificate of Conformance(s)
 - Print Label(s)
 - Print Cal Due?Below these checkboxes is a button labeled "Advanced Settings".
- Status:** A text area containing the word "Ready." Below this area are two buttons: "Cancel" and "OK".