

2485 PG Setup in COMPASS for Pressure

Manual operation (no piston gauge monitor)

1. First setup the Piston-Cylinder as a "Piston Gauge" type. This one goes to 60000 psi

The screenshot shows the 'Piston-Cylinder Editor' window with the 'Header' tab selected. The 'Piston-Cylinder Label' is 'J-310'. The 'Piston-Cylinder Type' is set to 'Piston Gauge'. The 'Identification' is '60,000 psi'. Other fields include Manufacturer (Ruska), Model (2485-997), Serial Number (J310), and Customer ID (D49383). A 'Close' button is at the bottom.

Piston-Cylinder Label	J-310
Manufacturer	Ruska
Model	2485-997
Serial Number	J310
Identification	60,000 psi
Customer ID	D49383
Piston-Cylinder Type	Piston Gauge

The screenshot shows the 'Piston-Cylinder Editor' window with the 'Calibration' tab selected. The 'Piston-Cylinder Label' is 'J-310'. The 'Calibration Date' is '9 /20/2011' and the 'Calibration Due Date' is '9 /20/2014'. The 'Calibration Performed By' is 'Ruska' and the 'Certification ID' is '110920J310'. The 'Record Last Edited' is '2/14/2012 2:57:10 PM' and the 'Record Last Edited By' is 'Admin'. A 'Close' button is at the bottom.

Calibration Date	9 /20/2011
Calibration Due Date	9 /20/2014
Calibration Performed By	Ruska
Certification ID	110920J310
M&TE Device	<input type="checkbox"/>
Record Last Edited	2/14/2012 2:57:10 PM
Record Last Edited By	Admin

Piston-Cylinder Editor

Piston-Cylinder Label: J-310 2 / 5

Header | Calibration | **Tolerance** | Characteristics

Effective Area Tolerance Type: %Span
 %Span: 0

Enter correct tolerance here.
Usually from Cal Report.

Close

Piston-Cylinder Editor

Piston-Cylinder Label: J-310 2 / 5

Header | Calibration | Tolerance | **Characteristics**

<table border="0"> <tr> <td>Effective Area</td> <td>2.371152E-6</td> <td>m2</td> <td></td> </tr> <tr> <td>Temperature Reference</td> <td>23</td> <td>C</td> <td></td> </tr> <tr> <td>Mass</td> <td>3.000012E-1</td> <td>kg</td> <td></td> </tr> <tr> <td>Mass Resolution</td> <td>0.0000001</td> <td>kg</td> <td></td> </tr> <tr> <td>Average Density</td> <td>7.8</td> <td>g/cm3</td> <td></td> </tr> <tr> <td>Min Rotation Rate (RPM)</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Max Rotation Rate (RPM)</td> <td>0</td> <td></td> <td></td> </tr> </table>	Effective Area	2.371152E-6	m2		Temperature Reference	23	C		Mass	3.000012E-1	kg		Mass Resolution	0.0000001	kg		Average Density	7.8	g/cm3		Min Rotation Rate (RPM)	0			Max Rotation Rate (RPM)	0			<table border="0"> <tr> <td>Piston Thermal Expansion</td> <td>9.100E-6</td> <td>/C</td> </tr> <tr> <td>Cylinder Thermal Expansion</td> <td>0.000E0</td> <td>/C</td> </tr> <tr> <td>Pressure Expansion</td> <td>4.728E-7</td> <td>/MPa</td> </tr> <tr> <td>Pressure Expansion 2nd</td> <td>0.000E0</td> <td>/MPa²</td> </tr> <tr> <td>Reference Level Offset</td> <td>0.000E0</td> <td>in</td> </tr> <tr> <td>L1</td> <td>2.283E0</td> <td>in</td> </tr> <tr> <td>Surface Tension(N/m)</td> <td>0</td> <td></td> </tr> <tr> <td>Max Sink Rate</td> <td>0</td> <td>in/min</td> </tr> </table>	Piston Thermal Expansion	9.100E-6	/C	Cylinder Thermal Expansion	0.000E0	/C	Pressure Expansion	4.728E-7	/MPa	Pressure Expansion 2nd	0.000E0	/MPa ²	Reference Level Offset	0.000E0	in	L1	2.283E0	in	Surface Tension(N/m)	0		Max Sink Rate	0	in/min
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Close

Here's the setup of the other Piston-Cylinder to 20000 psi

Piston-Cylinder Editor

Piston-Cylinder Label: J-311 3 / 5

Header | Calibration | Tolerance | Characteristics

Manufacturer	Ruska
Model	2485-983
Serial Number	J311
Identification	20,000 psi
Customer ID	D49383
Piston-Cylinder Type	Piston Gauge

Close

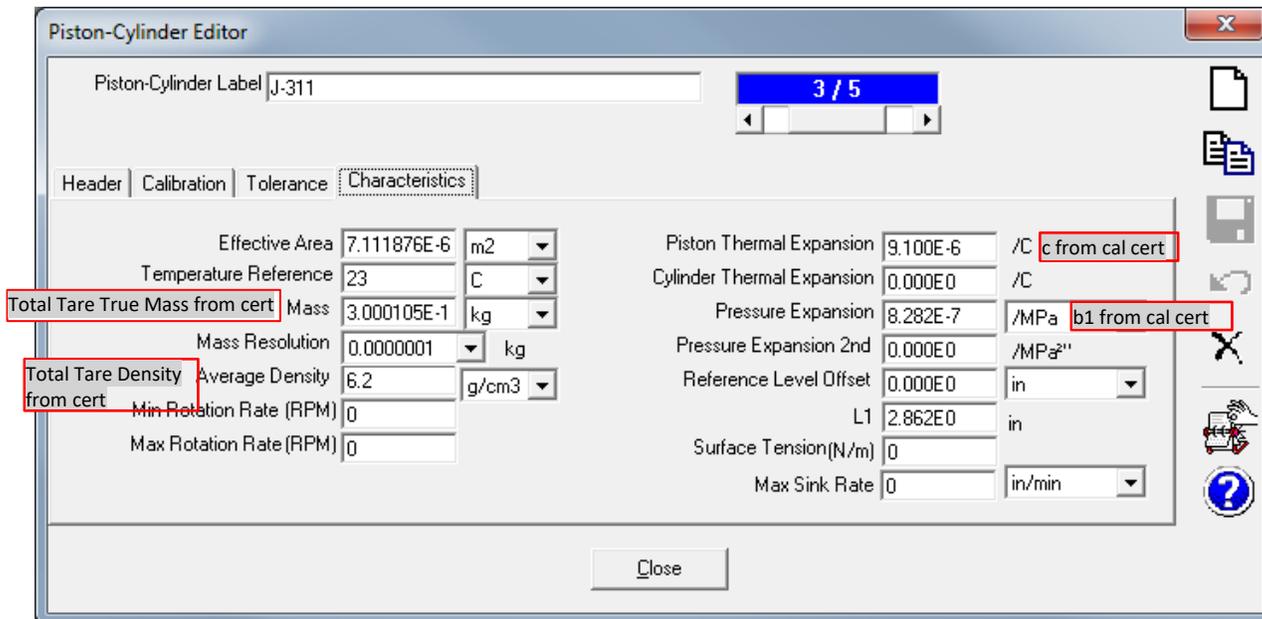
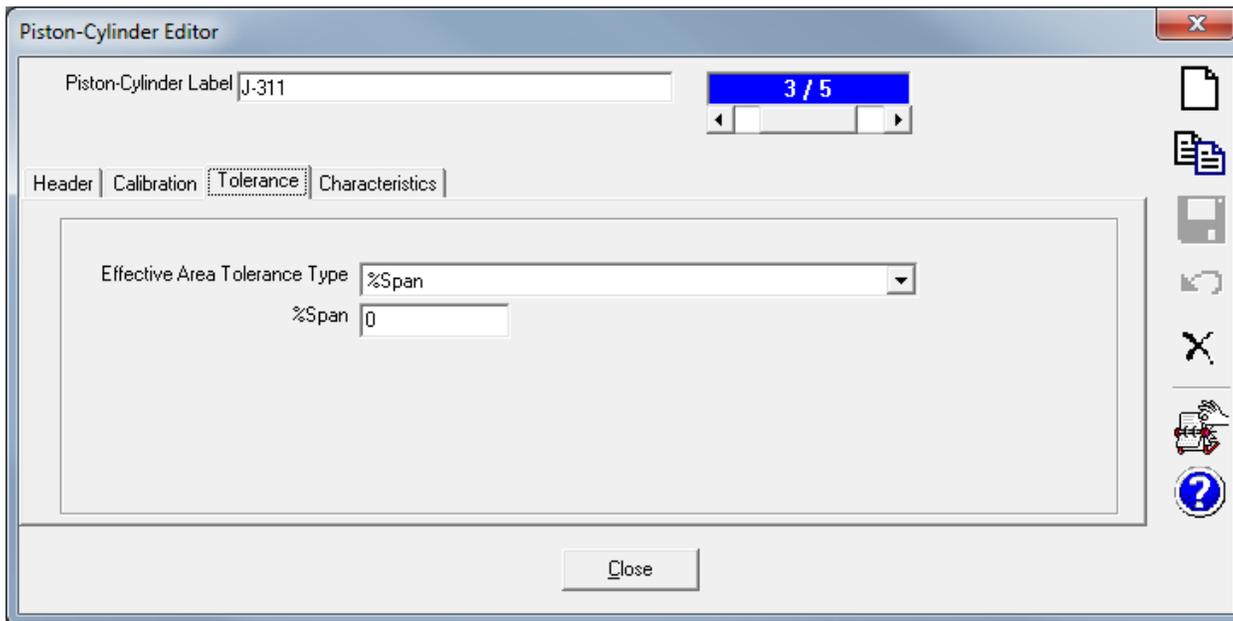
Piston-Cylinder Editor

Piston-Cylinder Label: J-311 3 / 5

Header | Calibration | Tolerance | Characteristics

Calibration Date	8 /30/2011
Calibration Due Date	8 /30/2013
Calibration Performed By	Ruska
Certification ID	110830J311
M&TE Device	<input type="checkbox"/>
Record Last Edited	2/14/2012 2:54:01 PM
Record Last Edited By	Admin

Close



2. Then setup the Mass Bell

Mass Bell Editor

Mass Bell 2485-940 2 / 3

Header | Calibration | Mass Bell

Manufacturer	Ruska
Model	2485-940
Serial Number	52872
Identification	
Customer ID	D49383

Close

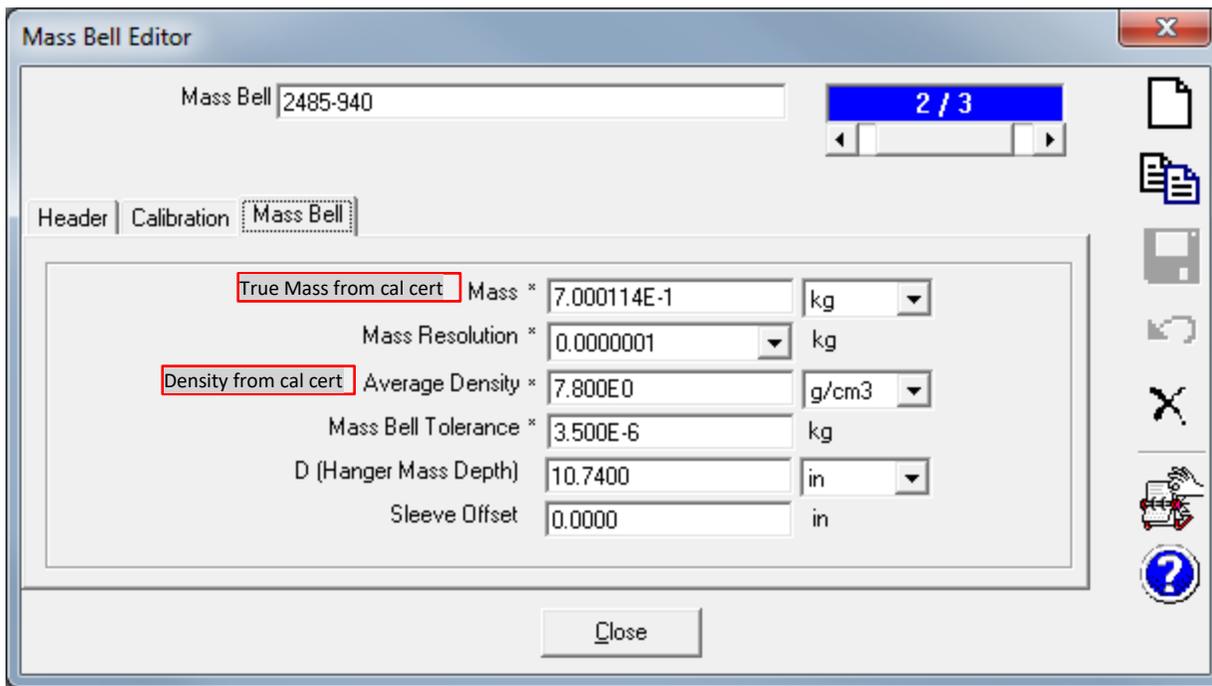
Mass Bell Editor

Mass Bell 2485-940 2 / 3

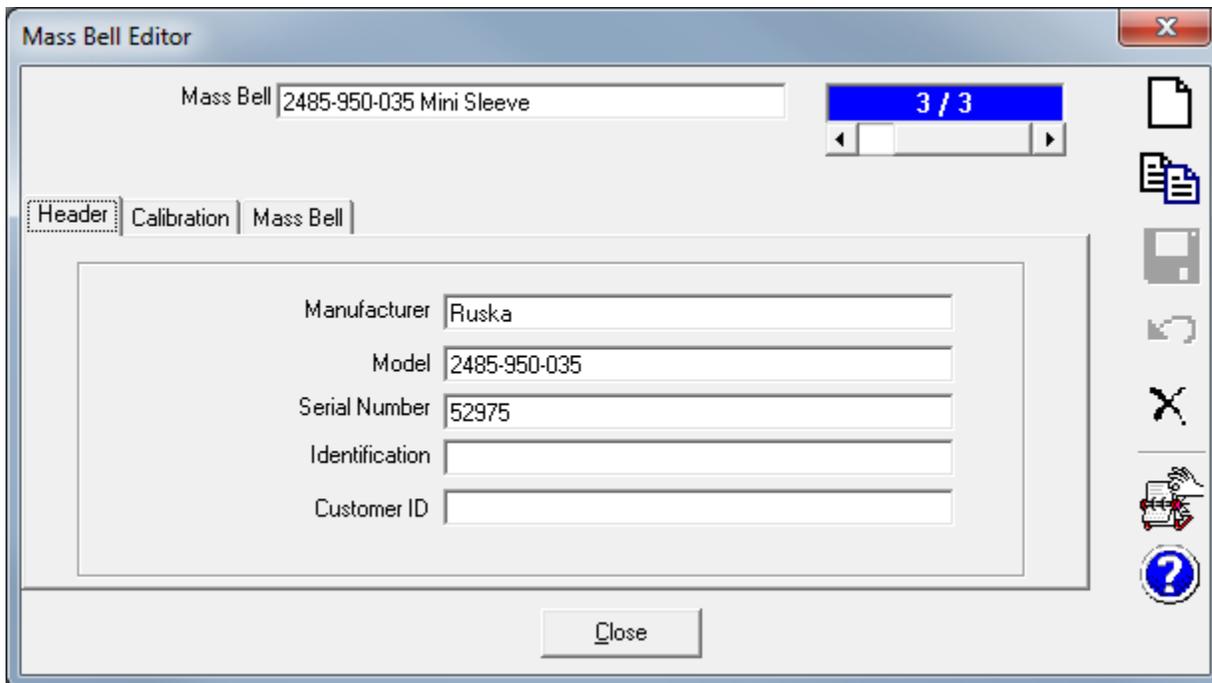
Header | Calibration | Mass Bell

Calibration Date	9 /13/2011
Calibration Due Date	9 /13/2014
Calibration Performed By	Ruska
Certification ID	11091352872
M&TE Device	<input type="checkbox"/>
Record Last Edited	2/14/2012 2:59:59 PM
Record Last Edited By	Admin

Close



Can setup another Mass Bell if you have one



Mass Bell Editor

Mass Bell 3 / 3

Header Calibration **Mass Bell**

Calibration Date	<input type="text" value="9 /13/2011"/>
Calibration Due Date	<input type="text" value="6 / 1 /1980"/>
Calibration Performed By	<input type="text" value="Ruska"/>
Certification ID	<input type="text"/>
M&TE Device	<input type="checkbox"/>
Record Last Edited	<input type="text" value="2/14/2012 3:01:23 PM"/>
Record Last Edited By	<input type="text" value="Admin"/>

Mass Bell Editor

Mass Bell 3 / 3

Header Calibration **Mass Bell**

Mass *	<input type="text" value="5.000075E-1"/>	<input type="text" value="kg"/>
Mass Resolution *	<input type="text" value="0.0000001"/>	<input type="text" value="kg"/>
Average Density *	<input type="text" value="7.800E3"/>	<input type="text" value="kg/m3"/>
Mass Bell Tolerance *	<input type="text" value="2.500E-6"/>	<input type="text" value="kg"/>
D (Hanger Mass Depth)	<input type="text" value="8.5000"/>	<input type="text" value="in"/>
Sleeve Offset	<input type="text" value="0.0000"/>	<input type="text" value="in"/>

3. Then setup the Mass Set as a "Piston Gauge" type

Mass Set Editor

Mass Set Label: Ruska 2485-940 MS

3 / 4

Header | Calibration | Mass Set

Manufacturer	Ruska
Model	2485-940
Serial Number	52872
Identification	
Customer ID	D49383
Mass Set Type	Piston Gauge

Close

Mass Set Editor

Mass Set Label: Ruska 2485-940 MS

3 / 4

Header | Calibration | Mass Set

Calibration Date	/13/2011
Calibration Due Date	9 /13/2014
Calibration Performed By	Ruska
Certification ID	11091352872
M&TE Device	<input type="checkbox"/>
Record Last Edited	2/14/2012 3:06:41 PM
Record Last Edited By	Admin

Close

Mass Set Editor

Mass Set Label: Ruska 2485-940 MS

3 / 4

Header | Calibration | **Mass Set**

Individual Masses

26	0.2000000	kg
25	0.3000000	kg
24	0.5000000	kg
23	1.0000000	kg
22	2.0000000	kg
21	3.0000000	kg
2	5.0000000	kg
3	5.0000000	kg
4	5.0000000	kg
5	5.0000000	kg
6	5.0000000	kg
7	5.0000000	kg
8	5.0000000	kg

Individual Mass Settings

Mass Name*: 26

Nominal Mass: 0.2000000

True Mass from cal cert True Mass*: 0.1999966

Tolerance*: 0.000001

Density from cal cert Mass Density*: 7800

Makeup Mass:

Mass Unit: kg

Mass Density Unit: kg/m3

Mass Set Resolution: 0.0000001

Mass Set Total: 102.0012697 kg

Close

Mass Set Editor

Mass Set Label: Ruska 2485-940 MS

3 / 4

Header | Calibration | **Mass Set**

Individual Masses

8	5.0000000	kg
9	5.0000000	kg
10	5.0000000	kg
11	5.0000000	kg
12	5.0000000	kg
13	5.0000000	kg
14	5.0000000	kg
15	5.0000000	kg
16	5.0000000	kg
17	5.0000000	kg
18	5.0000000	kg
19	5.0000000	kg
20	5.0000000	kg

Individual Mass Settings

Mass Name*: 26

Nominal Mass: 0.2000000

True Mass*: 0.1999966

Tolerance*: 0.000001

Mass Density*: 7800

Makeup Mass:

Mass Unit: kg

Mass Density Unit: kg/m3

Mass Set Resolution: 0.0000001

Mass Set Total: 102.0012697 kg

Close

4. Can also setup a trim mass set

Mass Set Editor

Mass Set Label: 2465A Trim Mass

1 / 3

Header | Calibration | Mass Set

Manufacturer: Ruska

Model: 2465A

Serial Number: 24834

Identification: Trim Mass Set

Customer ID: S638838

Mass Set Type: Piston Gauge Trim Mass

Close

Mass Set Editor

Mass Set Label: 2465A Trim Mass

1 / 3

Header | Calibration | Mass Set

Calibration Date: 9 /18/2009

Calibration Due Date: 9 /23/2013

Calibration Performed By: 589

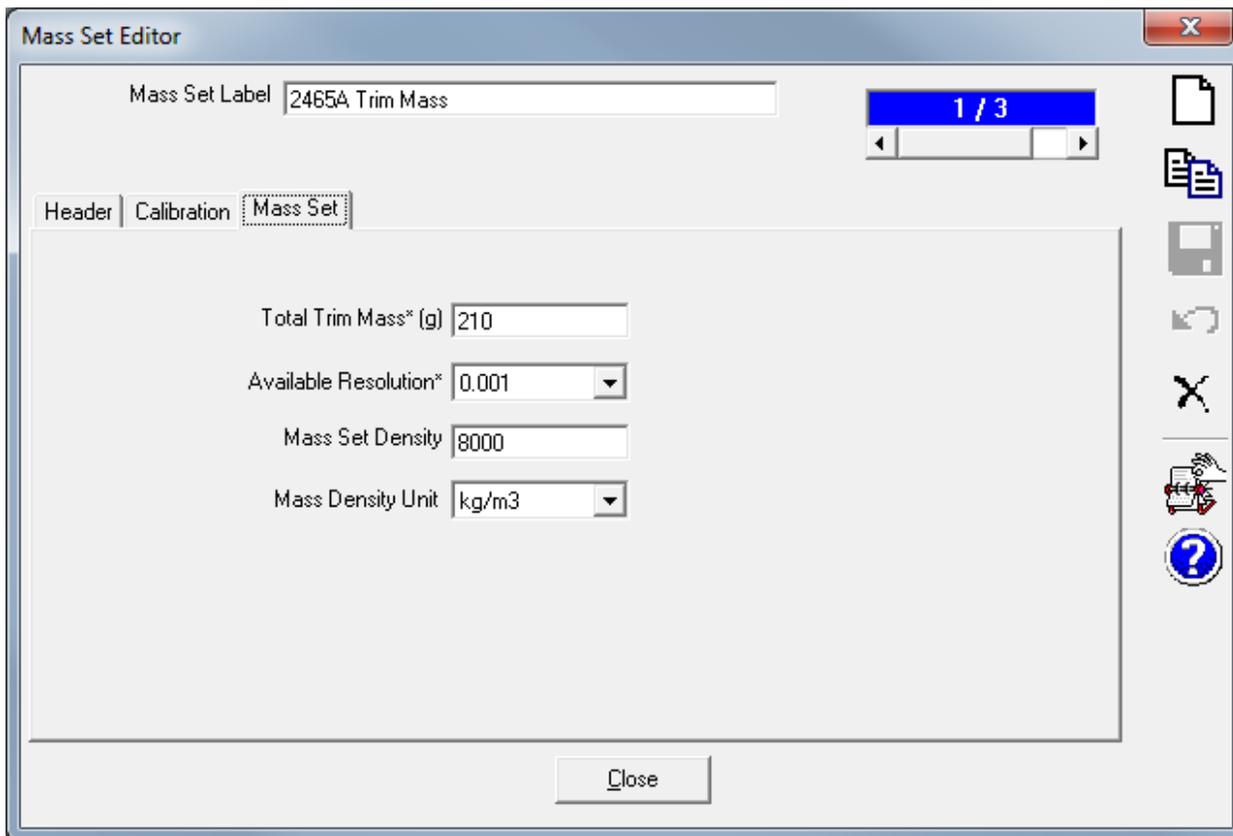
Certification ID:

M&TE Device:

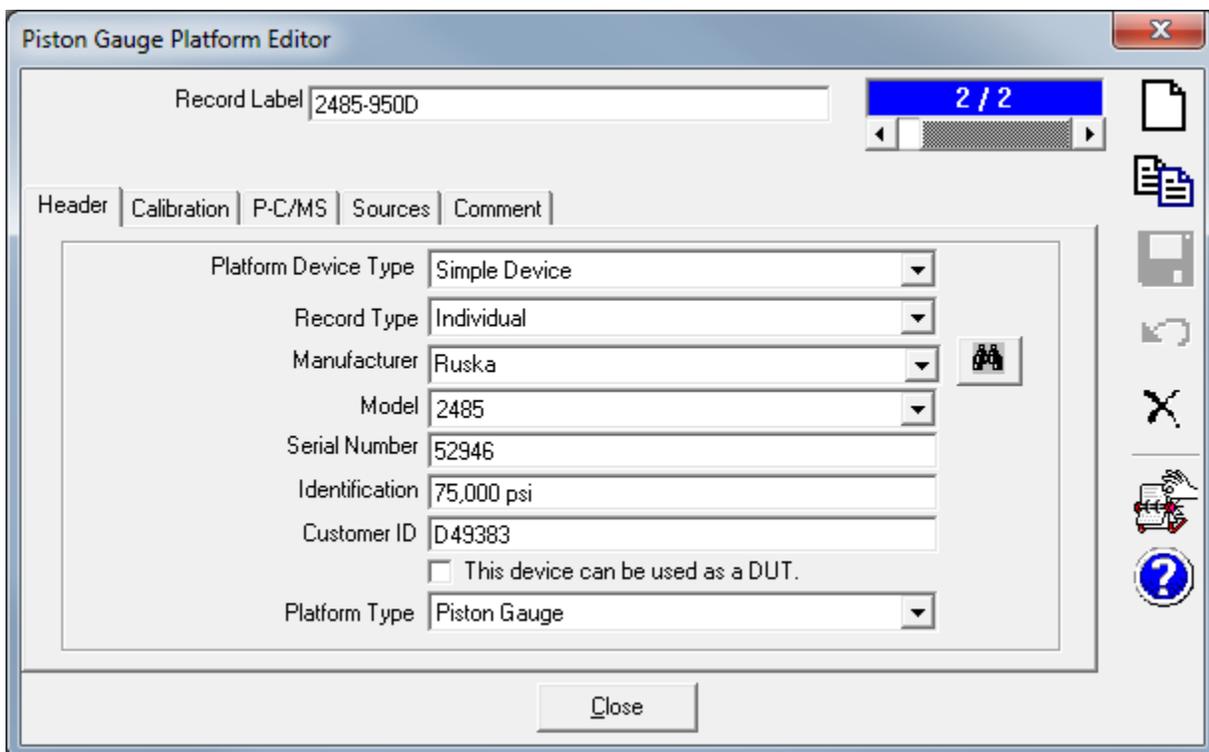
Record Last Edited: 2/14/2012 1:06:26 PM

Record Last Edited By: Admin

Close



5. Then setup the 2485 Platform as a Piston Gauge – and choose piston(s), mass set(s), monitor(s), etc. to use



Piston Gauge Platform Editor

Record Label 2485-950D 2 / 2

Header Calibration P-C/MS Sources Comment

Calibration Date 2 /14/2012 Calibration Due Date 2 /14/2012
 Calibration Performed By Certification ID
 Calibration Setting1 Calibration Setting3
 Calibration Setting2 Calibration Setting4
 M&TE Device
 Record Last Edited 2/14/2012 3:11:18 PM
 Record Last Edited By Admin

Close

If you don't see any items in the lists you might have all items show "Select All" and save the Piston Gauge. Once COMPASS knows it's a PG you can select relevant piston-cylinder(s), mass set(s), sources to use

Piston Gauge Platform Editor

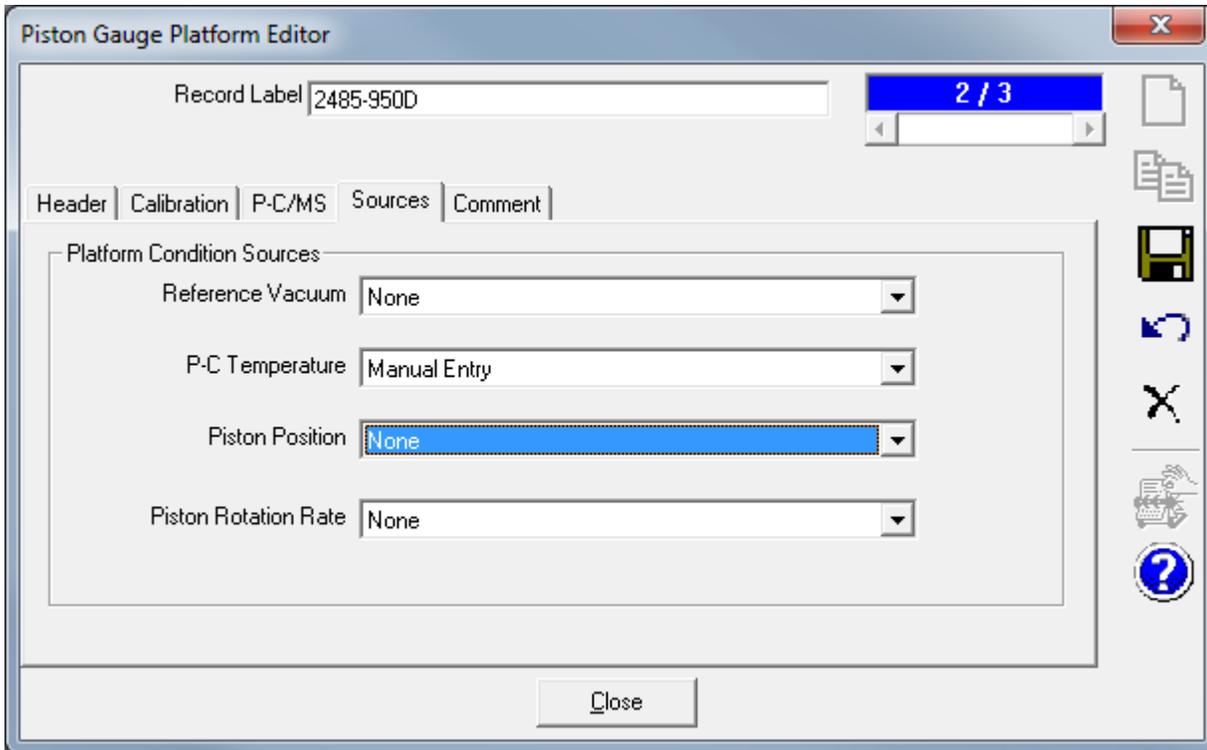
Record Label 2485-950D 2 / 2

Header Calibration P-C/MS Sources Comment

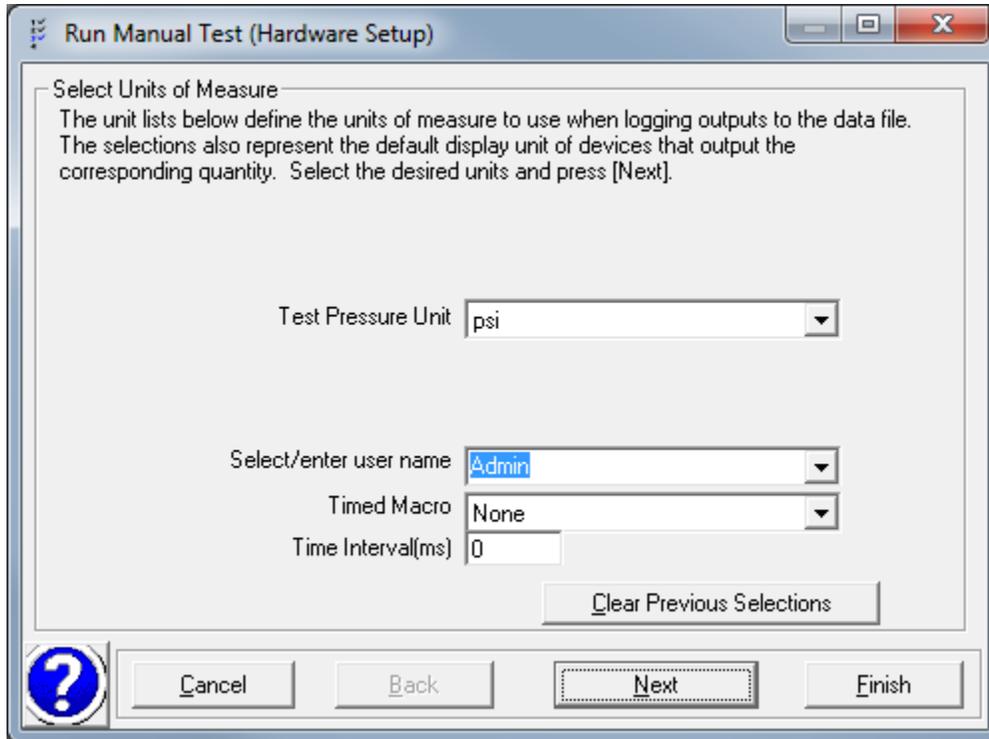
Piston-Cylinder J-310 Edit
 Mass Set Ruska 2485-940 MS Edit
 Trim Mass Set 2465A Trim Mass Edit
 Mass Bell 2485-950-035 Mini Sleeve Edit
 Default Medium DOS Sebacate
 Limited to Default Medium
 Default Measurement Mode Gauge
 Limited to Default Measurement Mode

Close

On the “Sources” tab choose 2455 or 2456 PG monitor if you have that, otherwise “Manual Entry” for required parameters.



6. Then run a Manual Test in COMPASS for Pressure to test



Don't need to select a DUT (but can if you want)

Select DUT
Add DUTs by double clicking the desired DUTs in the list. Use the [Remove] button to remove DUTs from the support list. The specific setup of DUTs is handled in a later step.

Label	Manufacturer	Model
100 psig	Druck	2200-A145
Druck DPI 610 300PSI Absolute	Druck	DPI-610
100 PSIA	Druck	2200-A145
1000 psig	Druck	2200-A145
20 psig	Druck	2200-A145

Search
Remove

Cancel Back Next Finish

Test Hardware Configuration

Ambient Pressure Manual Entry

Ambient Temperature Manual Entry

Ambient Humidity Manual Entry

Reference Pressure 2485-950D / PG Pressure

Test Pressure Control Manual Control

Multiplexer None

Valve Driver None

Default Hardware Setup

Cancel Back Next Finish

Run Manual Test (Hardware Setup)

Configure Device (1 / 1) 2485-950D

Manufacturer	Ruska	Customer ID	D49383
Model	2485	Manual Interface	Manual
Serial Number	52946	Parameter ID	
Identification	75,000 psi		

Reference Pressure: Piston Gauge Settings

Piston-Cylinder	J-311	Head Height	0.0 cm
Mass Set	Ruska 2485-940 MS	Medium	DOS Sebacal
Mass Bell	2485-940	P-C Temperature	Manual Entry
Trim Mass Set	2465A Trim Mass	P-C Position	None
Measurement Mode	Gauge	P-C Rotation	None
		Reference Vacuum	None

Nominal Range: 0.00 / 62568.12 psi

? Cancel Back Next Finish

Run Manual Test (Hardware Setup)

Initialization Complete

The initialization process is complete. Verify that the remote interface connections and settings are correct for each device. Press [Finish] to begin the test.

Test	Manual Test
DUTs	0 N/A
Reference Pressure	0.00 / 62568.12 psi

? Cancel Back Next Finish

PG Calculator Window comes up like this, with no masses selected

2485-950D

Piston Gauge Platform: 2485-950D
Piston-Cylinder: J-311
Mass Set: Ruska 2485-940 MS
Trim Mass Set: 2465A Trim Mass
Mass Bell: 2485-940
Medium: DOS Sebacate
Measurement Mode: Gauge

Ambient Temperature (F): 70.000
Ambient Humidity(%RH): 40.0
Ambient Pressure (psi): 14.6960
Ambient Pressure Height (cm): 0.00
Vent Height (cm): 0.0
Head Height (cm): 0.0
P-C Temperature (F): 70.000
Piston Position (mm): 0
Local Gravity (m/s²): 9.806650
Mass Loading Resolution: 10g
Pressure Display Resolution: 0.0001

Mass List

- Piston 0.3000000 kg
- 1 Bell 0.7000000 kg
- 26 0.2000000 kg
- 25 0.3000000 kg
- 24 0.5000000 kg
- 23 1.0000000 kg
- 22 2.0000000 kg
- 21 3.0000000 kg
- 2 5.0000000 kg
- 3 5.0000000 kg
- 4 5.0000000 kg
- 5 5.0000000 kg
- 6 5.0000000 kg

Trim Mass(g):

Pressure (psi): 0.0000
True Mass (kg): 0.0000000
Nominal Mass (kg): Vent

Masses To Load

Calculations

Air Density (P,T): 1.1953
Mass Density: 6.2000E+03
Area (P,T) (m²): 7.1100E-06
Head Total (Pa): 1773.6019
Density 1: 913.0000
Head 1 (Pa): 0.0000
Density 2: 0.0000
Head 2 (Pa): 0.0000
Piston Height (m): 0.2001
Piston Head (Pa): 1773.6019

Pressure is Ready

Select masses and pressure will be shown, or enter a Pressure and hit [Enter] to see what masses to load. Select “Mass Loading Resolution”, “Pressure Display Resolution”, etc.

The screenshot shows the 2485-950D software interface. The main window is titled "2485-950D". On the left, there are several input fields for configuration: "Piston Gauge Platform" (2485-950D), "Piston-Cylinder" (J-311), "Mass Set" (Ruska 2485-940 MS), "Trim Mass Set" (2465A Trim Mass), "Mass Bell" (2485-940), "Medium" (DOS Sebacate), and "Measurement Mode" (Gauge). Below these are environmental and measurement parameters: "Ambient Temperature (F)" (70.000), "Ambient Humidity(%RH)" (40.0), "Ambient Pressure (psi)" (14.6960), "Ambient Pressure Height (cm)" (0.00), "Vent Height (cm)" (0.0), "Head Height (cm)" (0.0), "P-C Temperature (F)" (70.000), "Piston Position (mm)" (0), "Local Gravity (m/s^2)" (9.806650), "Mass Loading Resolution" (100g), "Pressure Display Resolution" (0.0001), "Pressure (psi)" (7500), "True Mass (kg)" (37.5004900), and "Nominal Mass (kg)" (38.0000000). A "Mass List" window is open, showing a list of masses from 26 0.2000000 kg to 8 5.0000000 kg, with the 8 5.0000000 kg mass selected. To the right, there is a "Masses To Load" list containing masses from 0.3000000 kg to 8 5.0000000 kg. Below that, a "Calculations" section displays: "Air Density (P,T): 1.1953", "Mass Density: 7.7839E+03", "Area (P,T) (m2): 7.1121E-06", "Head Total (Pa): 1789.2548", "Density 1: 913.0000", "Head 1 (Pa): 0.0000", "Density 2: 0.0000", "Head 2 (Pa): 0.0000", "Piston Height (m): 0.2001", and "Piston Head (Pa): 1789.2548". At the bottom left, there is a question mark icon and a "Pressure is Ready" button.

Press [Pressure is Ready] button when piston is floating and ready