Bubble plot - adjusting the bubble sizes

Bubble plots are XY scatter plots that use symbols to represent not only XY locations, but also a third dimension represented by the size of the symbol.

There is a “Bubble Plot” button in the Create Graph toolbar, and an option in the Create Graph wizard. Besides, every type of scatter plot can become a bubble plot by taking the symbol size from a worksheet column. 1) Enter the symbol sizes into a column, then 2) select this column in the Graph Properties dialog > Plot > Symbols > Size.

The bubble size values which you have measured may be too big or too small for an appropriate display of the symbols. In this case, use a user-defined transform, or quick transform, to adjust the size.

1. choose a size factor

Divide the whole column by a size factor (or multiply), and use the corrected values. To further adjust the bubble size, rerun the transform with an adjusted size factor.

Example: The left graph (red) takes its symbol size values from col(3), To increase the symbol size for the right (blue) graph:
Run this transform
From the data worksheet, select Analysis > User-Defined..., enter this row into the Edit window:
\[
\text{col}(4) = \text{col}(3) \times 4
\]
and click on Run. (You can also copy from this page, and paste with Ctrl-V.)

Then select col(4) in the Graph Properties dialog > Plot > Symbols > Size.

2. calculate a size factor from the data range

Divide the whole column by a size factor (or multiply), and use the corrected values.
Calculate a size factor from the data range.

Run this transform
From the data worksheet, select Analysis > User-Defined..., enter this row into the Edit window:
\[
\begin{align*}
\text{MaxSymbSize} &= 5 \\
\text{Const} &= \max(\text{col}(3))/\text{MaxSymbSize} \\
\text{col}(4) &= \text{col}(3)/\text{Const}
\end{align*}
\]
and click on Run. (You can also copy from this page, and paste with Ctrl-V.)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3-size 1</th>
<th>4-size 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000</td>
<td>3,000</td>
<td>1,000</td>
<td>3,125</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
<td>4,000</td>
<td>1,200</td>
<td>3,750</td>
</tr>
<tr>
<td>3</td>
<td>3,000</td>
<td>5,000</td>
<td>1,400</td>
<td>4,375</td>
</tr>
<tr>
<td>4</td>
<td>4,000</td>
<td>5,000</td>
<td>0,900</td>
<td>2,812.5</td>
</tr>
<tr>
<td>5</td>
<td>5,000</td>
<td>5,500</td>
<td>1,500</td>
<td>5,000</td>
</tr>
</tbody>
</table>

To modify the bubble size results, change the "MaxSymbSize" value, and rerun the transform.