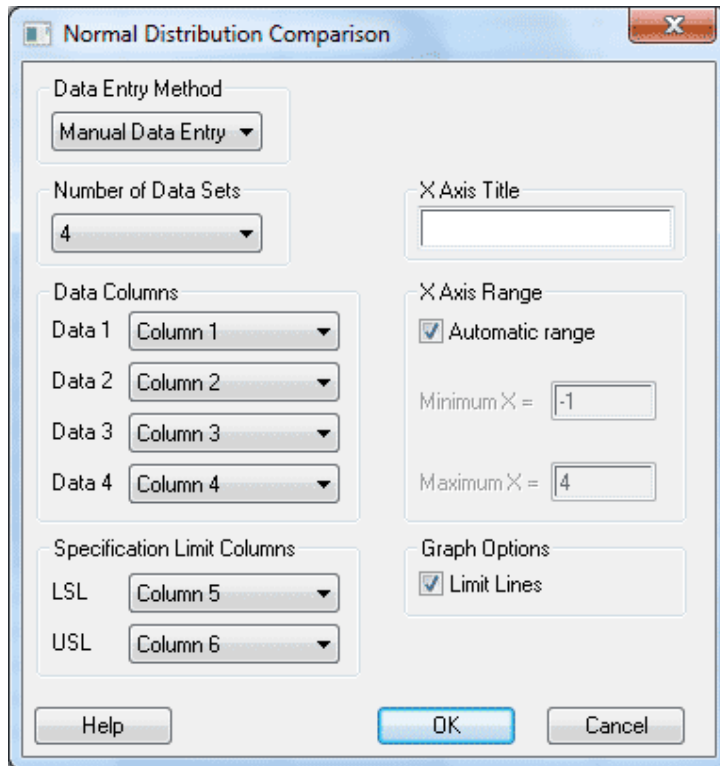


## Normal Distribution Comparison-Macro

SigmaPlot ships with many macros that are not exposed in the toolbar, but are available under the Macros button. One that can be particularly useful is the Normal Distribution Comparisons, which is a preliminary reliability evaluation.

This program computes the mean and standard deviation of multiple datasets and graphs the normal density function for each. Specification limit values are used to compute process performance results in the report. The limit lines may also be placed on the graph.



The image shows a dialog box titled "Normal Distribution Comparison". It contains several sections for configuring the analysis:

- Data Entry Method:** A dropdown menu set to "Manual Data Entry".
- Number of Data Sets:** A dropdown menu set to "4".
- Data Columns:** Four rows, each with a label (Data 1, Data 2, Data 3, Data 4) and a dropdown menu (Column 1, Column 2, Column 3, Column 4).
- Specification Limit Columns:** Two rows, each with a label (LSL, USL) and a dropdown menu (Column 5, Column 6).
- X Axis Title:** An empty text input field.
- X Axis Range:** A section with a checked checkbox for "Automatic range", and two text input fields: "Minimum X =" with the value "-1" and "Maximum X =" with the value "4".
- Graph Options:** A section with a checked checkbox for "Limit Lines".

At the bottom of the dialog box are three buttons: "Help", "OK", and "Cancel".

Up to four data columns can be analysed, with separate columns for the upper and lower specification columns, each row representing one of the data columns. Select the number or data sets to be analyzed (from 1 to 4) in the "Data Columns". The data should be left adjusted in the worksheet followed by the 2 specification limit columns. The limit line columns are required but need not be displayed on the graph. Select two data columns in the worksheet for the lower and upper specification limits.

The entry in "X Axis Title" will be used in the graph title. Minimum and maximum X axis range limits may be entered.

	1	2	3	4	5
1	Normal Distributions				
2					
3	Average	1,96	3,90	5,95	7,74
4	Std Deviation	0,75	1,13	1,72	2,32
5	% in Standard	99,73	99,73	99,73	99,73
6	High Reading	3,51	5,94	10,13	14,37
7	Low Reading	0,06	0,86	2,90	2,59
8	Cp	1,00	1,00	1,00	1,00
9	Cpk	1,00	1,00	1,00	1,00
10					
11	Limits				
12	LSL	-0,30	0,50	0,79	0,77
13	USL	4,22	7,30	11,11	14,71
14					
15	Data				
16	Sample Size	50	50	50	50
17	Number Missing	0	0	0	0
18	Normality, P Value	Yes, 0,946	Yes, 0,209	Yes, 0,349	Yes, 0,109
19					

### Section 1 Normal Distributions

