Capability Analysis for Multiple Responses

This page provides information on performing a process capability analysis for multiple continuous responses using the Process Capability platform under Analyze > Quality and Process. For information on performing capability analysis from the Distribution and Control Chart platforms see the guide Capability Analysis.

The Capability Analysis Dialog

1. From an open JMP® data table, select Analyze > Quality and Process > Process Capability.
2. Select one or more continuous variables from Select Columns (continuous variables have blue triangles), click Y, Process, and click OK.

If specification limits have not been entered as a column property for each of the measures, or if there is an error, you will receive an error window. Click OK. The resulting window allows you to enter correct specification limits or select a data table with the limits stored.

Additional Options:

- To skip the spec limits dialog, click No under Show Spec Limits Dialog.
- To specify subgroupings use Process Subgrouping.
- To specify sigma use Historical Information.
- To perform capability studies for nonnormal data use Distribution Options.

The Process Capability Analysis Report

JMP produces three graphical summaries of the capability of each measure. For these graphs, measures have been standardized to the spec limits.

- **Goal Plot**: Measures with a Ppk > 1.0 are plotted inside the triangle, and measures with a Ppk < 1.0 are plotted outside the triangle. The position of each point relative to the axes provides information on spread (y-axis) and centering (x-axis) of each measure relative to the spec limits.
- **Capability Box Plots**: Box plots for each variable.
- **Capability Index Plot**: The Ppk of each point.

Notes: Use the sliders to change the cutoff for acceptable Ppk. Additional options, such as Individual Detail Reports and Summary Reports, are available from the top red triangle menu. For additional details, see the book Quality and Process Methods (under Help > Books) or search for “capability” in the JMP Help.