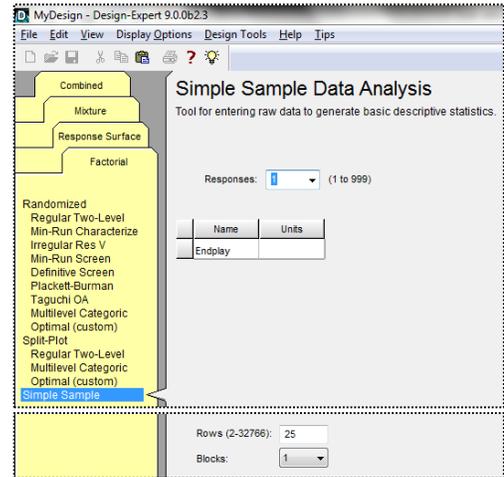


## Design-Expert® software version 9: Simple Sample Design

Version 9 of Design-Expert (DX9) features a “simple sample design” that facilitates a straight-forward analysis of raw data, making it easy to calculate the mean and other statistics that characterize measurements.

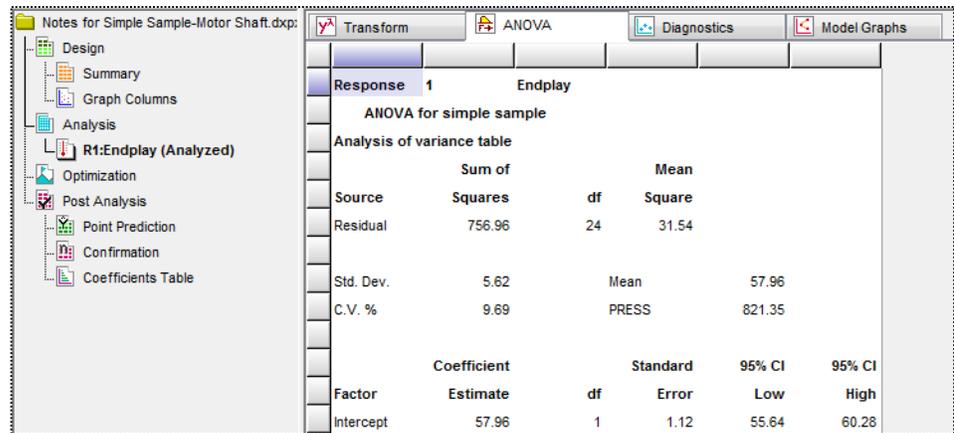
To illustrate the simple sample tools of DX9, let’s characterize the performance of a motor-shaft supplier. The data, shown below, is a measure of the endplay: 61, 61, 57, 56, 60, 52, 62, 59, 62, 67, 55, 56, 52, 60, 59, 59, 60, 59, 49, 42, 55, 67, 53, 66, 60. The purchaser needs the mean, standard deviation, and 95% confidence interval of this vital attribute.

Off the **Factorial** tab select **Simple Sample** and, as shown in the screen shot, enter the **Response Name “Endplay”** and **Rows 25** for the number of observations. Then click **Continue**. The program then presents a blank data entry sheet—a “design layout.”



Either type in the data now or open the file “**Simple Sample-Motor Shaft.dpx**” that has it pre-entered.

Now proceed with the analysis by going to the **R1: Endplay** node and pressing forward to the **ANOVA** tab. Design-Expert then presents the needed statistics as seen here.



Check out the graphs under **Diagnostics** (run 20 bears

watching as you will see by changing to the Externally Studentized scale for the Resid vs Run chart) as well as the 95%-confidence-

banded model graph copied out to the right. Also, take a look at the tool under the **Post Analysis** node for **Point Prediction**, in particular the tolerance interval, a very useful statistic for a purchaser who needs to establish incoming specifications.

This concludes our feature tour of simple sample tools in DX9. Feel free to explore other tools. If you need more information at any time, press for **Tips**, **Screen Tips** off the main menu or push the light bulb icon.

