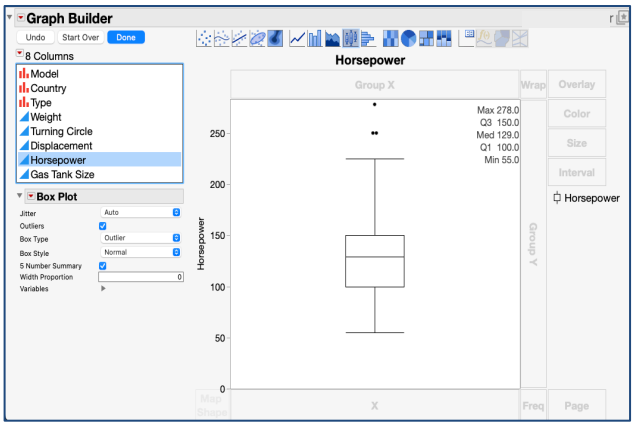
Box Plots

Use to display the distribution of continuous variables. Boxplots are based upon a set of summary statistics that describe the center and spread of data. Boxplots are a very useful way for comparing data between groups.

Box Plots – One Variable

1. From an open JMP® data table, select **Graph > Graph Builder**.
2. Drag and drop a continuous variable from the **Columns list** to the **X axis or Y axis**.
3. Select the **box plot icon** in the graph palette. 
   - Options are avaialbe to choose a box plot type and style.
   - The 5 number summary (values shown in the box plot) can be displayed.

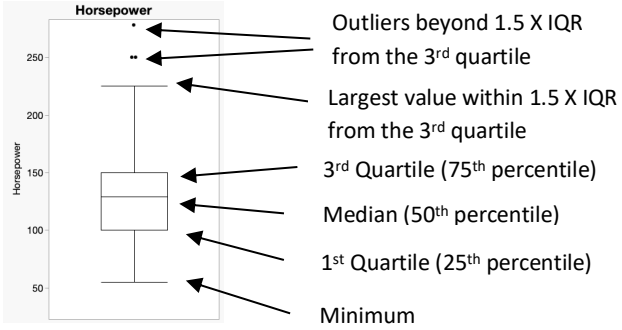
Car Physical Data.jmp (Help > Sample Data Folder)



Note: A boxplot is also displayed in the **Analyze > Distribution** platform.

The Outlier Box Plot visualizes:

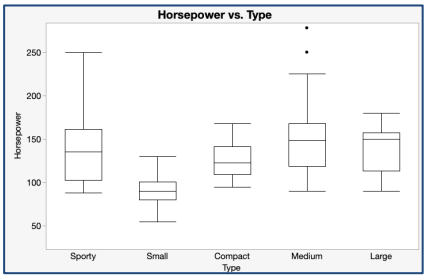
- The 1st and 3rd quartile (edges of the box) and the median (line inside the box).
- Inter Quartile Range (The length of the box).
- Whiskers drawn to the furthest point within 1.5 x IQR from the 1st and 3rd quartile.
- Potential outliers (disconnected points).

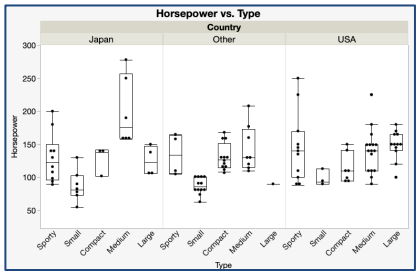


Comparative Box Plots

- Additional categorial variables can be added to allow for comparison of the continuous variable between groups. Below are two graphs – one on the left added the variable 'Type' on the **X axis**. The one on the right adds the additional variable 'Country' to the **Group X zone**. The option to display the individual data points as dots was also selected by choosing the dotplot icon from the graph palette while holding the shift key.

Note: Be careful interpreting the summary statistics defined by boxplots when there are few data points as there is in some of the groups in the graph on the right.





Visit **Essential Graphing** and **Discovering JMP > Visualize Your Data > Compare Multiple Variables using Side-by-Side Box Plots** in **JMP Help** to learn more about methods to visualize data.