**Dimensional Trend Report**

# Directions:

Using the data on the following page create a spread sheet, charts and analyze the data to answer the questions using the charts.

# Steps:

1. Create a spreadsheet with the measurement data
	1. Find the Average for each measurement column
	2. Find the Mean for each measurement column
	3. Find the Standard deviation for each measurement column
2. Create a scatter plot chart with points for the 20 sample measurements for dimension A
	1. Insert red solid lines for the Upper & Lower Spec Tolerance limits
	2. Insert blue dashed lines for the Upper & Lower Control limits
	3. Using text boxes label the lines in step 2b & 2c
3. Create a scatter plot chart with smooth lines and markers using the 20 sample measurements for dimension C
	1. Insert red solid lines for the Upper & Lower Spec Tolerance limits
	2. Insert blue dashed lines for the Upper & Lower Control limits
	3. Using text boxes label the lines in strep 2b & 2c
4. Answer the following Questions:
	1. What can you tell about the manufacturing process in step 2
	2. What can you tell from the scatter plot in step 3 about the manufacturing process



|  |  |
| --- | --- |
| **Control Limits** | **Dimensions Specifications** |
| **A** | **B** | **C** | **D** | **E** |
| **Spec.** | 4.00 | 2.25 | 0.875 | 0.562 | 0.562 |
| **Upper** | 4.02 | 2.27 | 0.890 | 0.577 | 0.577 |
| **Lower** | 3.98 | 2.23 | 0.860 | 0.547 | 0.547 |
|  |
| **Measurement Data** |
| **Sample No.** | **Dimension** |
| **A** | **B** | **C** | **D** | **E** |
| 1 | 3.99 | 2.25 | 0.875 | 0.562 | 0.563 |
| 2 | 4.01 | 2.25 | 0.875 | 0.547 | 0.561 |
| 3 | 3.98 | 2.25 | 0.876 | 0.544 | 0.549 |
| 4 | 3.98 | 2.26 | 0.876 | 0.548 | 0.564 |
| 5 | 4.01 | 2.25 | 0.875 | 0.577 | 0.562 |
| 6 | 4.02 | 2.22 | 0.876 | 0.545 | 0.549 |
| 7 | 3.97 | 2.25 | 0.875 | 0.546 | 0.560 |
| 8 | 4.00 | 2.26 | 0.876 | 0.545 | 0.562 |
| 9 | 4.01 | 2.26 | 0.876 | 0.544 | 0.561 |
| 10 | 4.02 | 2.27 | 0.876 | 0.546 | 0.563 |
| 11 | 4.00 | 2.26 | 0.877 | 0.547 | 0.572 |
| 12 | 3.98 | 2.25 | 0.877 | 0.544 | 0.561 |
| 13 | 4.00 | 2.24 | 0.879 | 0.577 | 0.563 |
| 14 | 3.99 | 2.25 | 0.879 | 0.560 | 0.562 |
| 15 | 3.98 | 2.26 | 0.881 | 0.544 | 0.572 |
| 16 | 3.99 | 2.23 | 0.884 | 0.549 | 0.590 |
| 17 | 4.01 | 2.25 | 0.889 | 0.547 | 0.561 |
| 18 | 4.03 | 2.24 | 0.894 | 0.544 | 0.563 |
| 19 | 4.02 | 2.26 | 0.903 | 0.545 | 0.560 |
| 20 | 4.00 | 2.27 | 0.915 | 0.546 | 0.562 |
|  |
| **Average** |  |  |  |  |  |
| **Median** |  |  |  |  |  |
| **Standard Deviation** |  |  |  |  |  |

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