

## Linearity Test Report for Gage ID: Demo\_01

|            |            |                 |     |                                     |                    |            |            |
|------------|------------|-----------------|-----|-------------------------------------|--------------------|------------|------------|
| Gage ID    | Demo_01    | Part No. / Name | -   | Coverage                            | 99.73% (6 * Sigma) | Study Date | 19/02/2016 |
| Gage Type  | Micrometer | Characteristic  | -   | Historical Pro. Std. Dev. (1 Sigma) | -                  | Tolerance  | -          |
| Resolution | 0.001      | Confidence      | 95% | Study By                            | -                  |            | -          |

Level = 5

Reading = 12

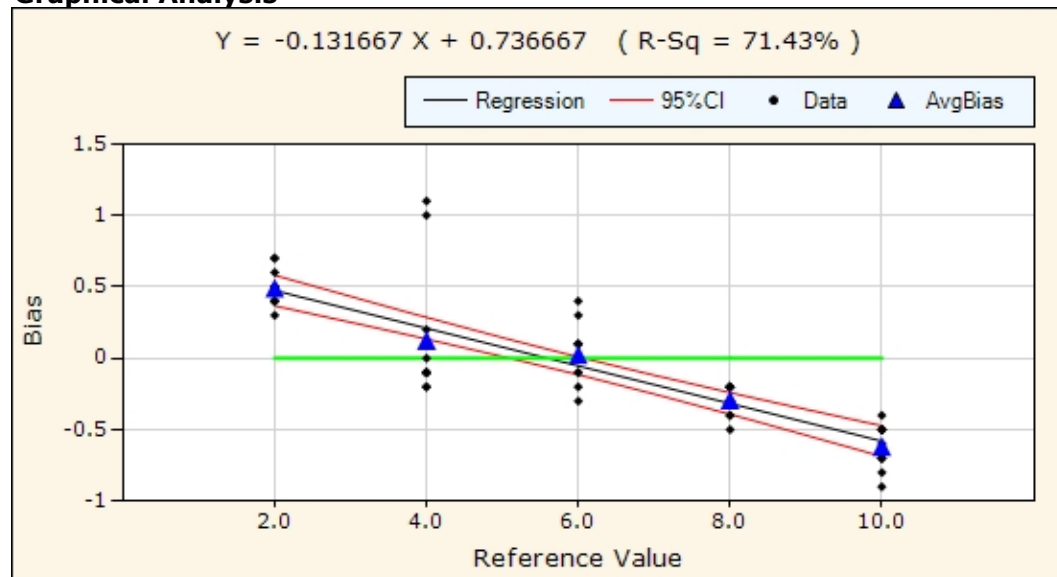
## Linearity Data

| Level           | 1        |          | 2        |          | 3        |          | 4        |           | 5        |           |
|-----------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|-----------|
| Reference Value | 2.0      | Bias     | 4.0      | Bias     | 6.0      | Bias     | 8.0      | Bias      | 10.0     | Bias      |
| 1               | 2.7      | 0.7      | 5.1      | 1.1      | 5.8      | -0.2     | 7.6      | -0.4      | 9.1      | -0.9      |
| 2               | 2.5      | 0.5      | 3.9      | -0.1     | 5.7      | -0.3     | 7.7      | -0.3      | 9.3      | -0.7      |
| 3               | 2.4      | 0.4      | 4.2      | 0.2      | 5.9      | -0.1     | 7.8      | -0.2      | 9.5      | -0.5      |
| 4               | 2.5      | 0.5      | 5        | 1        | 5.9      | -0.1     | 7.7      | -0.3      | 9.3      | -0.7      |
| 5               | 2.7      | 0.7      | 3.8      | -0.2     | 6        | 0        | 7.8      | -0.2      | 9.4      | -0.6      |
| 6               | 2.3      | 0.3      | 3.9      | -0.1     | 6.1      | 0.1      | 7.8      | -0.2      | 9.5      | -0.5      |
| 7               | 2.5      | 0.5      | 3.9      | -0.1     | 6        | 0        | 7.8      | -0.2      | 9.5      | -0.5      |
| 8               | 2.5      | 0.5      | 3.9      | -0.1     | 6.1      | 0.1      | 7.7      | -0.3      | 9.5      | -0.5      |
| 9               | 2.4      | 0.4      | 3.9      | -0.1     | 6.4      | 0.4      | 7.8      | -0.2      | 9.6      | -0.4      |
| 10              | 2.4      | 0.4      | 4        | 0        | 6.3      | 0.3      | 7.5      | -0.5      | 9.2      | -0.8      |
| 11              | 2.6      | 0.6      | 4.1      | 0.1      | 6        | 0        | 7.6      | -0.4      | 9.3      | -0.7      |
| 12              | 2.4      | 0.4      | 3.8      | -0.2     | 6.1      | 0.1      | 7.7      | -0.3      | 9.4      | -0.6      |
| Average         | 2.491667 | 0.491667 | 4.125000 | 0.125000 | 6.025000 | 0.025000 | 7.708333 | -0.291667 | 9.383333 | -0.616667 |

## Result

| Statistic  | Value     |
|--|-----------|
| Regression Line: $y = ax + b$  |           |
| Slope (a)  | -0.131667 |
| Intercept (b)  | 0.736667  |
| Repeatability Std. Dev. (s)  | 0.239540  |
| Goodness of Fit (R-Sq)   | 71.43%    |
| %EV/PV (Based on Process Variation)                                    | NA        |
| %EV/TV (Based on Tolerance)  | NA        |
| Hypothesis Test  |           |
| Significant t value  | 2.001717  |
| ta   | 12.042559 |
| tb   | 10.157519 |
| Bias=0 line lies within the confidence bounds from 5.075978 & 6.068709 |           |
| Linearity Not Acceptable   |           |

## Graphical Analysis



Linearity Not Acceptable