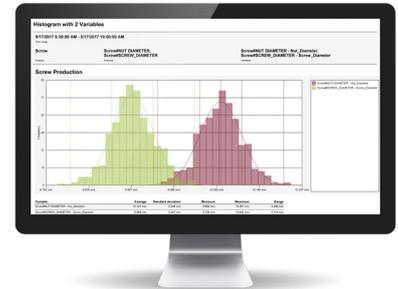


# Statistical Process Control

## Quality analysis and statistical evaluations with zenon

In zenon you can create reports for statistical evaluations of production quality at the touch of a button. Statistical Process Control (SPC) is often used to measure and assure quality in production settings. Further statistical reports can be visualized in addition to the standard SPC reports for the analysis of Process Capability, Control Chart, and Histogram.



### PROCESS CAPABILITY

The analysis of the process capability shows – using the process potential (CP) or the process capability index (CPK) value, for example – if production quality is stable and production is running within the defined limits. This analysis is most often used in pilot production to ensure that series production will be possible within the predefined parameters.

### CONTROL CHART

The control chart provides information about the stability of quality in series production. It enables variances in production quality to be detected at an early stage so that averse action can be taken. The visual format of the control chart is determined by the average values in production and the standard deviation or sample size. The report tracks the average value and the standard deviation, and indicates if limits or tolerances have been violated. You can use it to decide if measures need to be taken to assure quality.

### HISTOGRAM

The Histogram shows the extent to which the measured values deviate from the mean value and how many measured values are deviating from the required standard. You can use the Histogram to identify how stable the output quality is.

### OTHER STATISTICAL REPORTS

The Boxplot compares value sets and illustrates the distribution of values. It provides information about the median or quartile, for example, in a transparent format.

The trend with limits provides an overview of limit value violations. Either trends or aggregated trends can be visualized. In the XY trend, one variable is mapped on the x-axis and one on the y-axis. Both values taken at the same point in time are represented in the form of a dot. The XY trend provides a means of tracking the behavior of two variables, so that deviations in one of the two directions can be identified immediately.

### FAST FACTS

- ▶ Statistical reports for quality control
- ▶ SPC reports for the evaluation of the stability of production quality
- ▶ Early detection of variances in production
- ▶ Reduction of losses caused by poor quality