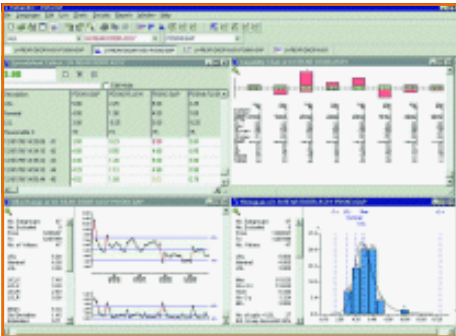# data sheet

Datastat SPC Software

Datastat SPC Software

At a glance
- *Identify areas of concern in your production process.*
- *Simple, user friendly SPC software package.*
- *Helps you improve your production process to lower costs and increase efficiency.*

Datastat SPC Software
Dataputer's Datastat Computer Software Program provides the means to display your production process and highlights when the process violates control limits. Datastat can also predict future violations and therefore improve your production process by:

- Identifying problem areas in manufacture
- Helping to refine production methods and techniques
- Identifying the root cause of product problems

Improved production process leads to:

- Lower scrap and re-work levels resulting in lower direct costs as fewer components and materials are used.
- More efficient use of machinery and production time.
- Improving the quality of your product leading to greater customer satisfaction reflected in fewer complaints and returned goods.

Although Datastat has been designed with simplicity in mind, this has not been achieved at the expense of functionality. Datastat's wide range of features can be quickly set up using the Datastat Wizard.

Datastat has a comprehensive range of data entry options, charting capabilities, reporting functions and other helpful features, summarised on the following page.

Statistical Process Control (SPC) Software
Used in traditional manufacturing production to make the product and the Quality Department inspect it. After-the-event inspection is expensive and wasteful because:

- The product has already been made
- Costly re-work is not always possible

It is much more cost effective to avoid waste by monitoring and analysing the process during manufacture. This is the basis of Statistical Process Control (SPC).

Controlling The Process
For a product to be made without scrap, it must be manufactured within specified limits. But factors can prevent this from happening:

- *Natural Variation:* inherent in the machining process and cannot be changed without using a different process or machine
- *Assignable Variation:* outside influences that are controllable: temperature, sharpness of the blade, speed of manufacturing, skill of machinist etc.

An Example of Variation -
A machine cutting straws to length will give an error from straw-to-straw. This is because of the inherent tolerances of the machine - Natural Variation. This is less significant than someone who cuts the same straws to length, using a ruler - Assignable Variation.
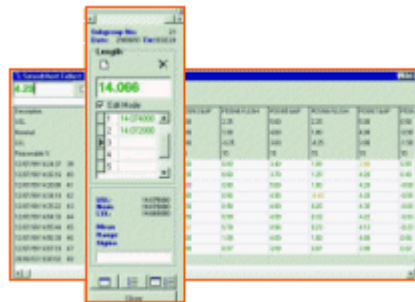
This raises the question - Is the manufacturing process able to manufacture within specification?

data sheet

DATA COLLECTION

Normal keyboard entry and/or direct input from RS232 instruments and Multiplexers.

Dataputer collectors either directly or through a Dataputer Network.

Datastat has 8 data tags to identify the data source and allow data to be filtered for analysis purposes, e.g. operator name, batch number etc.
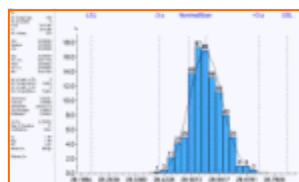
DATA ANALYSIS

Datastat incorporates Capabilities Studies and Control Charts, both variable and attribute.

Variable and Attribute Control Charts - Including Xbar/Range, Xbar/Sigma and individual moving range charts - visually Indicates the product's process performance over time - it even warns the operator when it is heading towards the specification limits, avoiding any scrap being manufactured.

Capability Studies - Normal and Non-Normal Distribution curves can be viewed to analyse the spread of readings.

REPORTING FUNCTIONS

Pre-defined layouts of each chart enabling reports to be generated at a click of a mouse.

Print preview – see how the reports look before printing.
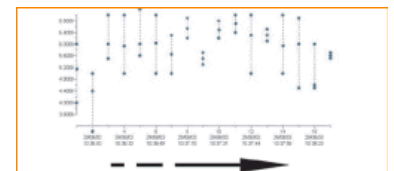
Testing the Process Capability
Continuing our example, cut a number of straws to the required length (usually 50). Accurately measure the straw lengths. Plot the lengths on a graph to identify the variation.

Histogram and Capability charts can be used for this purpose. Once it has been determined that the process is capable, the process can be monitored over time.

Monitoring the Process Over Time
In an ideal world, every product that is being made would be measured. In the real world, there is not enough time or resource to do this so a sample group of product is measured on a regular basis. These groups are known as subgroups.
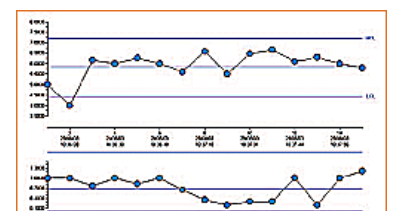
The subgroups of data are plotted onto a graph - in chronological order:

The average value of each subgroup is then used to generate the Process Control Chart - building up the actual manufacturing process over time - known as the an Xbar Chart.

Setting Control Limits
In order to prevent scrap, a set of "early warning limits" known as Control Limits are established. These limits are set inside the upper and lower specification limits and warn the operator before scrap is produced.

Model	Description	Part Number
Dataputer Datastat	Dataputer Datastat Software	Q29016858

Datastat SPC Software