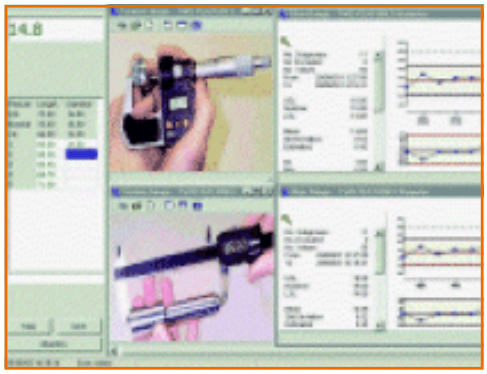
Datastat CS SPC Software



Datastat CS SPC Software

At a glance

- *Comprehensive, advanced SPC software package.*
- *Link existing data & allows multiple users to share a common data base.*
- *Produce Control Charts, Attribute Charts, Cause/Action Pareto Charts.*
- *Report designer allows you to customise your own reports.*

Datastat CS SPC Software
Using advanced programming techniques, Dataputer's Datastat CS (Client Server Version) is a powerful SPC software program, which gives professional results in an easy-to-use package. Using Client / Server technology with open database connectivity (ODBC), Datastat CS can be linked to existing data and also allows multiple Users to share a common database.

Datastat CS is available in two version, Administrator and Shopfloor.

Administrator

In this version all the set-ups are created for SPC studies including gauge configurations, tests for control, identification tags, user logins, security privileges, report designs and screen customisation.

Shopfloor

Provides the User with all the tools necessary to control the manufacturing process. Data collection can be by keyboard, direct gauge entry or by touch screen technology. Charts can be displayed alongside the readings and updated "live" as new data is collected. Warnings are given if violations occur and Cause / Actions and notes can be entered to record the problem and its solutions.

Common features include:

- Data and keyboard entry
- Direct input from gauges using RS232 port and multiplexers
- Import from text files (filescan for automatic input from other applications or machines)
- 8 data tags to identify source of data and filter data for analysis
- Display of CAD drawings or pictures in .bmp, .wmf, or .jpg file formats so "hotspots" can be added to show which feature is to be measured next.
- Gauge R&R using average and range, ANOVA and CNOMO

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).

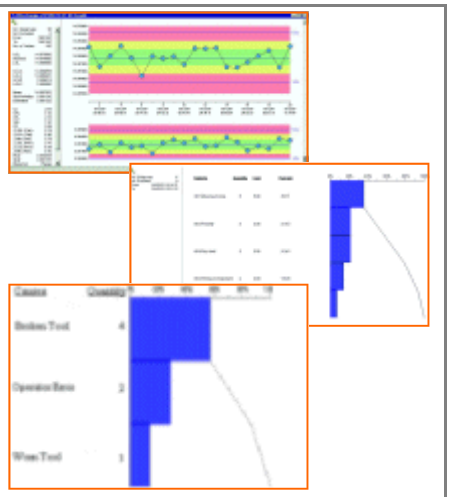
Controlling The Process
For a product to be made without scrap, it must be manufactured within specified limits. But factors can prevent this from happening:

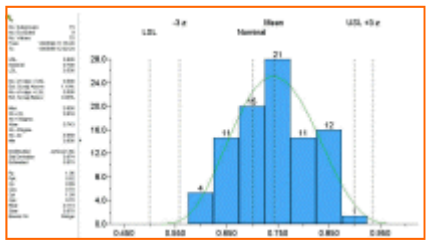
- *Natural Variation:* inherent in the machining process and cannot be changed without using a different process or machine
- *Assignable Variation:* outside influences that are controllable: temperature, sharpness of the blade, speed of manufacturing, skill of machinist etc.

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?

CONTROL CHARTS
Variable Charts Xbar/Range, X/bar Sigma, Individual and Moving Range, Capability Indices, Warnings for out of control situations (“traffic light” sigma zoning), Cause and Actions, Run Chart, Scatter Chart to examine correlation between variables, Cp/Cpk Evolution of continuous improvement.
Attributes Chart p, np, c, u Defect Pareto
Cause / Action Pareto Charts Identifies which is your most frequent reason for production faults
CAPABILITY STUDIES
Histogram of Individuals, Subgroup Means, and Johnson (non-normal distribution) Curve Charts
Distribution analysis – skewness, kurtosis, Chi-square curve fit test
Capability Statistics – Pp, Ppk, Cp, Cpk, CAM (CNOMO), etc
Multi-variable Capability Overview Chart



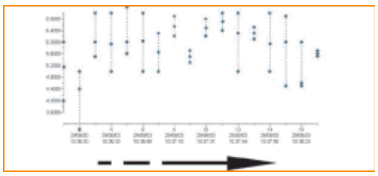


Testing the Process Capability
Continuing our example, cut a number of straws to the required length (usually 50). Accurately measure the straw lengths. Plot the lengths on a graph to identify the variation.

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.

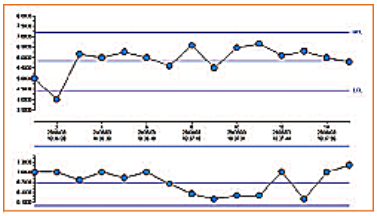
Monitoring the Process Over Time
In an ideal world, every product that is being made would be measured. In the real world, there is not enough time or resource to do this so a sample group of product is measured on a regular basis. These groups are known as subgroups.

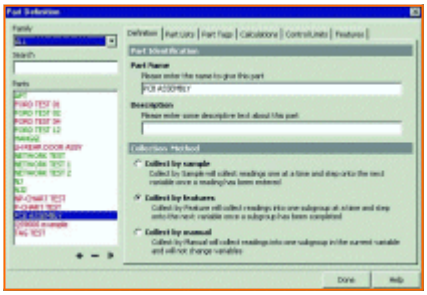
The subgroups of data are plotted onto a graph - in chronological order:



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.



DATASTAT CS ADMINISTRATOR ADDITIONAL FEATURES	
SET-UPS	
Part Definitions Where detailed information about the process such as tolerances, method of data capture, which violations are tested for etc, are entered.	
Pre-defined lists Known as Pick lists can be created for Tag Entries, Warnings, Cause / Actions and Defects. These avoid the need to type in this information and hence reduce errors.	
Calculation modes User selected to determine when and how Control Limits etc, are calculated.	
Gauge set-ups Specify which gauges are used for each measurement and to configure the gauge for automatic data entry.	
Choice of languages - English or French	
Warning List Customisable Create your own warning lists, or use the standard lists in the software.	
Chart Customisation Set up your own individual configurations, colours, orientation, zoom, layout, etc.	
Screen layouts Set up your views to suit the way you want to work. These can be created and set up for each part and they appear automatically when the User logs on.	

SECURITY

- Advanced security features that help users achieve compliance to FDA's 21 CFR Part 11 regulations. These include:
- Encryption of Passwords
- Password expiry
- Audit trail of data addition, deletion and edits.
- Restricted access based on user profiles.
- Log of all access & administrator warning of security breaches

REPORTING

- All printed reports are fully customisable. If you don't like the reports supplied with the package these can be easily changed or new reports can be designed in minutes with our visual Report Designer.
- Reports can be output in PDF format for e-mail purposes.
- Screen layouts can be printed out with one mouse click.
- Print preview of any report – see exactly what will appear before printing.
- Batch Reports can be set up to print multiple reports unattended.

OTHER FEATURES INCLUDE

- Control Charts retain historical limits each time control limits are recalculated so that you can see how your process is performing.
- Fully networkable as standard – view at one station data being collected at any of the other stations. All charts are updated "live" at all stations, not just the one that is entering data.
- Customisable tool bars – short cut icons speed access to data and charts, only requiring a single mouse click.
- Works in conjunction with the full range of Dataputer gauge multiplexers for direct entry of measurements.

Model	Description	Part Number
Dataputer CS	Dataputer Datastat CS Software - Administrator	Q29018583
Dataputer CS	Dataputer Datastat CS Software - Shopfloor	Q29018584

Related products

Dataputer Datastat SPC Software

Dataputer's Datastat computer spc software program provides the means to display the production process and highlights when the process violates control limits. Datastat can predict future violations and therefore improve the production process. Datastat has a comprehensive range of data entry options, charting capabilities, reporting functions and other useful features to help the production engineer minimise waste and ensure product quality.

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