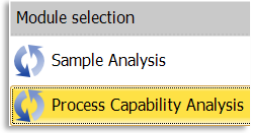
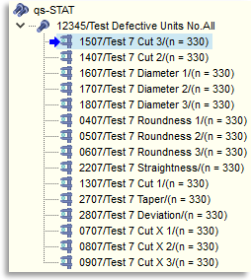

HEXAGON
File and dataset creation
Create, change and correct datasets

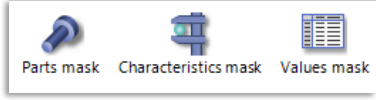
Notes:

Agenda

- Which module for which dataset?
  - Module selection
- Create new Files / datasets
  - Flowchart for data input
  - Types of characteristics
  - Change presets
  - Data structure
- Input masks
  - Parts mask
  - Characteristics mask
  - Values mask







Notes:

Which task for which module?

- 1 Part Analysis
- 5 Part Analysis
- Machine capability analysis
- Tool change report
- Cold run

→ Sample analysis

- Process capability analysis
- Calculate quality control charts
- Evaluate attributive data

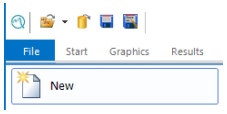
→ Process capability analysis

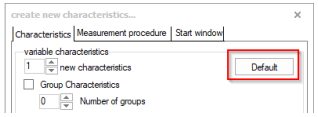
- Type 1-3 Study
- Linearity
- Stability

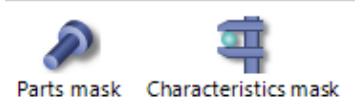
→ solara.MP
destra Measurement system analysis

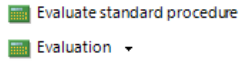
Notes:

Data creation flowchart









START

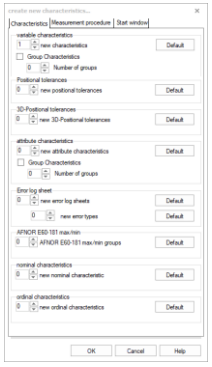
Select type, number and defaults of characteristics

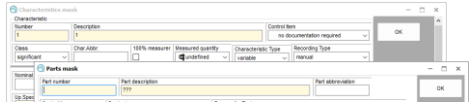
Fill out the parts and characteristics mask

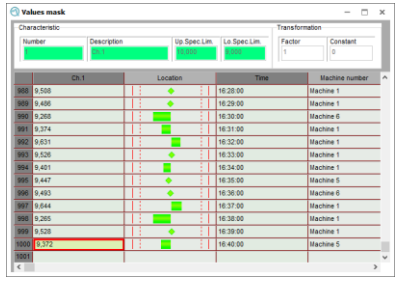
Fill in the measurements or paste from Excel

Evaluate (F9)

End





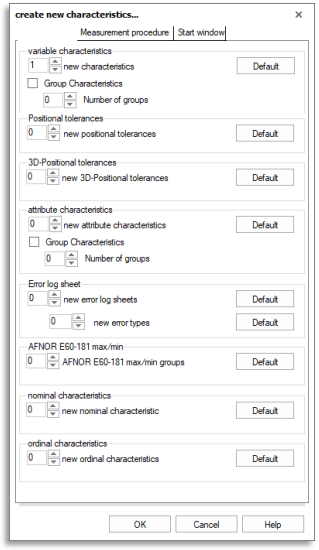


Notes:

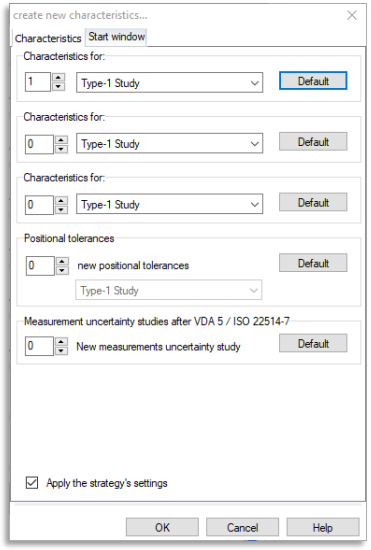
Differences in the programs

- Each program and module has special defaults and restrictions
- The menu „| File | New“ is different in each program / module
- E. g. sample size only available in process analysis

qs-STAT
Sample & process analysis

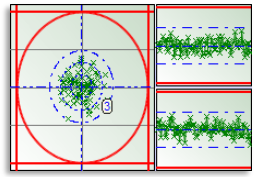


Solara.MP
measurement system analysis



Notes:

Characteristic types

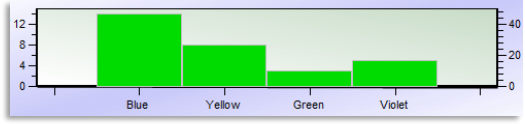


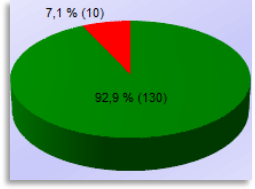
- Variable characteristics (Measurement values | Cp/Cpk)
- Special case: Positional tolerances (2D/3D)
- Attribute characteristics
  - Binomially distributed characteristics (defective units, max. error count = sample size)
  - Poisson distributed characteristics (defects per unit, no max. error count, sample size independent)

- Error log sheet
  - Always Poisson distributed
  - Used as a simple tool for workshop operators

- AFNOR E60-181 max/min
  - Is a special characteristics group, which is used if ovality is more than 1/7 of the tolerance

- Nominal characteristics
- Ordinal characteristics





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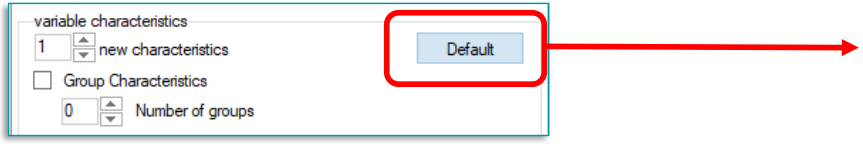
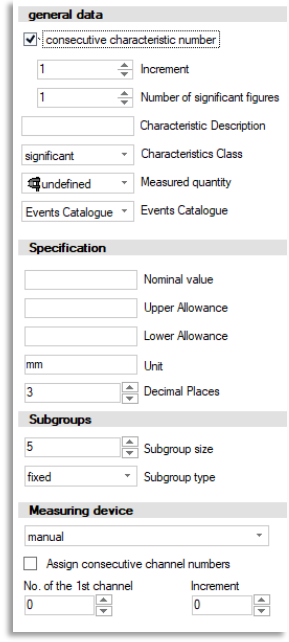
Notes:

Presets for new characteristics

- The default settings for new characteristics can be changed by clicking on „Default“
- The presets should fit as much as possible characteristics of that kind
- Sample size, numbering and measurement devices can be preset
- Rarely use the specifications for usability reasons (each non correct tolerance has to be altered!)

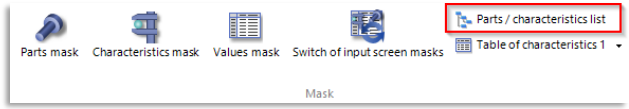




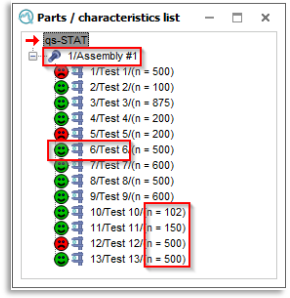
Notes:

Dataset structure

- Provides an overview about the loaded part, groups and values
- Is called with Parts-/characteristics list



- We distinguish 3 different Levels:
  - Part level (Part name and number)
  - Characteristics level (Name/number of char.)
  - Value level (measurements)
- The part level is a „Part type“ not a specific measurement of one part

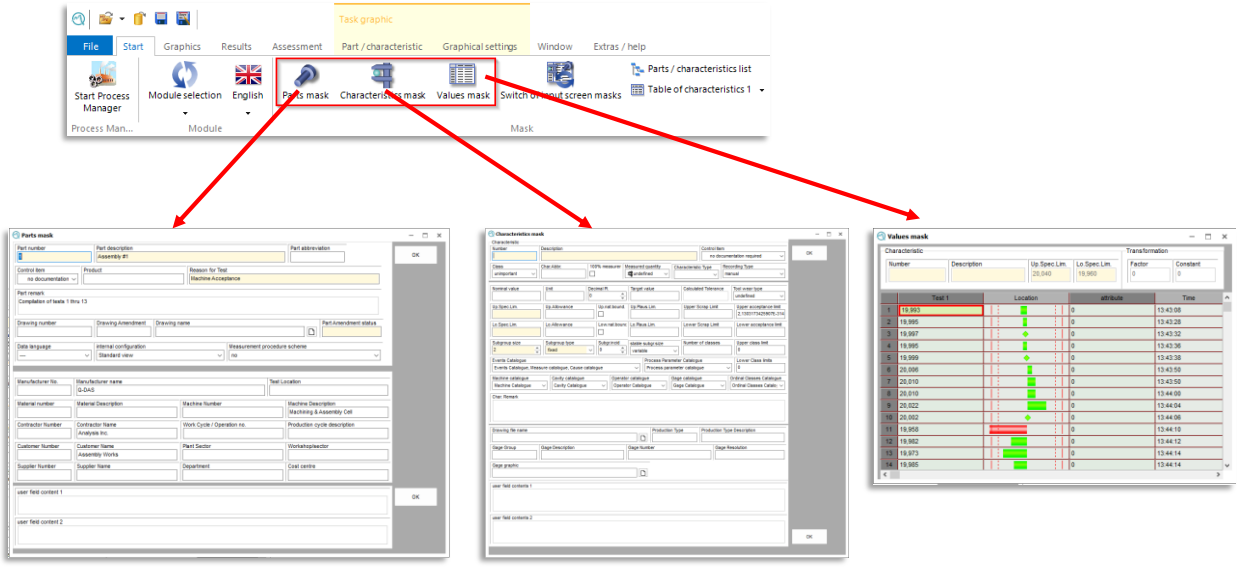


- On characteristics level the measurement is described (tolerances, subgroup size…)
- On the value level are the measurement values, additional data and attributes for the evaluation

Notes:

Mask overview

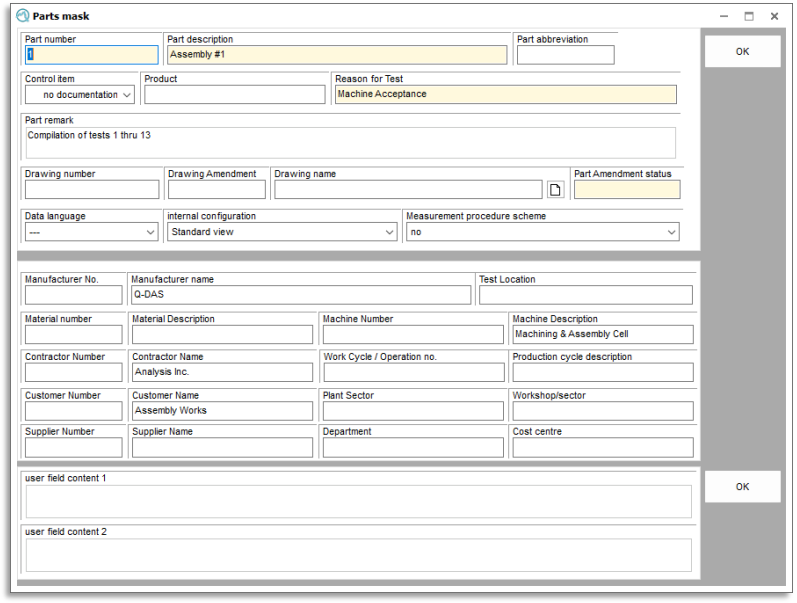
- The parts mask includes all product relevant informations
- The characteristics mask includes characteristics depending information
- The values mask includes all measurements and additional data



Notes:

Parts level

- Everything which describes the population globally (Product) fits in here
- Each procuct (or test plan) will be found by the data of this mask
- The yellow fields mark the most important informations (can be set by the keyuser)
- The white fields are optional



Notes:

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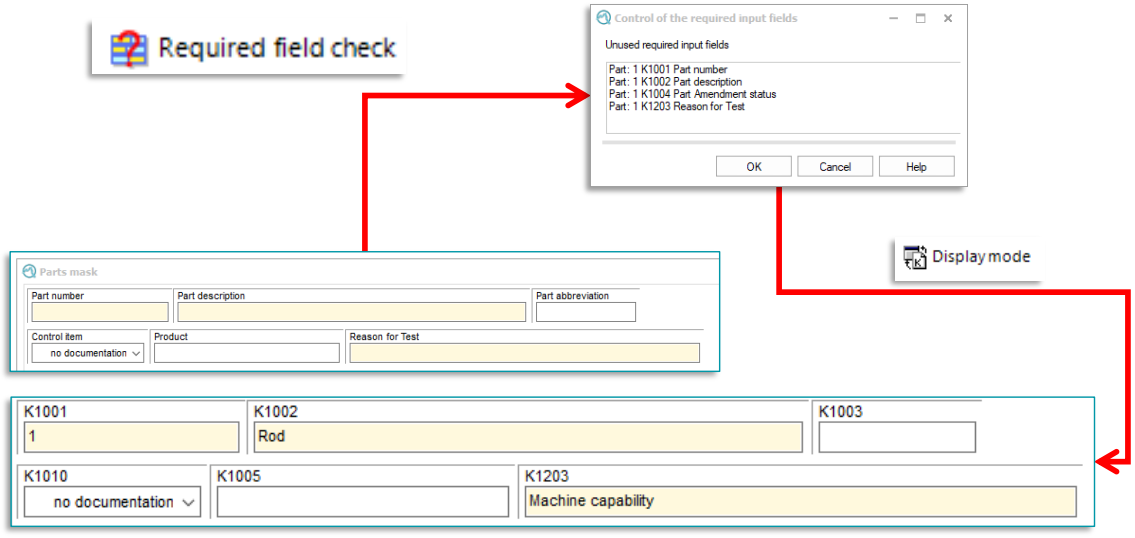
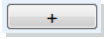
Change of the display mode

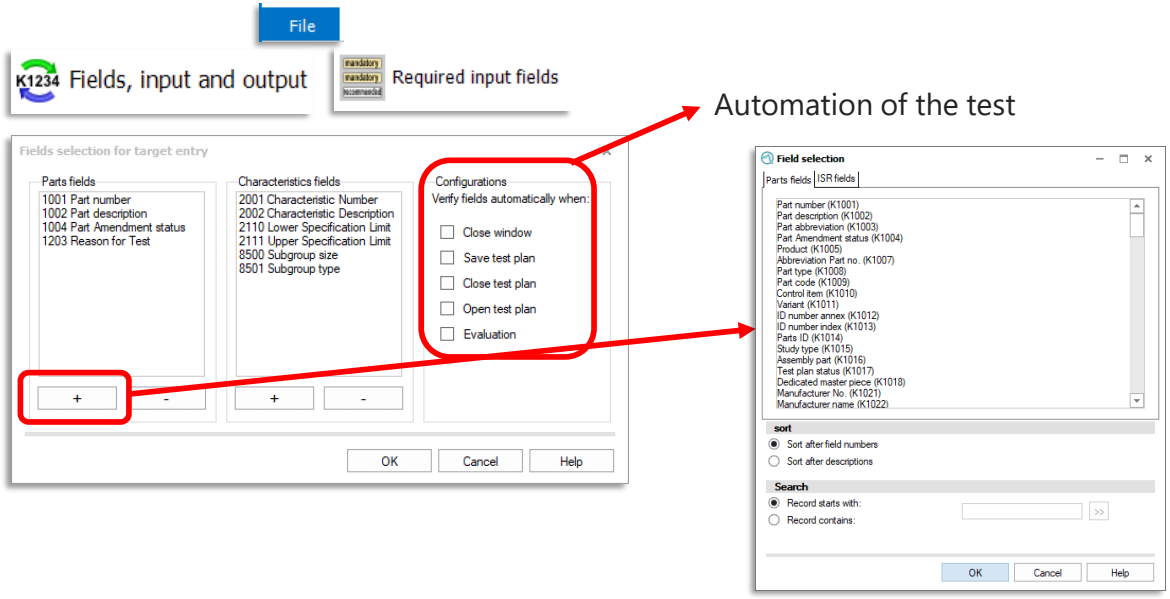
- In Q-DAS programs the so called „K-Fields“ are used as variable names
- These K-Fields can be displayed by changing the „Display mode“
- To change the descriptions use the „Display mode“ icon in the tab „Part / characteristic
- The „Required field check“ will enable you to find missing information in bigger datasets



Notes:

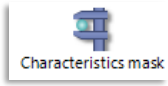
Required fields definition

- Users with the authorisation to open this dialog can change and add fields
- The color for the display of these fields can be changed (graphical settings)
- /File/Configurations/Fields, input and output/Required input fields
- To add new fields, just select the „+“ Icon for parts or characteristics 

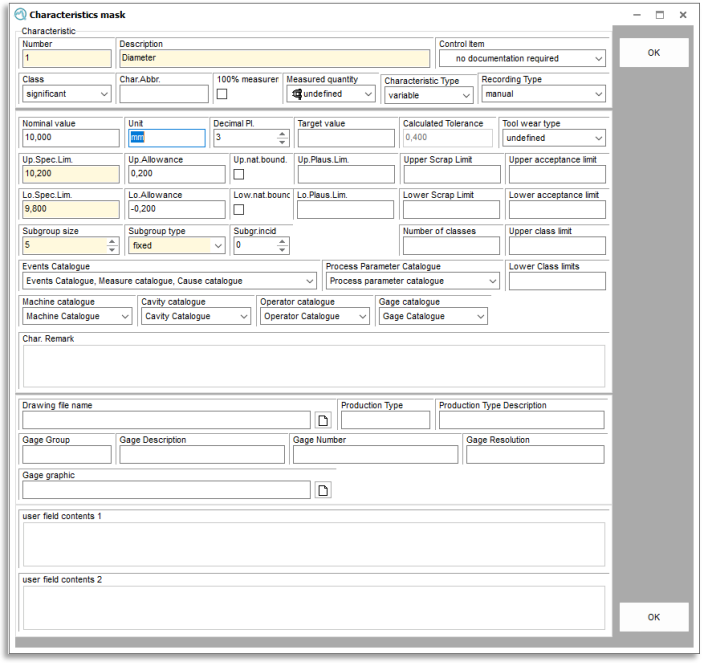


Notes:

Characteristics level



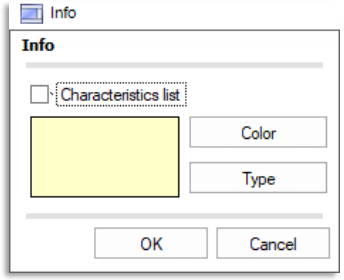
- Characteristics mask
- Everything which describes the characteristics precisely has to be put in here.
- E. g. tolerances and descriptions

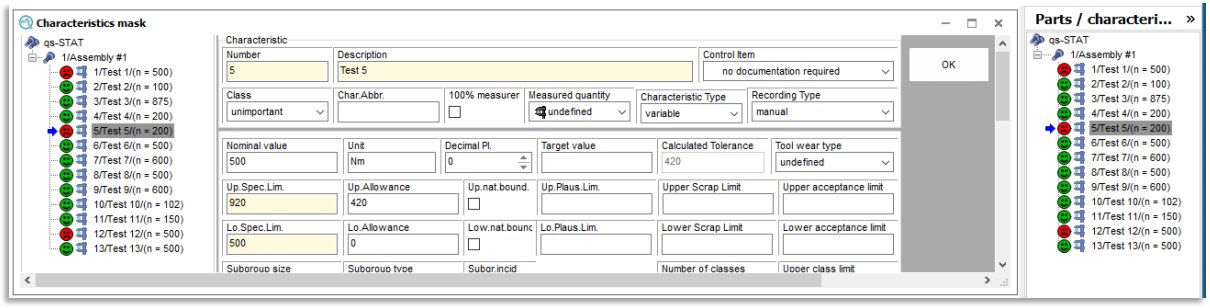


Notes:

Parts with more than one characteristics

- To navigate between the characteristics use the parts-/characteristics list
- This list is included to the mask and to the assistent
- If you prefer to use the assistant go to the mask and it‘s „graphical settings“ to „Info“ and remove the checkmark for the list

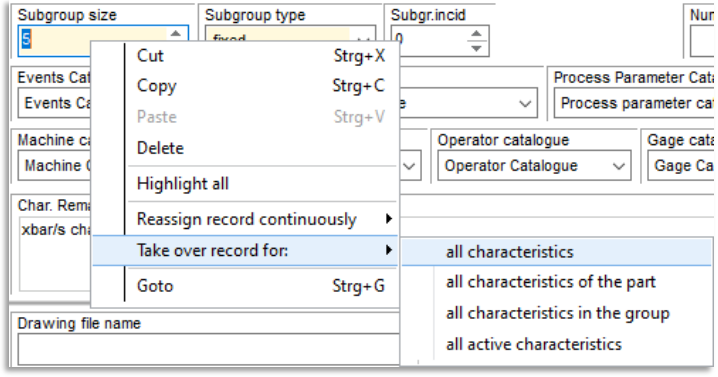




Notes:

Take over information to more characterisics

- To take over information to other characteristics just right click this field and take it over for all or selected characteristics
- There is no „undo“ function for this!
- If you have more than one characteristic and want a „count“ you can reassign this record continuously



Notes:

Hyperlinks

- Remarks can also be hyperlinks
- Links can be Webpages, network or file system folders and files
- To add more than one link a space or <ctrl><enter> can be used
- Virus scanners and user rights need to be considered for usage
- Local files should not be linked because others may not be able to open them

Notes:

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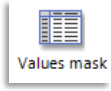
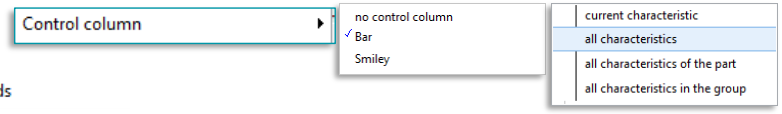
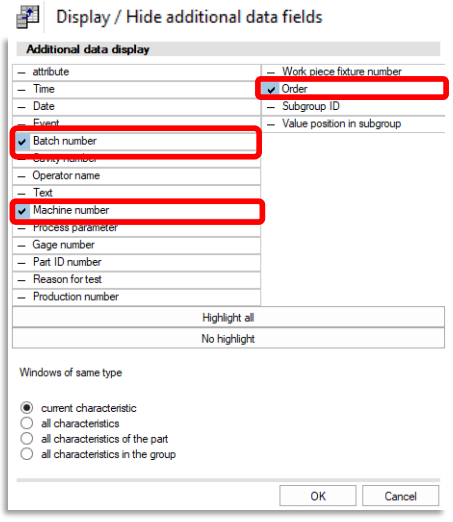
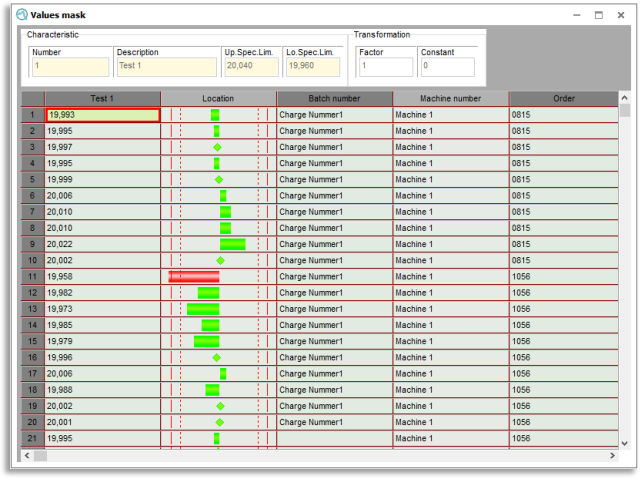
Value level



- Values mask
- Includes all measurement values, validity of the measurement (attributes) and additional data
- A control bar can also be displayed



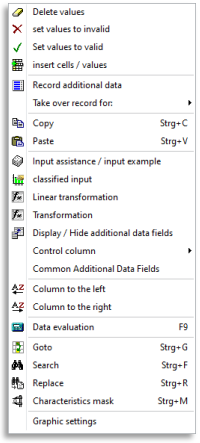


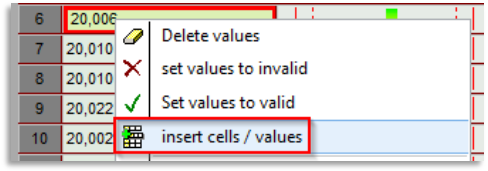


Notes:

Values mask

- To fill it with data just write down the values
- If something needs to be set just right click to the mask
- Here you will find also some graphic settings
- If a value is missing go to the cell where the missing value should be and go to insert cells / values
- It is also possible to measure and directly take over the values with a measurement device like a caliper

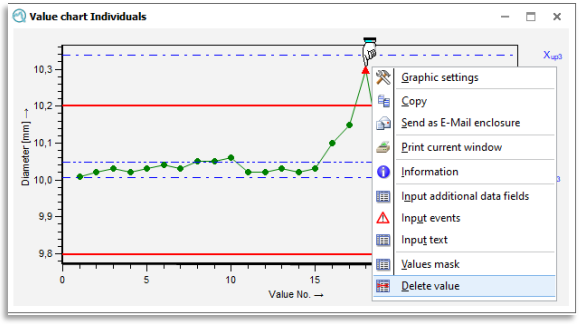


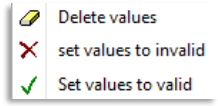


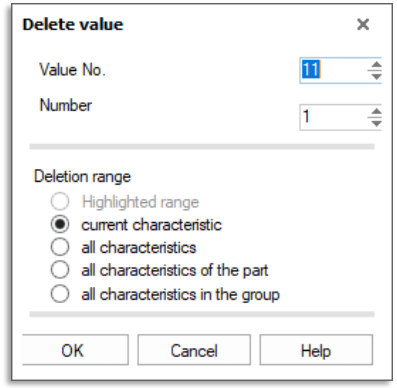
Notes:

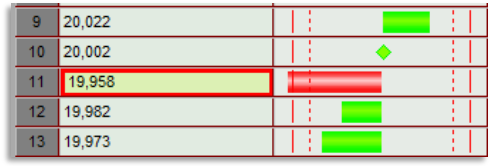
Delete values or set them invalid

- Values can be deleted with the keystroke <delete>
- This can also be done in the value chart individuals
- There is no undo function!
- The preferred way is to set the value to invalid, because this can be undone





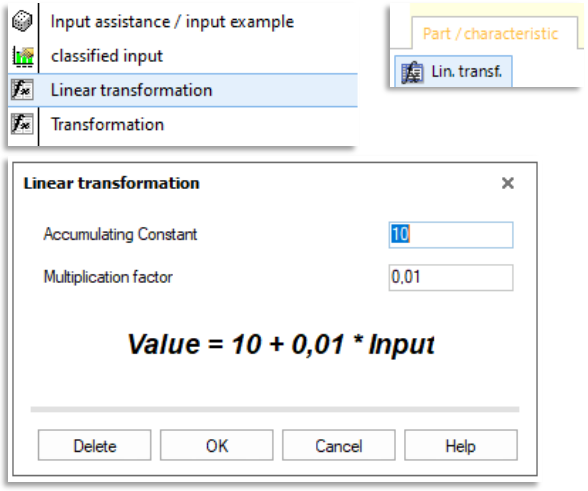




Notes:

Simplify data input

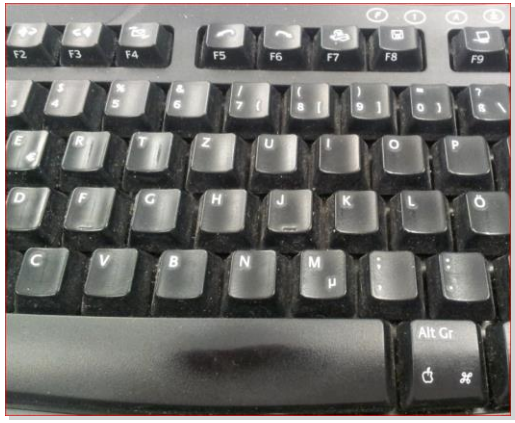
- With linear transformation the data input time can be drastically be reduced
- Input errors will be reduced
- The users need to be aware and the data input needs to be clear
- It‘s available by right click or in Part / characteristic



Notes:

Practical uses for linear transformation

- If a dial gauge only displays the difference to a master part
- Manual input of a lot of data
- Take over values from Excel and directly convert the data
- Dial gauges can send values which directly need to be converted



Notes: