

ZEISS CALYPSO 2020

Increase your productivity



Product Management CALYPSO

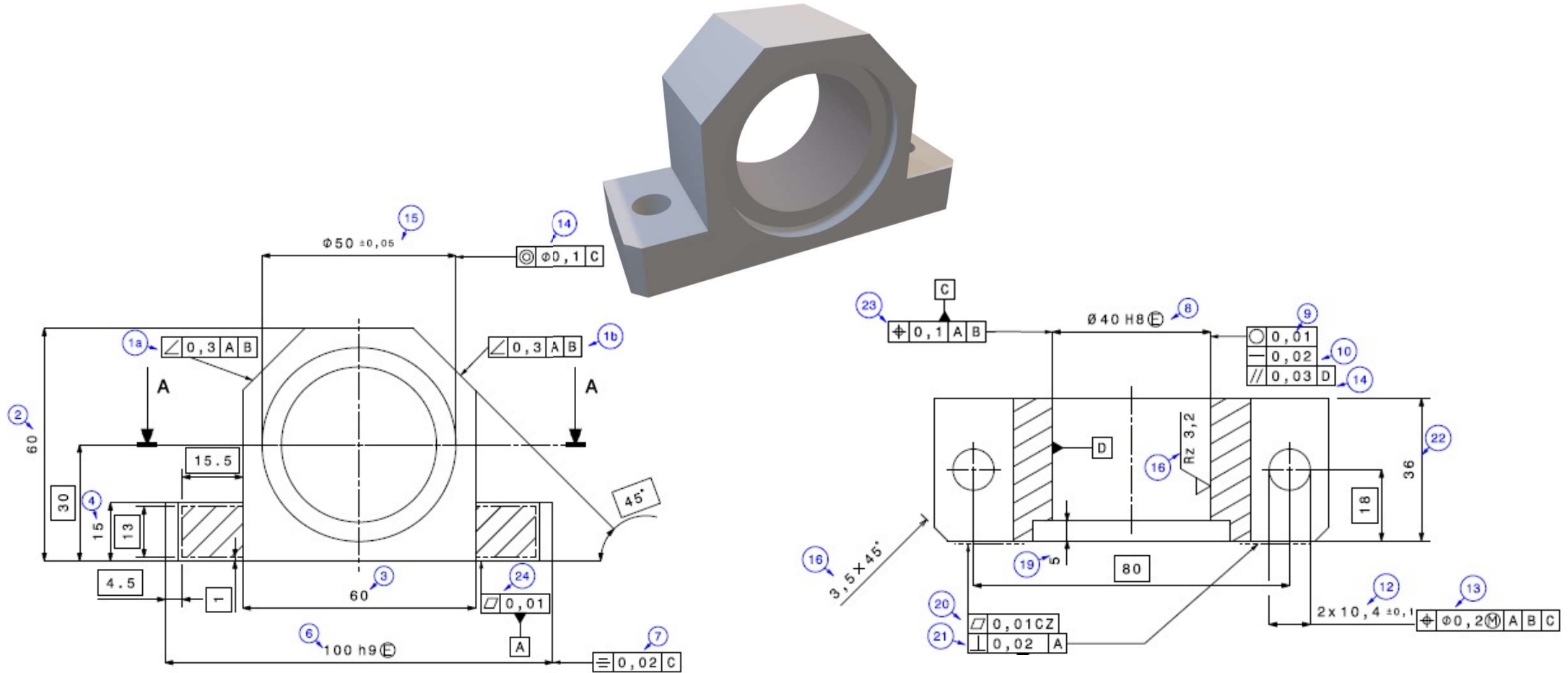
Ana Carolina Mayr Adam and Günter Haas

Oberkochen, 2021-12-15 → **Version 4.1.3 (extended version)**

Variable Strategy


Strategy Editor & Strategy Assignment

Which measurement strategy should be used for which measuring elements / characteristics?



Variable Strategy





Two modules

Strategy Editor to define a strategy
Strategy Assignment generates the strategy for the inspection plan

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Variable Strategy Editor

Defining your own strategy


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Variable Strategy Assignment

Apply strategy to CALYPSO inspection plans

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Summary

Strategy Editor & Strategy Assignment

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Two modules

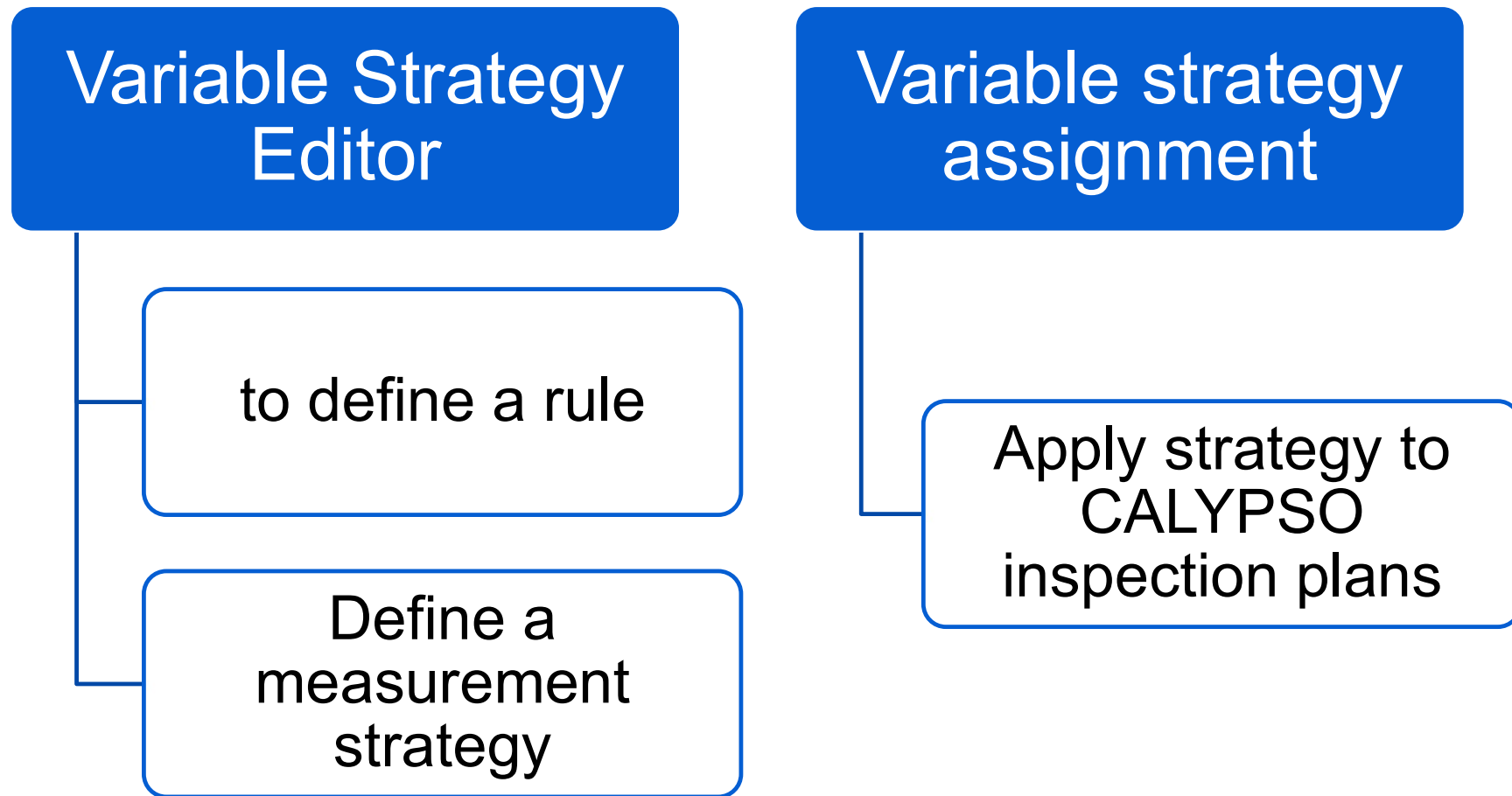
Strategy Editor to define a strategy

Strategy Assignment generates the strategy for the inspection plan

Two modules:

Strategy Editor to define a strategy

Strategy Assignment generates the strategy for the inspection plan



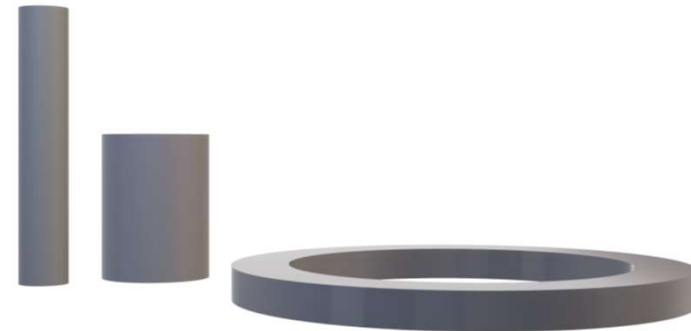
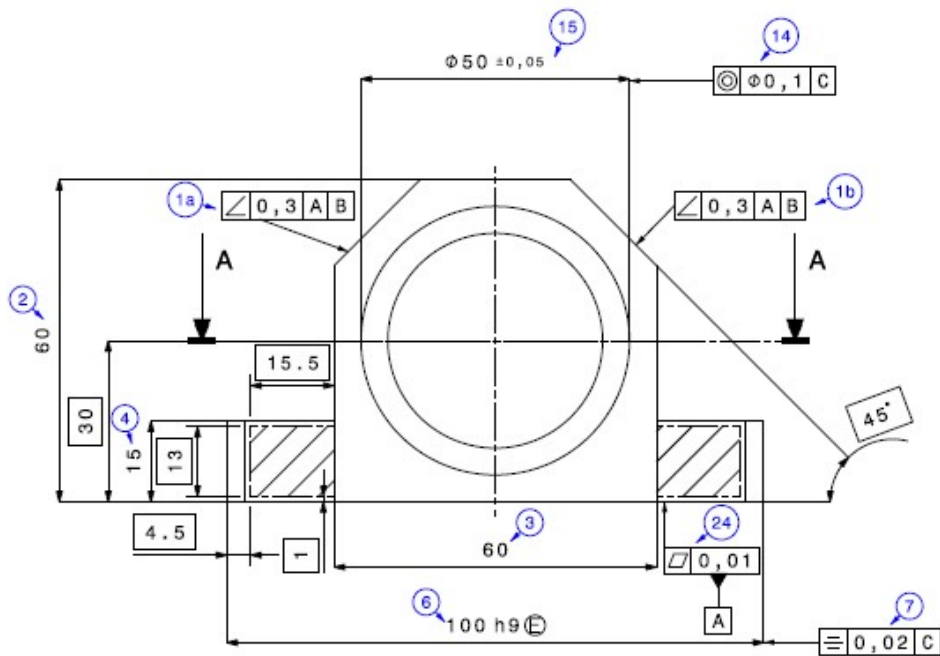
Variable Strategy Editor

Defining your own strategy

Which measurement strategy should be used for which measuring elements / characteristics



Which measurement strategy should be used for which length, diameter, characteristic type, tolerance etc.?

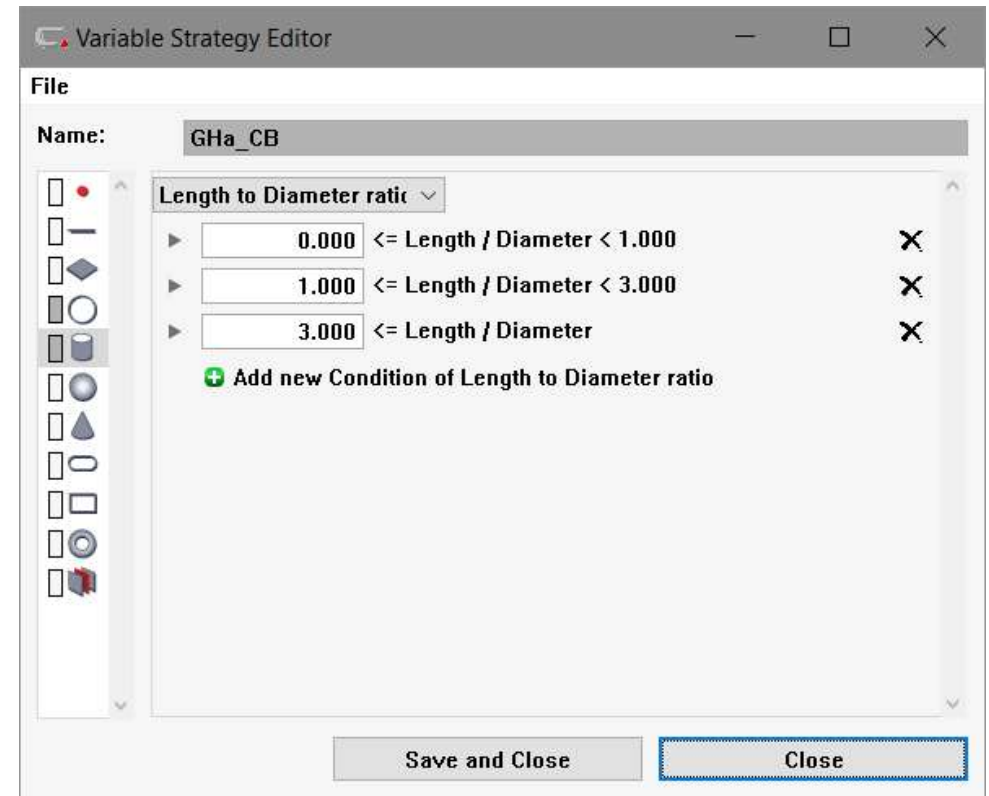
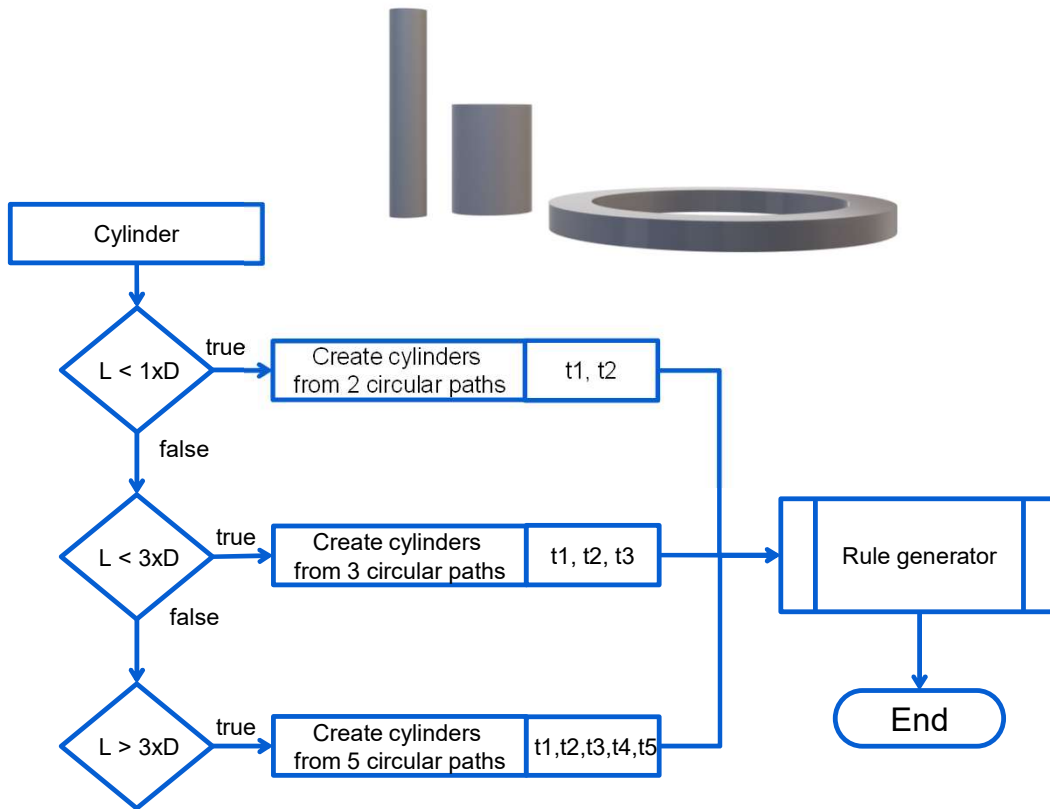


ZEISS Variable Strategy Editor

Defining your own strategy - length/diameter ratio



Define rule: How many paths should be used at which length/diameter ratio?

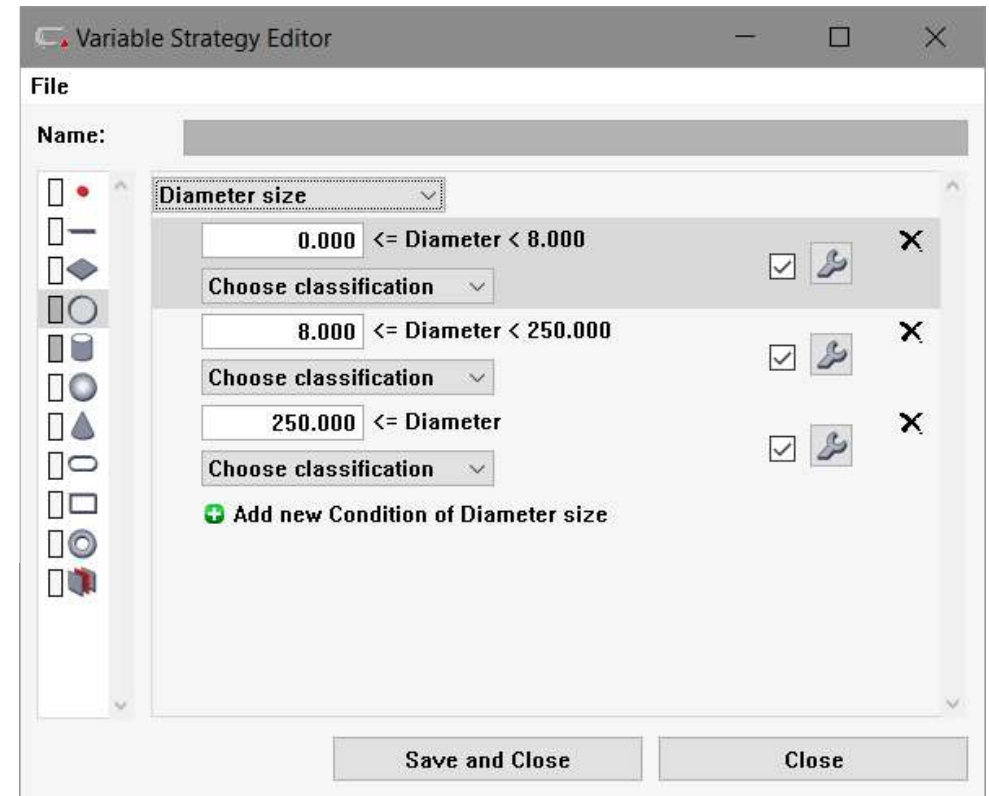
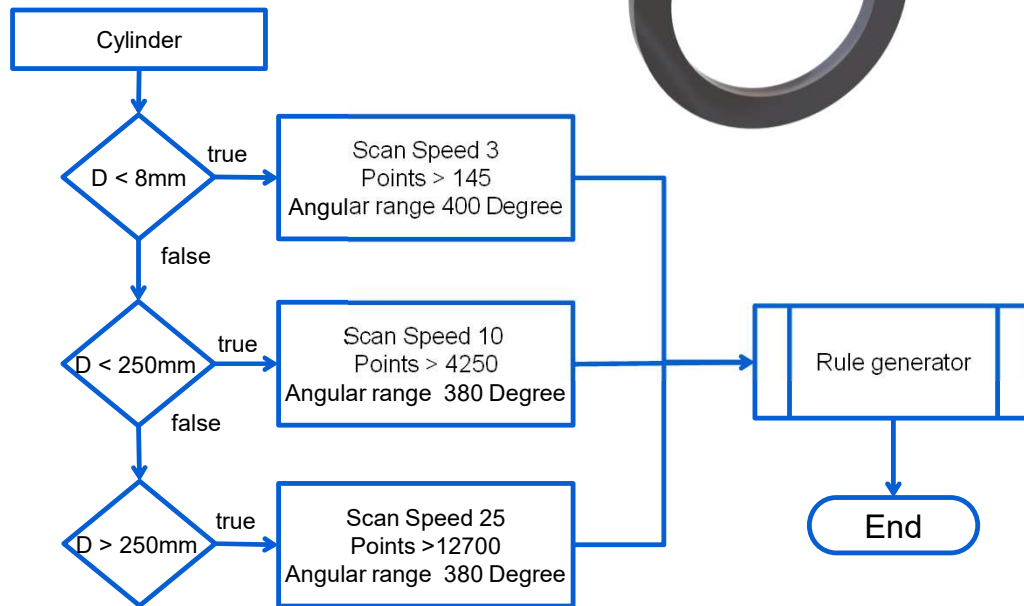


ZEISS Variable Strategy Editor

Defining your own strategy → Diameter/Scanning - Settings



Define rule: Which scanning settings should be used for which diameter?



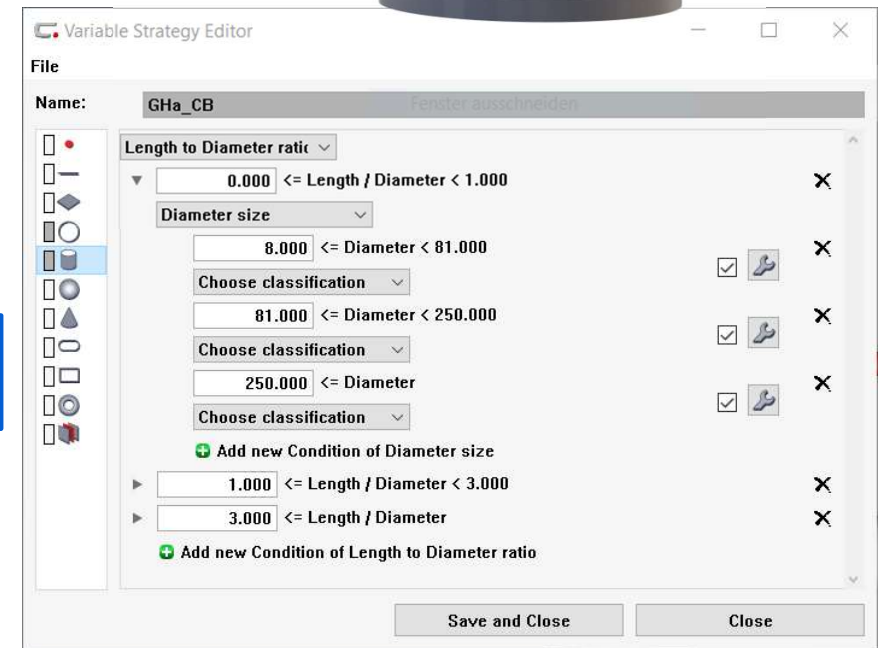
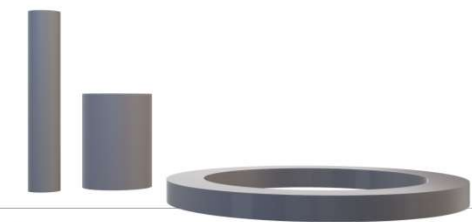
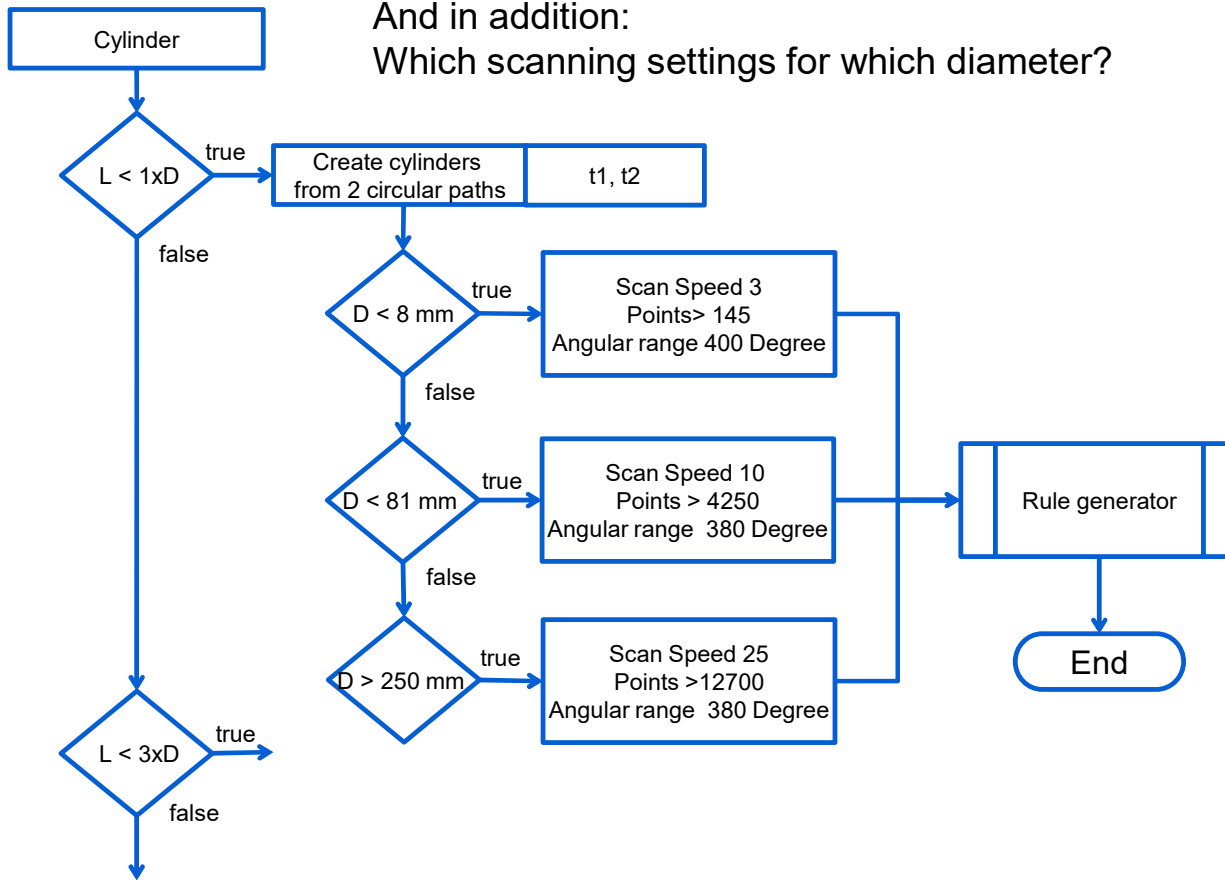
ZEISS Variable Strategy Editor

Defining your own strategy

➔ Length/Diameter Ratio & Diameter/Scanning - Settings

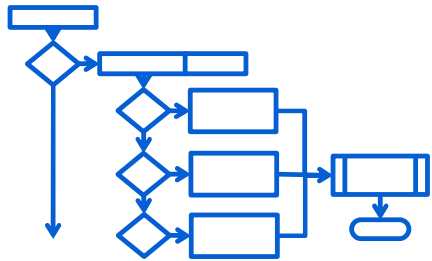


How many paths for which length/diameter ratio?
And in addition:
Which scanning settings for which diameter?



ZEISS Variable Strategy Editor

Defining your own strategy



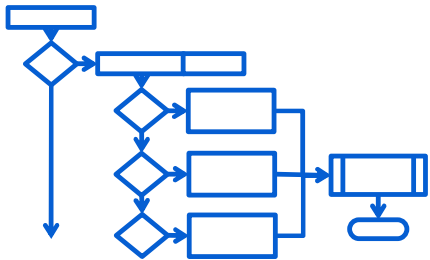
How many paths for which length/diameter ratio?
 And in addition:
 Which scanning settings for which diameter?

The screenshot displays the Variable Strategy Editor interface with three main panels:

- Variable Strategy Editor (Left):** Shows the configuration for a strategy named "GHa_CB". It features a "Length to Diameter ratio" section with conditions:
 - 0.000 <= Length / Diameter < 1.000
 - 8.000 <= Diameter < 81.000
 - 81.000 <= Diameter < 250.000
 - 250.000 <= Diameter
 Below this, there are conditions for "Length / Diameter" ratios:
 - 1.000 <= Length / Diameter < 3.000
 - 3.000 <= Length / Diameter
- Strategy (Middle):** Shows a tree view of the strategy conditions. The selected path is:
 - Length / Diameter < 1.0
 - 8.0 <= Diameter < 81.0 <= Diameter < 250.0
 - 1.0 <= Length / Diameter < 3.0
 - 8.0 <= Diameter < 81.0 <= Diameter < 250.0
 - Length / Diameter >= 3.0
 - 8.0 <= Diameter < 81.0 <= Diameter < 250.0
- Circle Path (Right):** Shows the "Default Setting for Cylinder" configuration. The "No. of points per section" is set to 4250. The "Clearance Data" section is highlighted, showing "Circle Path (2 Sections)".

ZEISS Variable Strategy Editor

VAST navigator use in your own strategy



Variable Strategy Editor

Name: GHa_CB

Length to Diameter ratio

- 0.000 <= Length / Diameter < 1.000
 - Diameter size
 - 8.000 <= Diameter < 81.000
 - Choose classification
 - 81.000 <= Diameter < 250.000
 - Choose classification
 - 250.000 <= Diameter
 - Choose classification
 - 1.000 <= Length / Diameter < 3.000
 - 3.000 <= Length / Diameter

Save and Close Close

Strategy

- Length / Diameter < 1.0
 - 8.0 <= Diameter < 81.0 <= Diameter < 250.0
- 1.0 <= Length / Diameter < 3.0
 - 8.0 <= Diameter < 81.0 <= Diameter < 250.0
- Length / Diameter >= 3.0
 - 8.0 <= Diameter < 81.0 <= Diameter < 250.0

Default Setting for Cylinder

Clearance Data

Circle Path (2 Sections)

Close

Circle Path

Default Setting for Circle

Speed

- Step Width
- Number of points

Single points

Basic options Special Settings

Start Angle 0.000

Angle Range 450.000

Tangential probing (Default) Yes

Measuring Height

Start height 0.000

Automatic Calculation

- Optimum
- Optimum

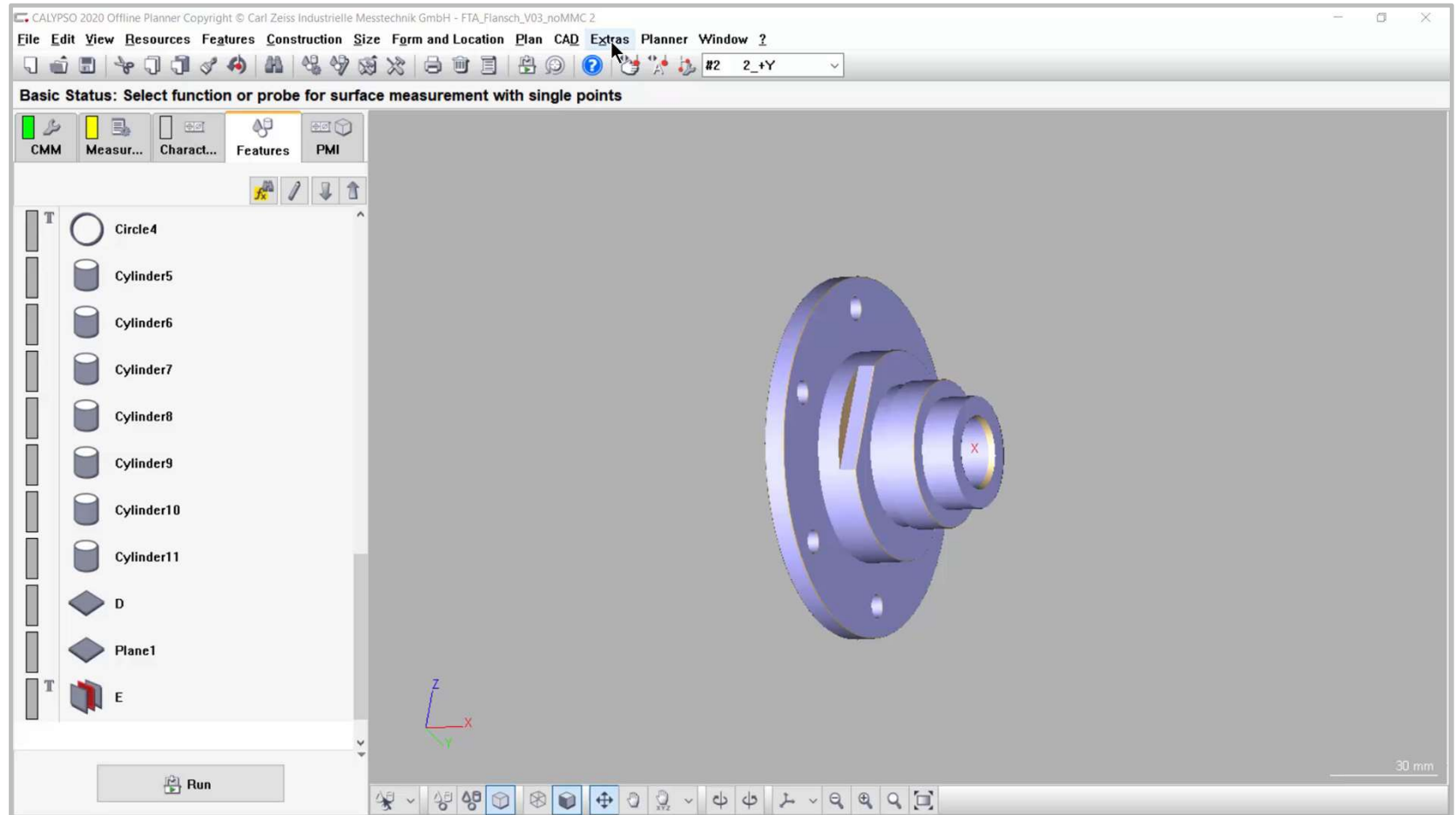
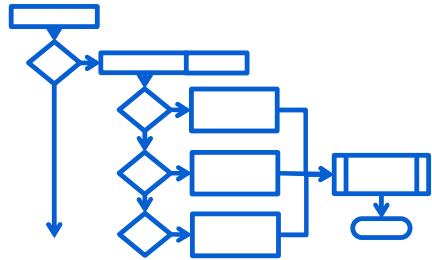
OK Reset

VAST navigator technology for optimal calculation of scanning settings

ZEISS Variable Strategy Editor

Defining your own strategy.

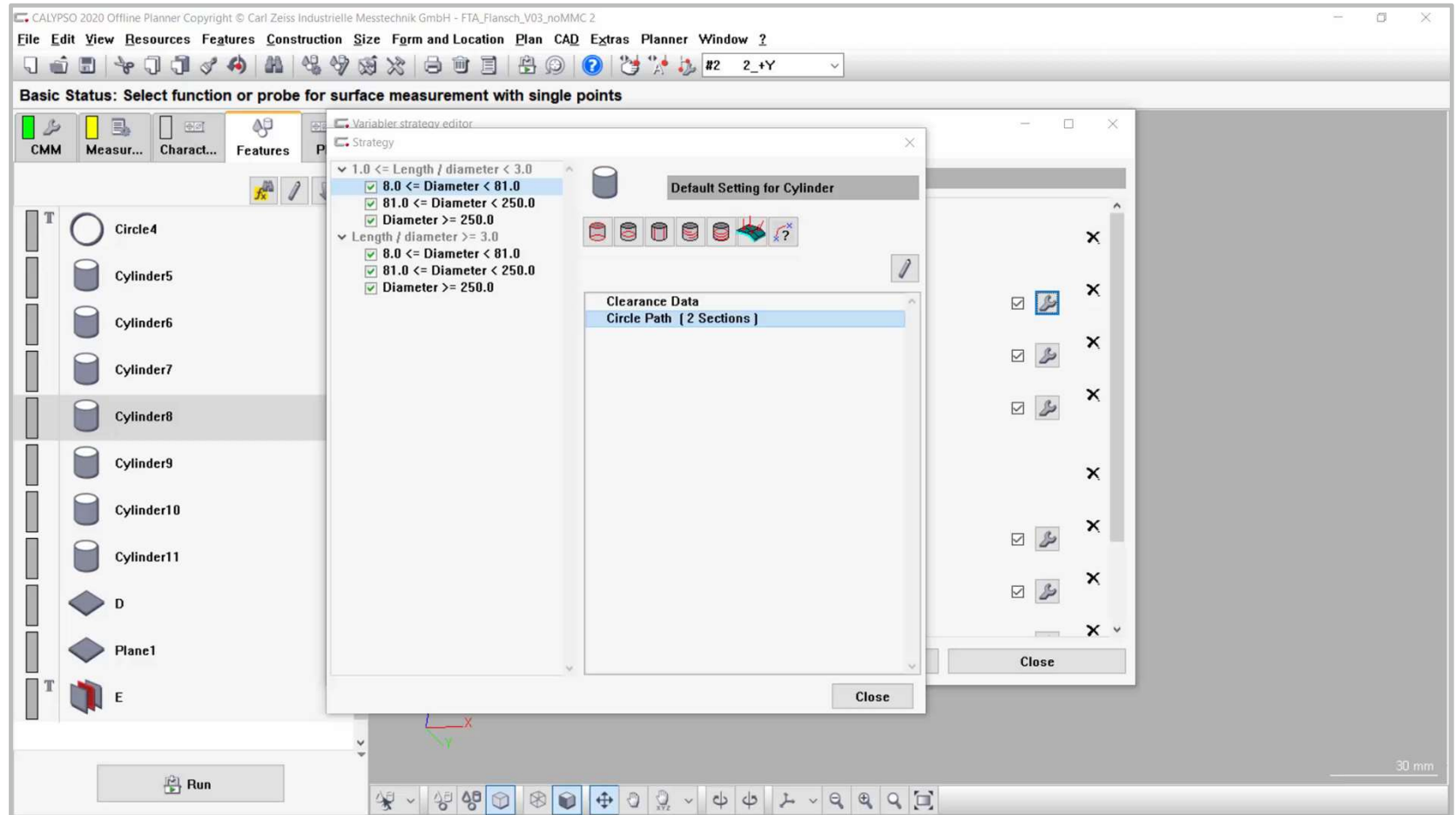
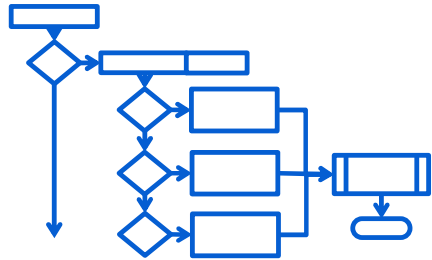
-Video (1/2) - If statement



ZEISS Variable Strategy Editor

Defining your own strategy.

-Video (2/2) - If statement and strategy with drag and drop



ZEISS Variable Strategy Editor

Defining your own strategy



Individual rule criteria are possible

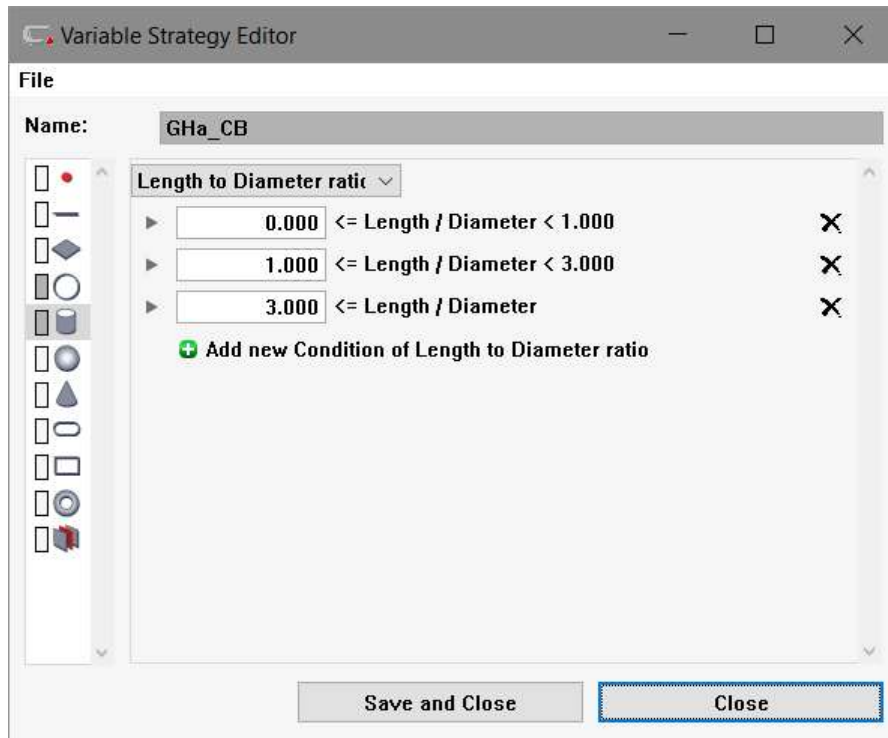
Remove classification	
Diameter size	
Length size	
Length to Diameter ratio	
In/Out identifier	
Characteristic Group	
<input checked="" type="checkbox"/> Characteristic Type	Straightness
Cut sub node of classification	Roundness
Copy sub node of classification	Cylindricity
Paste classification	Form
	Profile
	Line Profile
	Position
	Coaxiality
	Concentricity
	Perpendicularity
	Parallelism
	Symmetry

ZEISS Variable Strategy Editor

Define your own strategy without programming skills



With the ZEISS "Variable Strategy Editor" strategies are very easily defined via a graphical dialog.



Script programming is not necessary



Import / Export is possible:

C:\Users\Public\Documents\Zeiss\CALYPSO\data\cookbook\

Variable Strategy Assignment

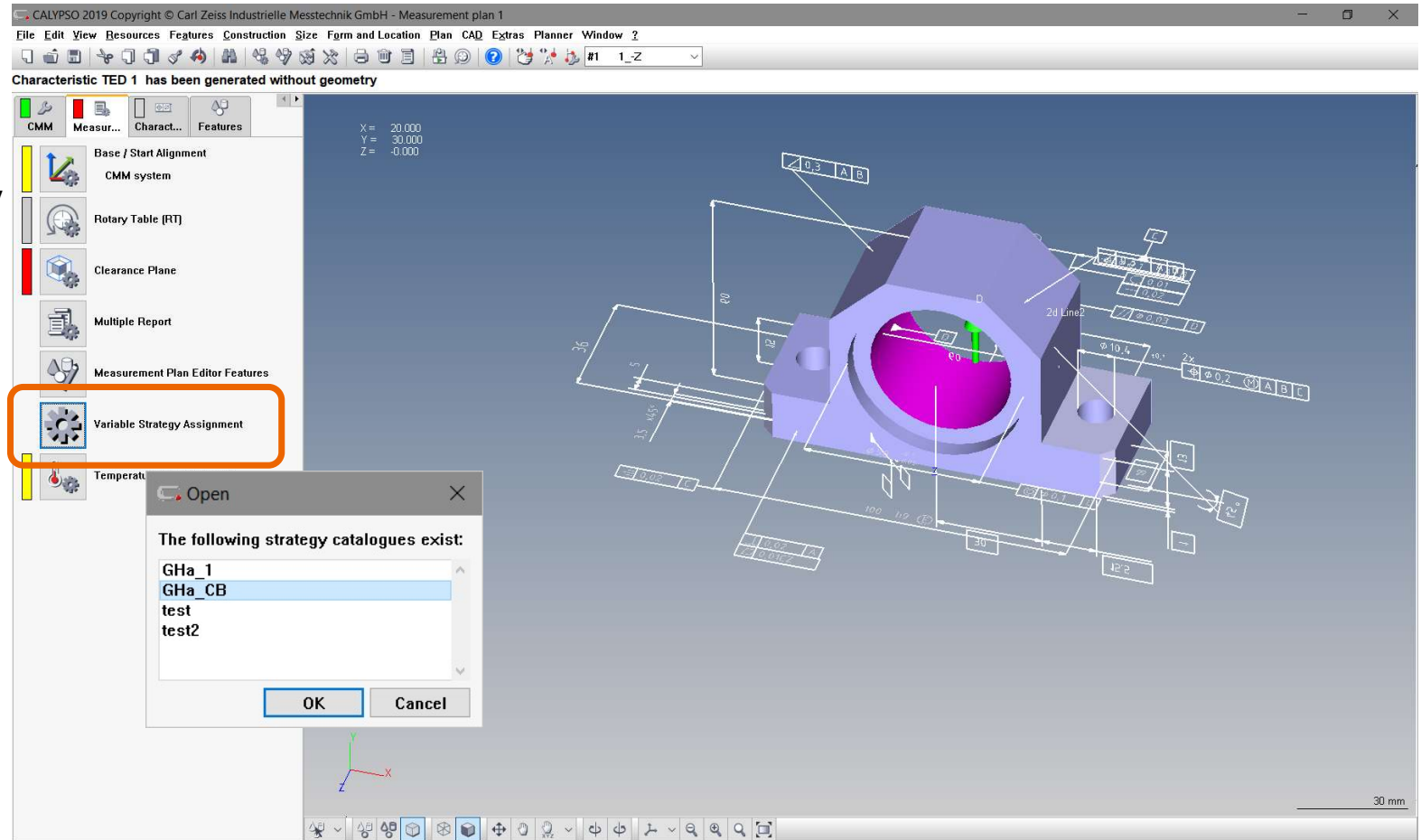
Apply strategy to CALYPSO inspection plans

Variable strategy assignment

Apply strategy to CALYPSO test plans



1. Call variable strategy assignment
2. Select predefined strategy
3. Apply to the inspection plan

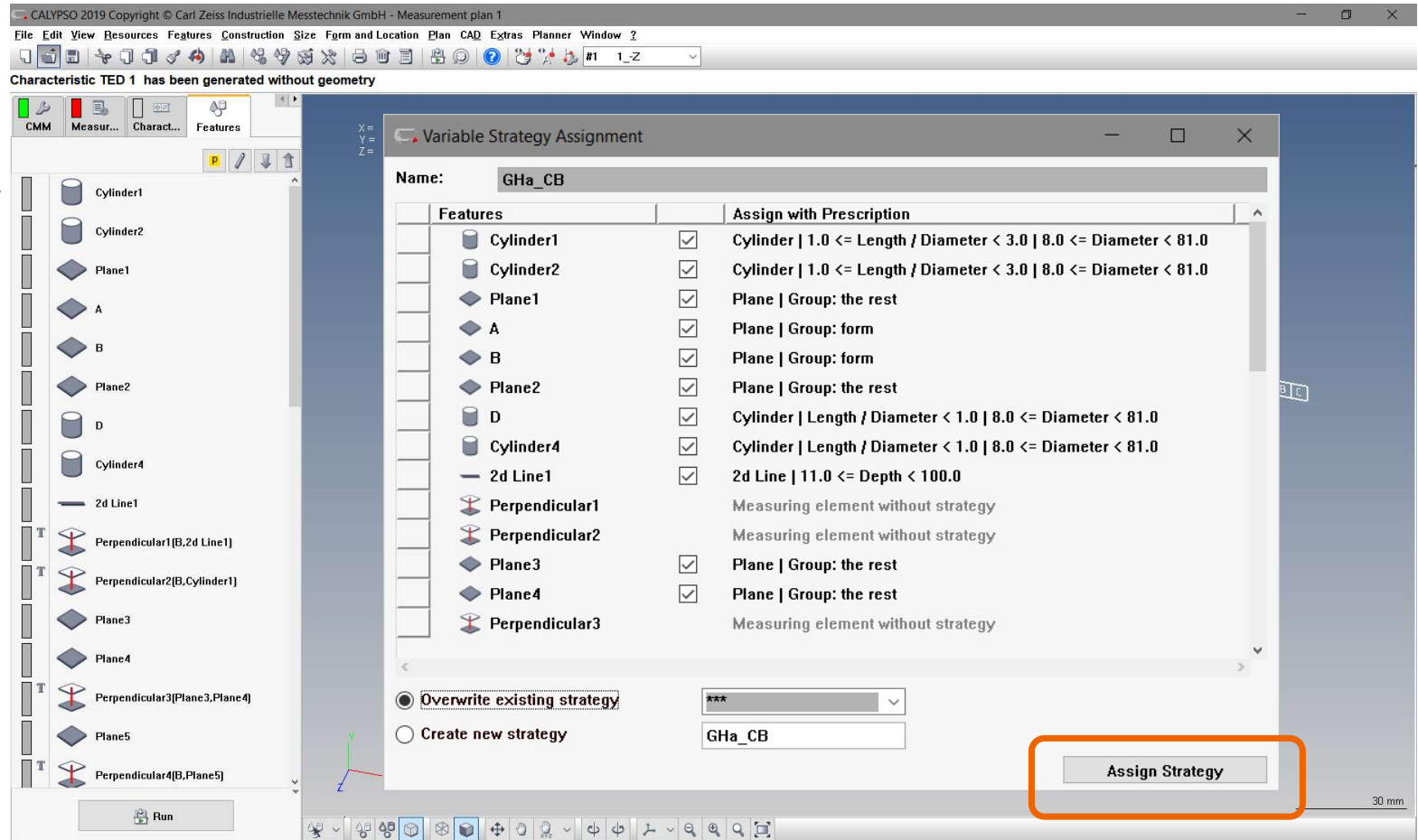


Variable Strategy Assignment

Apply strategy to CALYPSO test plans



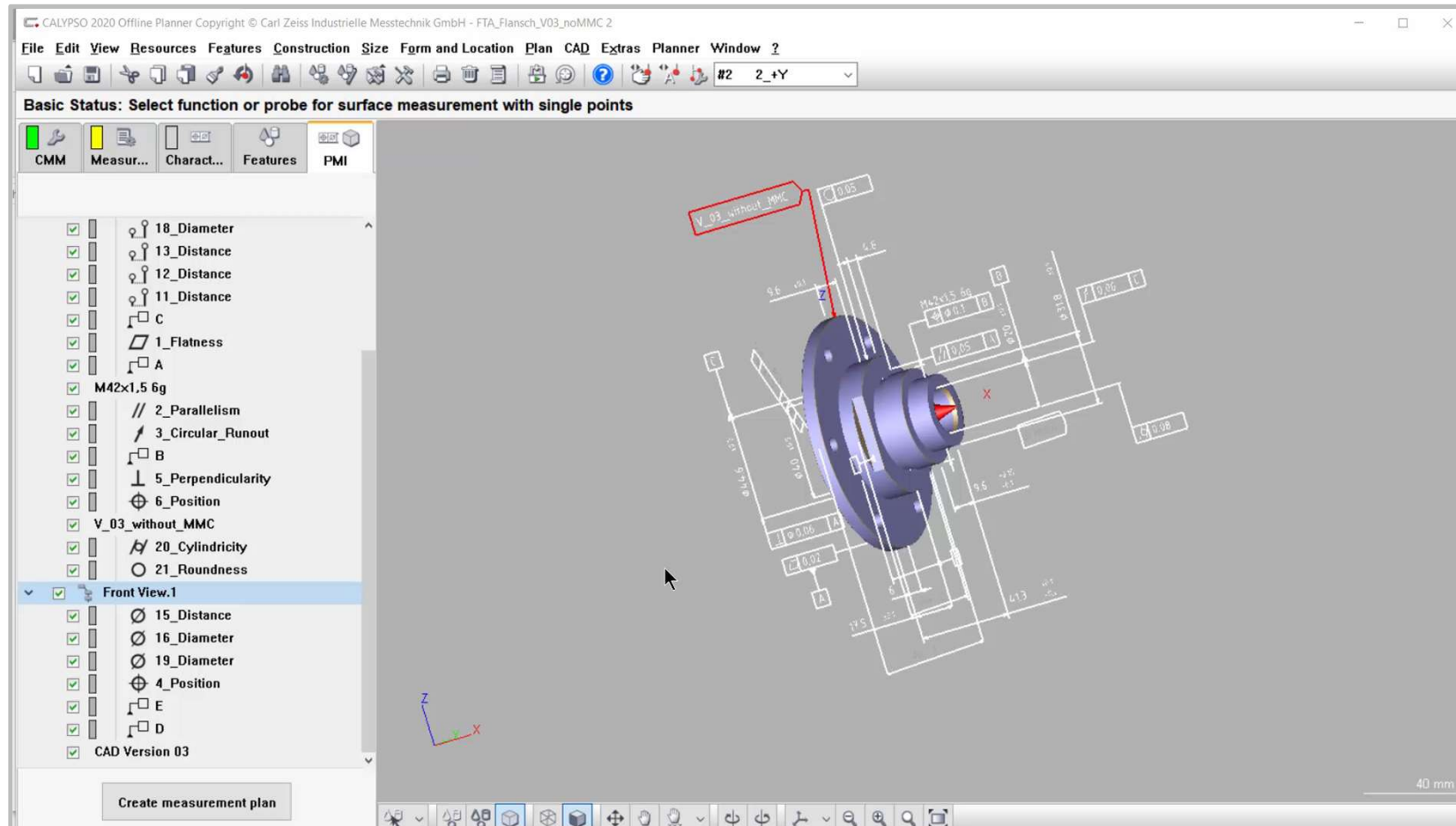
1. Call variable strategy assignment
2. Select predefined strategy
3. Apply to the inspection plan
4. All geometry elements are listed in the assignment dialog
5. The defined rules automatically create the strategy



Variable Strategy Assignment

Apply strategy to CALYPSO inspection plans

-Video -



ZEISS Variable Strategy Assignment with Zeiss Standards



ZEISS provides 6 files in a catalog:

Capture strategies for:

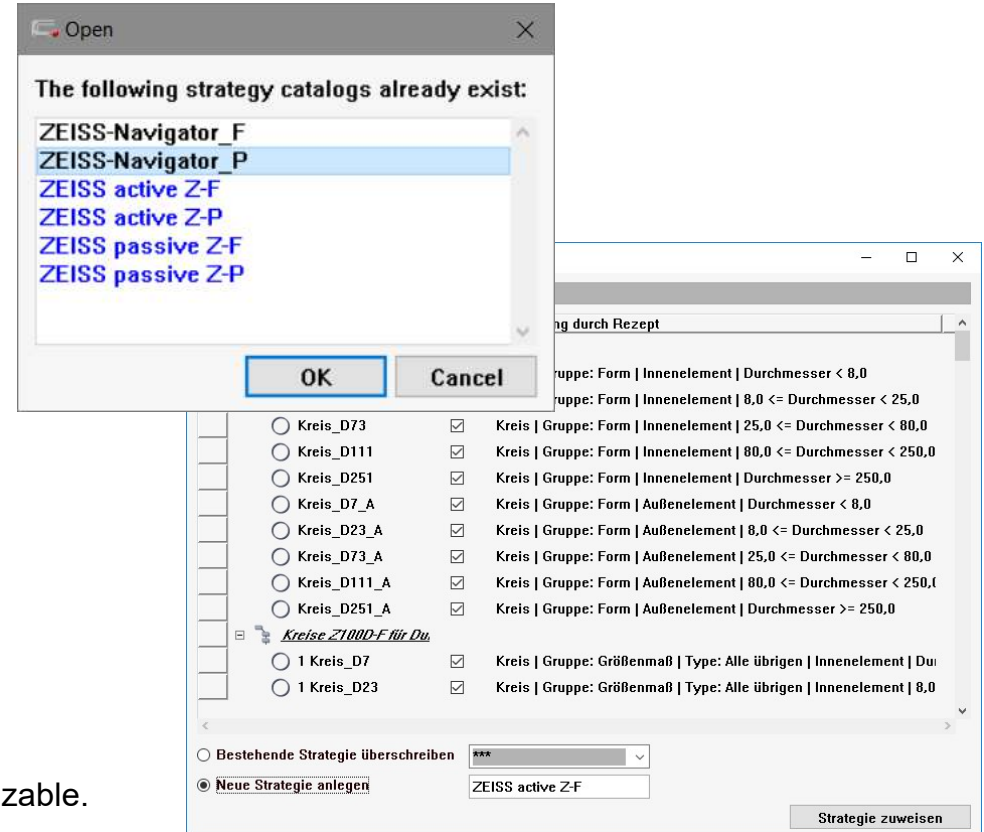
Functional control with active sensors	ZEISS active Z-F
Functional control with passive sensors	ZEISS passive Z-F
Process control with active sensors	ZEISS active Z-P
Process control with passive sensors	ZEISS passive Z-P

Capture strategies for CMM with Navigator:

Functional control with active sensors and Navigator	ZEISS-Navigator_F
Process control with active sensors and Navigator	ZEISS-Navigator_P

Strategy XXX opens via "Prepare - Strategy XXX"

- The recording strategy of each group is listed.
- A proposed strategy can also be deselected
- Measurement elements that could not be assigned a strategy are recognizable.
- "Assign Strategy" transmits the measurement strategies.
- The existing strategy can be overridable, alternatively an additional strategy can be created.



Summary

Strategy Editor & Strategy Assignment

Summary



- Standardization of measurement methods
- Very fast creation of inspections plans with predefined rules
- Customer-specific rules and strategies are possible
- Existing CALYPSO inspection plans can be subsequently optimized with predefined rules
- Due to graphical interface, no programming knowledge is necessary
- The variable strategy assignment is also possible in conjunction with PMI
First generate the inspection plan with the PMI function in CALYPSO
Then apply the variable strategy assignment to the CALYPSO inspection plan
- The ZEISS rules for the "cookbook" capture strategy are available
More technologies for advanced (complex) rules will come with future CALYPSO versions