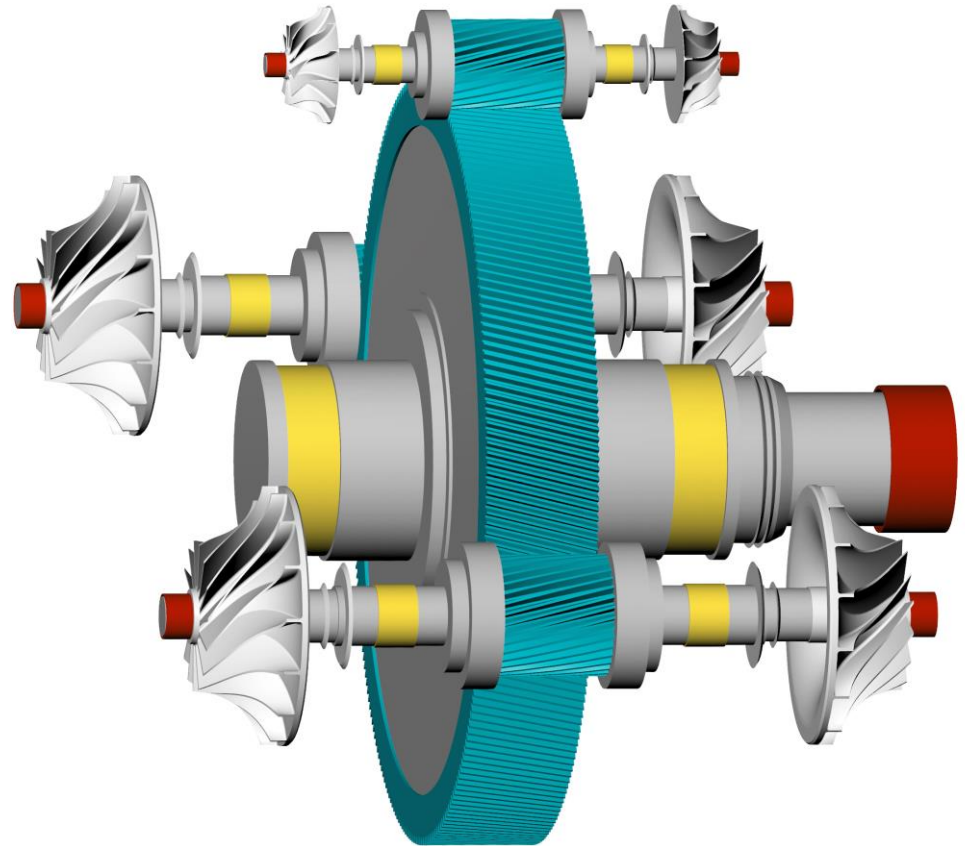


Profile and Tooth Trace Diagrams (K-charts)

Dr. Inho Bae, v2200



2010, IB: New Settings for Profile and Tooth Trace Diagrams (K-charts)

K Module specific settings ? X

General Calculations Tooth form Diagrams 2D/3D geometry

Profile diagram and tooth trace diagram

☐ Display central profile in the center of the tolerance band

Positioning of the zero-line no change

Positioning the minimum tolerance band to the design profile

Maximum number of points for GDE export and report 100

Profile diagram

Tolerance band type profile diagram Direct input (Import GAMA file) +

Y-axis in the profile diagram Roll length (length on path of contact)

Diameter markings in the profile diagram Diameter

Layout of the profile diagram Vertical

Control diameter at tip d_{La} according to d_{Sa}

Control diameter at root d_{Lr} according to d_{Sr}

☐ Use TIF, SAP, EAP instead of d_{Ffr} , d_{Mfr} , d_{Nb}

Tooth trace diagram

Tolerance band type tooth trace diagram Direct input (Import GAMA file) +

Layout of the tooth trace diagram Horizontal

OK Cancel

Z010, IB: Settings for the positioning of the zero-line

Positioning of the zero-line

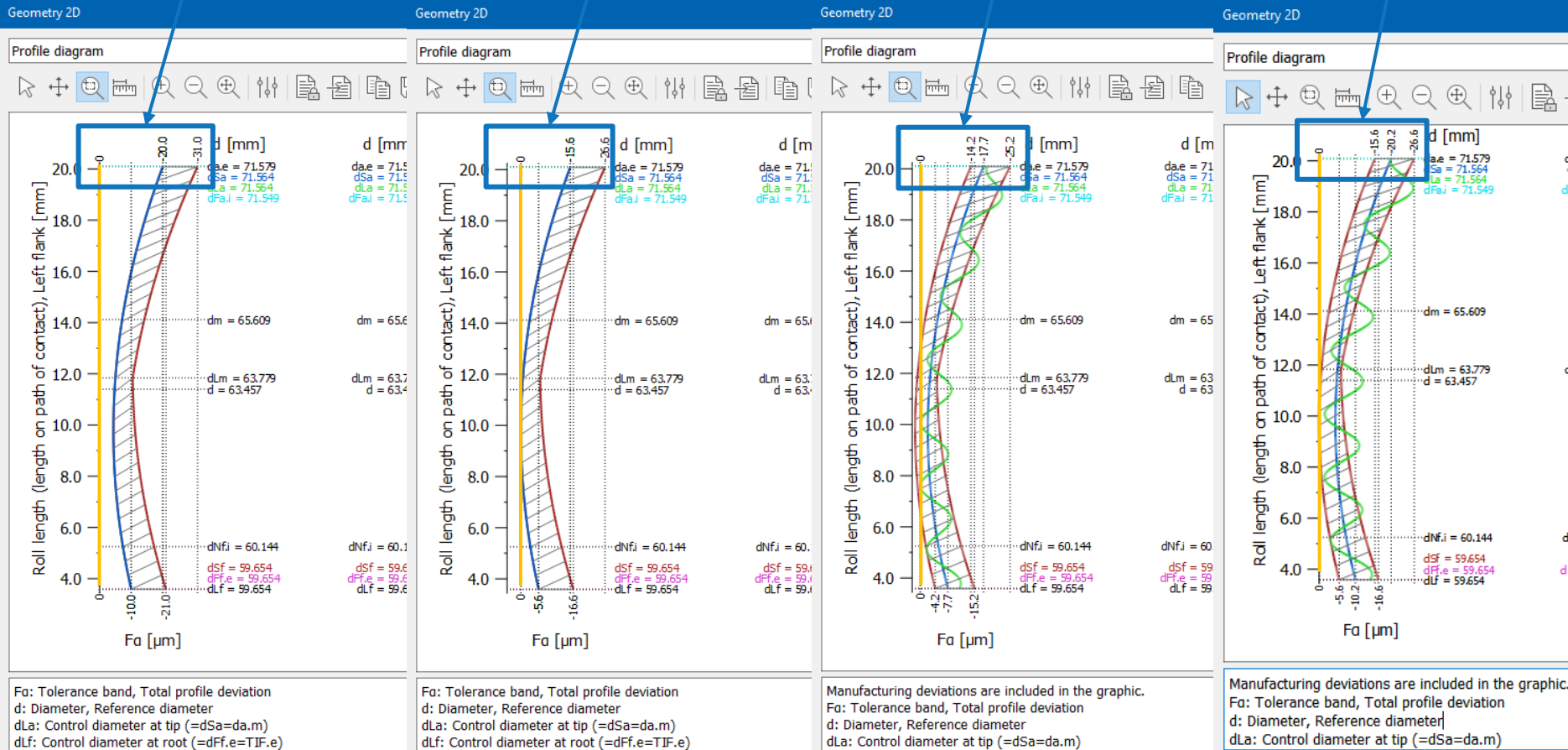
no change

no change
design profile
manufacturing deviation curve
minimum tolerance line

no change
design profile
manufacturing deviation curve
minimum tolerance line

no change
design profile
manufacturing deviation curve
minimum tolerance line

no change
design profile
manufacturing deviation curve
minimum tolerance line



Z010, IB: Positioning of the minimum tolerance band

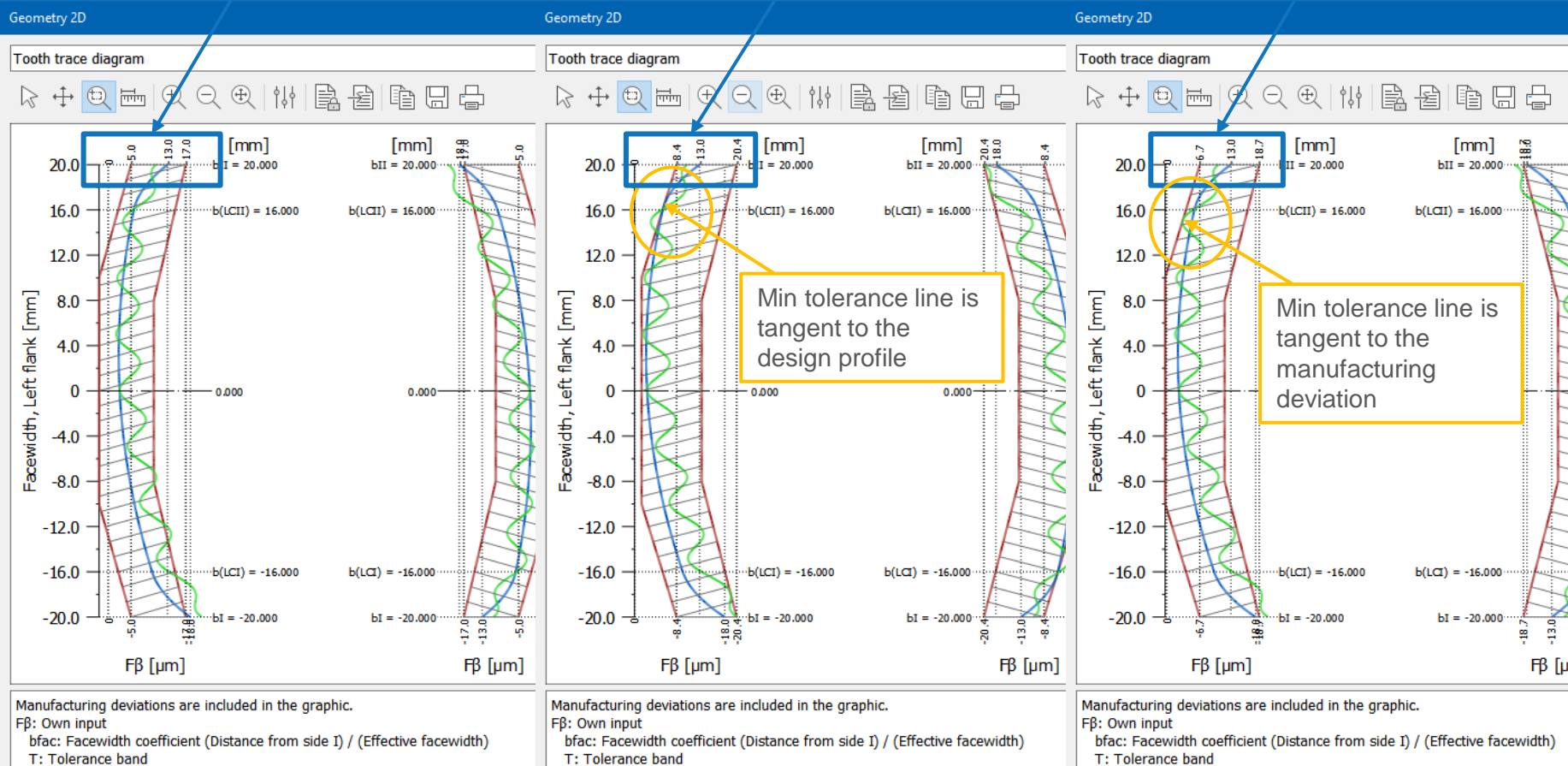
Positioning of the minimum tolerance line

no change

no change
to design profile
to manufacturing deviation curve

no change
to design profile
to manufacturing deviation curve

no change
to design profile
to manufacturing deviation curve



2010, IB: Settings for the control diameters

Up to 2021, the control diameters of the profile diagram were the same as the modification setting diameters d_{Sa} and d_{Sf} in the tab Manufacturing.

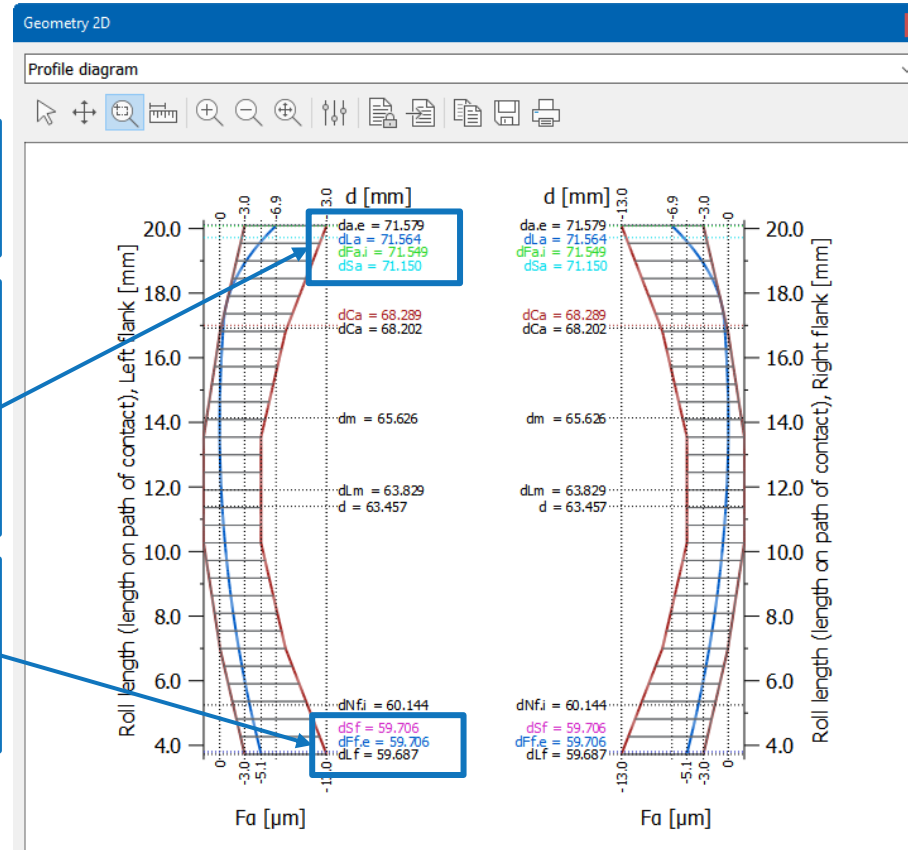
In 2022, the control diameters d_{La} and d_{Lf} can be set independently with the modification diameters.

Control diameter at tip d_{La} according to d_{Sa}
Control diameter at root d_{Lf} according to d_{Sf}

d_{La} according to d_{Sa}
according to d_{Sa}
Tip circle (nominal)
Tip circle (with allowance)
Tip form circle (nominal)
Tip form circle (with allowance)

d_{Lf} according to d_{Sf}
according to d_{Sf}
Root form circle (nominal)
Root form circle (with allowance)

Basic data		Reference profile		Manufacturing		Tolerances	
Execution of the final machining and profile modification							
Manufacturing process		Generating process (Generation grinding, ...)					
Modification value defined at		d_{Sa}	Tip circle (with allowance)				
Input		Factors					
Start of modification at root		d_{Sf}	maximum root form diameter d_{FFE}				



Z010, IB: Direct input of the tolerance band (Import GAMA tolerance band)

Tolerance band type profile diagram

Direct input (Import GAMA file)

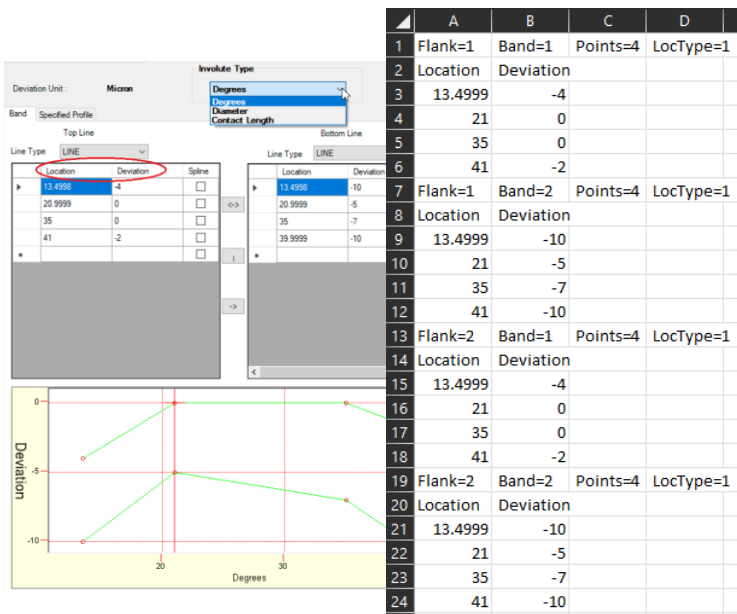


This option allows you to input your own tolerance band directly from the table. It also enables to import of a GAMA tolerance band file (module right K05g).

☒ Import GAMA file for tolerance band

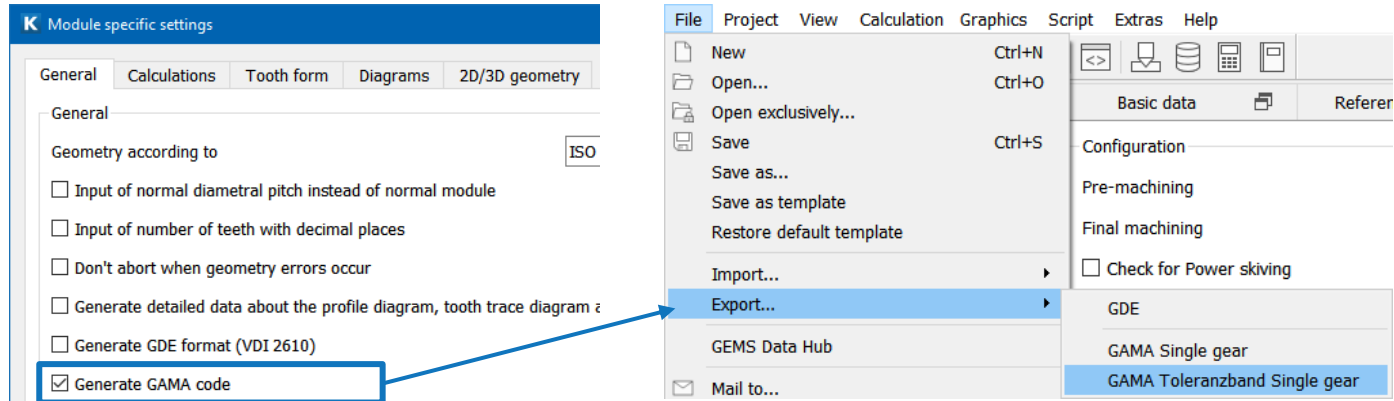
GAMA file for tolerance band

GAMA_Profile_Bands.csv

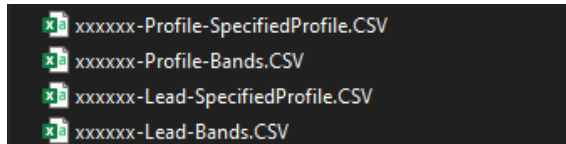


Z010, IB: Export of the profile diagram to GAMA tolerance band file

Enable the option “Generate GAMA code” to export the profile diagram to GAMA tolerance band files (module right K05g).

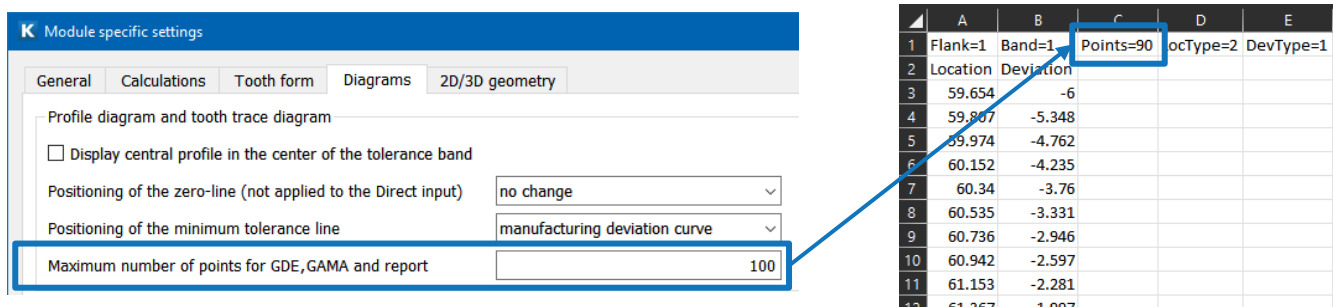


It generates 2 CSV files for the profile diagram and for the tooth trace diagram, respectively.



xxxxxx is the part number or the file name given by the user
-Profile-SpecifiedProfile is the design profile of the profile direction.
-Profile-Bands is the tolerance band of the profile.
-Lead-SpecifiedProfile is the design profile of the tooth trace (lead) direction.
-Lead-Bands is the tolerance band of the tooth trace (lead).

The following option controls the maximum number of points for the export.



Thank you for your attention!

Sharing Knowledge

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