Calculation
WN1 calculates cylindrical interference fits according to DIN 7190. Input data includes material values, friction coefficients, dimensions, minimum pressure or transferable moment, or axial load to be transferred.
Since version 8.0, WN1 can calculate stepped hubs up to 10 segments. Since release 9.0, you can calculate tapered interference fits as well.

Pre-Dimension
In Pre-Dimension, you calculate the required interference dimensions of the interference fit from torque or axial load or minimum pressure.

Dimensioning
In the dimensioning dialogue window, you can enter dimensions and tolerances of shaft or hub, and WN1 calculates the counterpart seam diameter with tolerance. The ISO dimensions for bore and shaft in accordance with ISO 286 are provided by WN1.

Recalculation
Existing interference fits can be calculated by input of dimensions with tolerances.

Material Data Base
Materials can be selected from the integrated data base. The data base can easily be modified or extended with your own materials.

Joint Data
If cylindrical interference fit, WN1 calculates assembly force for cold fit as well as assembly temperature for hot fit. For taper interference fits, WN1 calculates mounting force, required penetration and dismantling force.

Friction Coefficients
Friction coefficients for loosening and sliding in longitudinal or circumferential direction can be entered directly or suggested by WN1 in relation to the method of joining and materials for shaft and hub.
Influence of temperature and speed
For different temperature coefficients of shaft and hub material, WN1 calculates pressure and interference for both, room temperature and operating temperature. For high-speed shafts, WN1 calculates joint pressure reduced by centrifugal force and lift-off speed.

Stress Spectrum
Stress diagrams show tangential stress and radial stress along the cross-section.

Test Certificate
WN1 generates a test certificate B according to DIN EN 10204.

Table Drawing
Dimensions and calculation results are generated in a drawing with ISO 7200 header.

Production Drawing
WN1 generates a drawing of the hub with all dimensions and ISO 7200 header.

Interference Fit Graphic
For cylindrical fits with ISO tolerances, minimum and maximum interference along with all dimensions can be graphically displayed on screen.

Quick View
Calculation results, drawings and diagrams can be printed altogether on one screen.

Text Printout
Input data and calculation results may be printed, saved as text or HTML file, or exported to MS Excel.

Graphic Printout
Drawings and diagrams can be printed on any Windows printer.

CAD Interface
Drawings and diagrams can be generated as DXF or IGES files for CAD.

HEXAGON Help System
WN1 provides help text and help images. If error messages appear, you can get description and help.

System Requirements
WN1 is available as 32-bit app or as 64-bit app for Windows 7, Windows 8, Windows 10.

Scope of Delivery
Program with database files, example applications and help images, user manual (pdf), non-expiring license for unlimited time use with update rights.

Software Maintenance
HEXAGON Software is continuously improved and updated. Registered users are regularly kept informed of updates and new editions.

Guarantee
HEXAGON gives a 24 month guarantee on full functionality of the software.