High strength bolting modules

Bolt rating along VDI2230, configurations

- Connection under axial load only
- Connection under axial and shear load
- Flange type bolted connection
- Arbitrary bolting pattern
- Import of FEM results for loading condition
- Sizing function for bolt length and bolt diameter

Bolt, nut and washer types

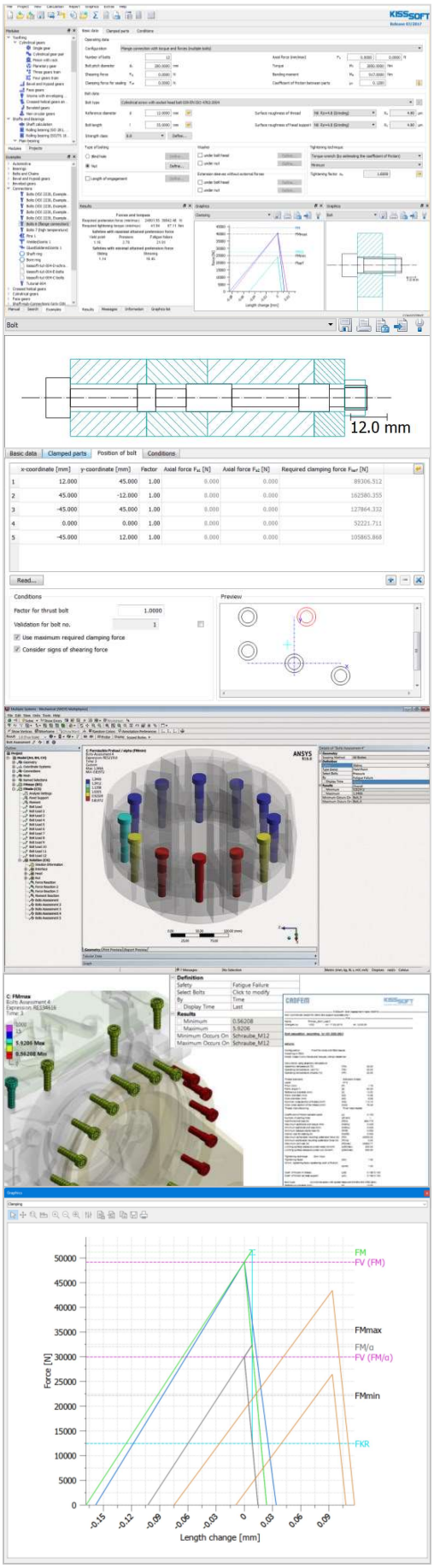
- Own bolt geometry definitions
- Own nut and washer definition
- Washers: ISO 7089, ISO 7090, ISO 7093-1, ISO 7093-2, ANSI / ASME 18.22.1, own definition
- Nut: ISO 274, DIN EN 2432, DIN EN 24035, DIN EN 28673, DIN EN 28675, ANSI / ASME B.18.2.2, own definition
- Bolt: ISO 4762, ISO 4014, ISO 4017, ISO 1207, ISO 8765, ISO 8676 and others
- Strength classes, 8.8, 10.9, 12.9, A1…A5, SAE J492, own definition
- Extension sleeves under bolt and nut

Tightening

- Considers different tightening procedures
- Considers pre-tension loss
- Considers friction in thread and under head / nut

Temperatures

- For low and high temperatures
- Considers assembly temperature, temperature of bolt and temperature of clamped parts

ANSYS Integration

- KISSsoft integrated in ANSYS by CADFEM
- Calculate bolt loads in ANSYS and perform strength rating along VDI 2230 based on KISSsoft
- For arbitrary bolting patterns, considering clamped parts elasticity