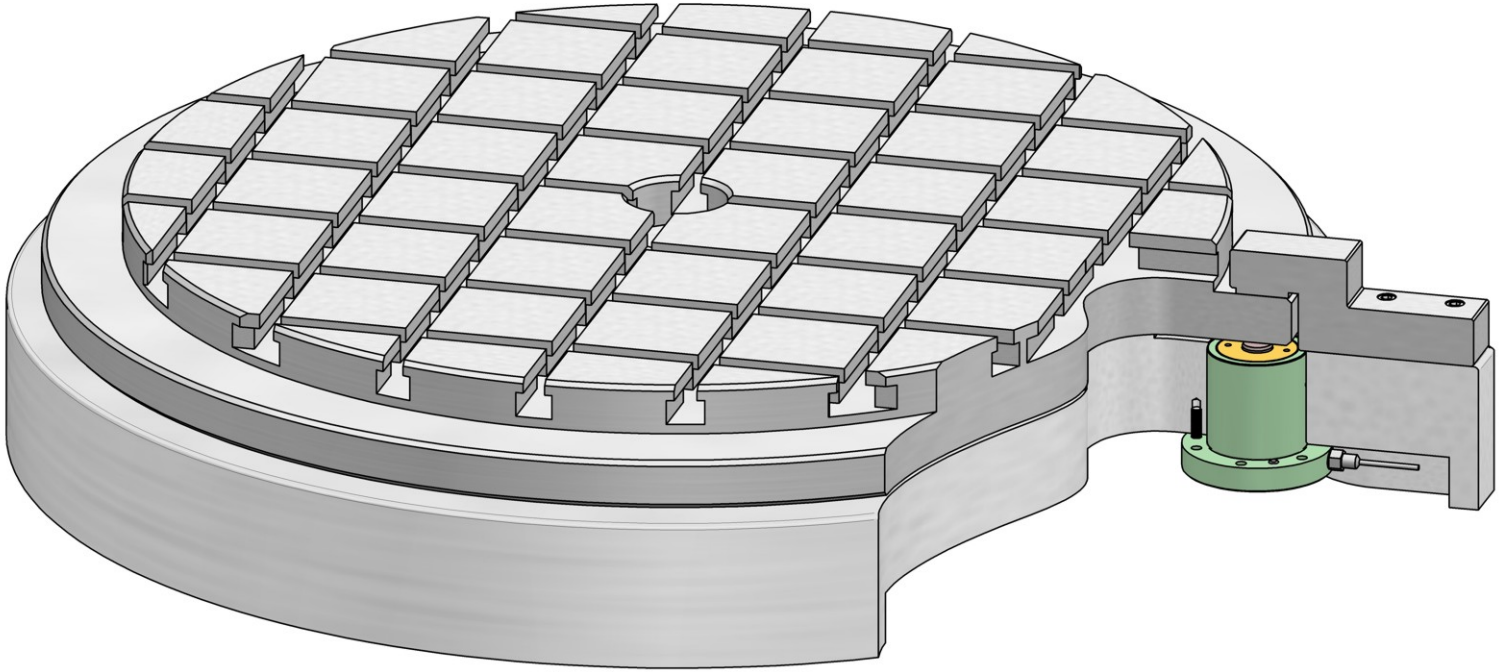
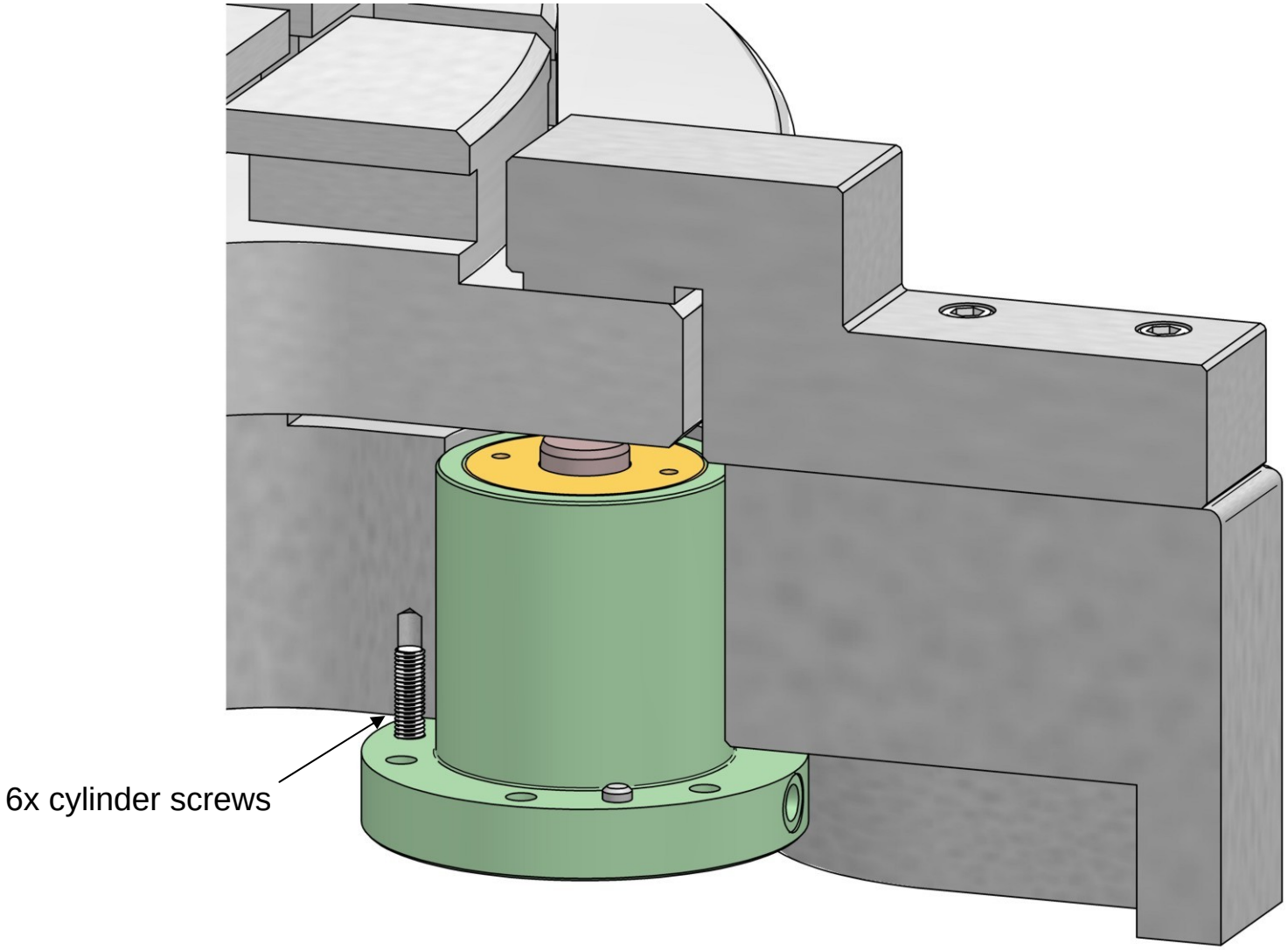
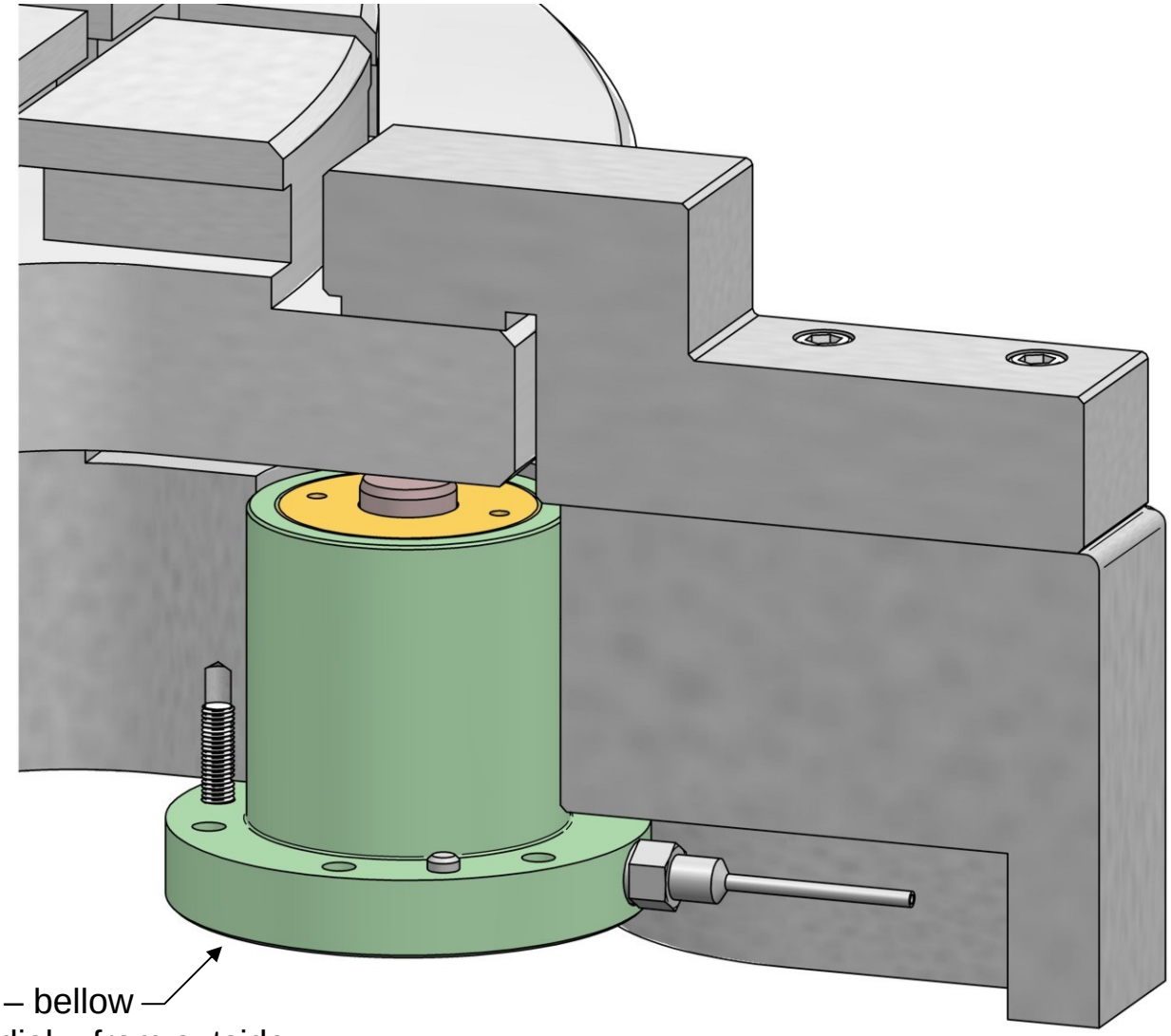
**Operating instructions – instruction for installation of spring clamp cylinder Series ZDF-u**



① Application example:
clamping of rotary table with spring clamping cylinder type ZDF-u 6.300



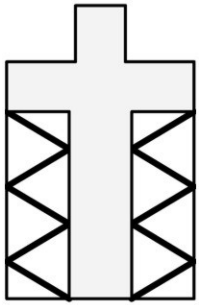

② Mounting of spring clamping cylinder and fastening with 6 cylinder screws



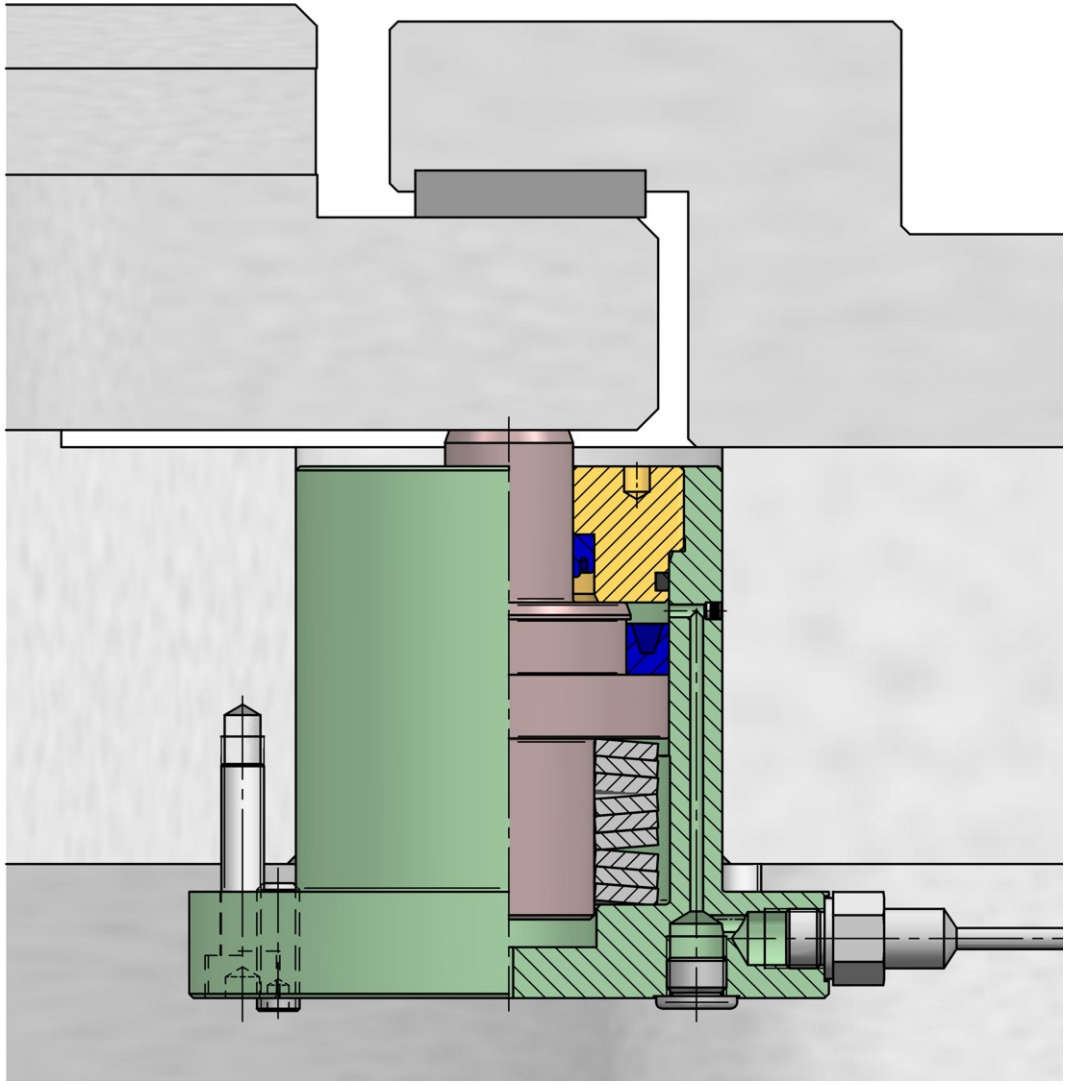
Bleed screw:
G 1/8 on face side – bellow
alternative: G ¼ radial – from outside

## ③ Installation of hydraulic connection and bleed cylinder afterwards

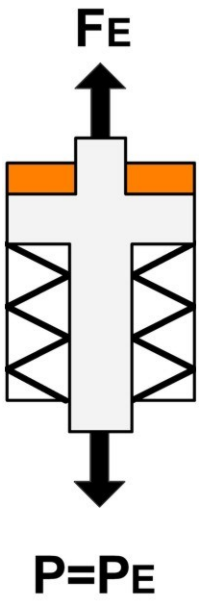
F=0

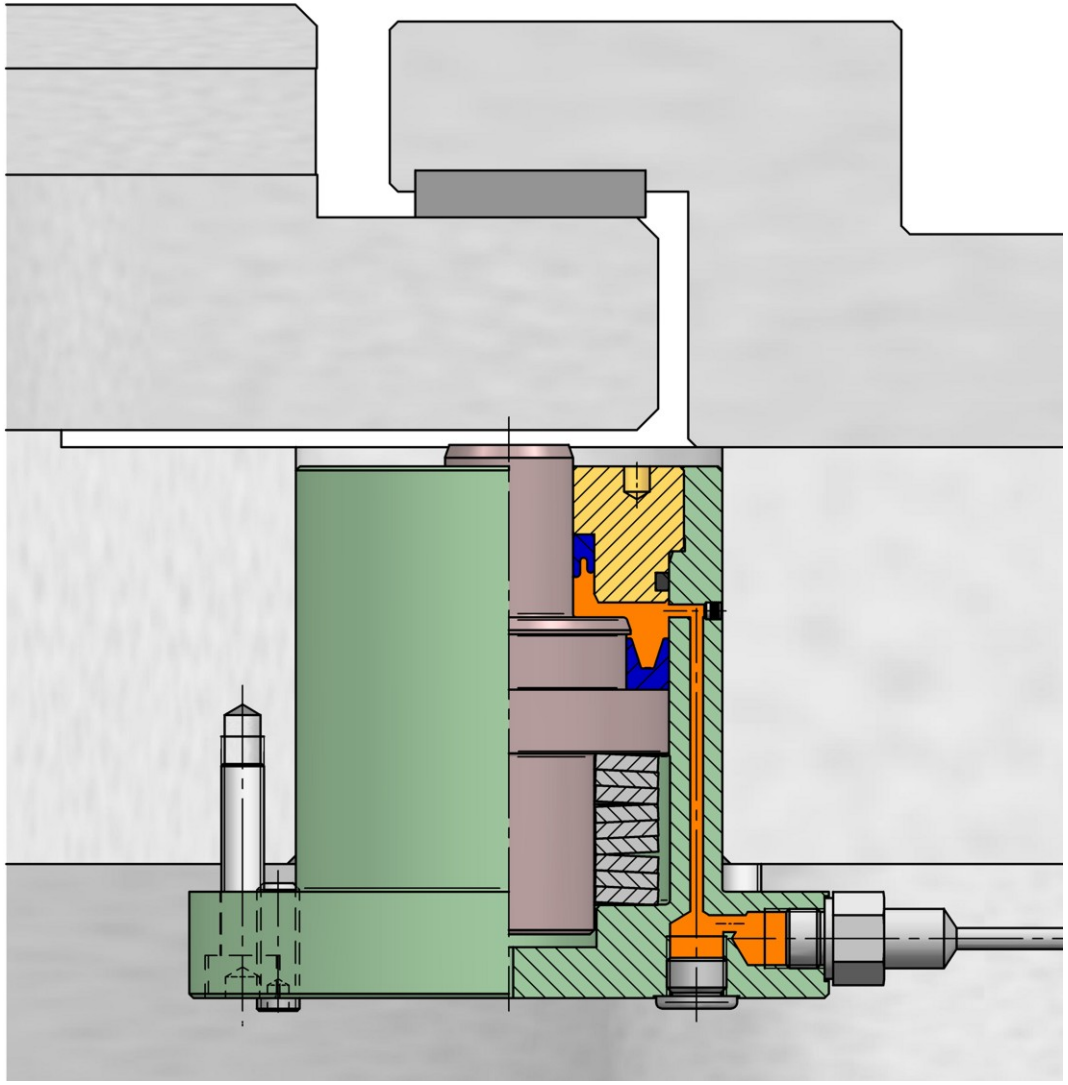


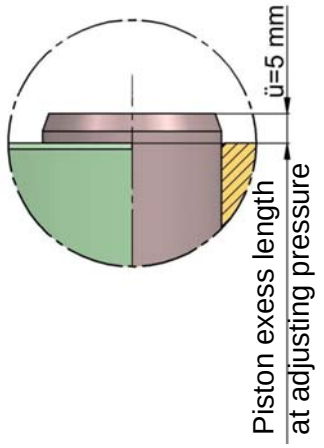
P=0



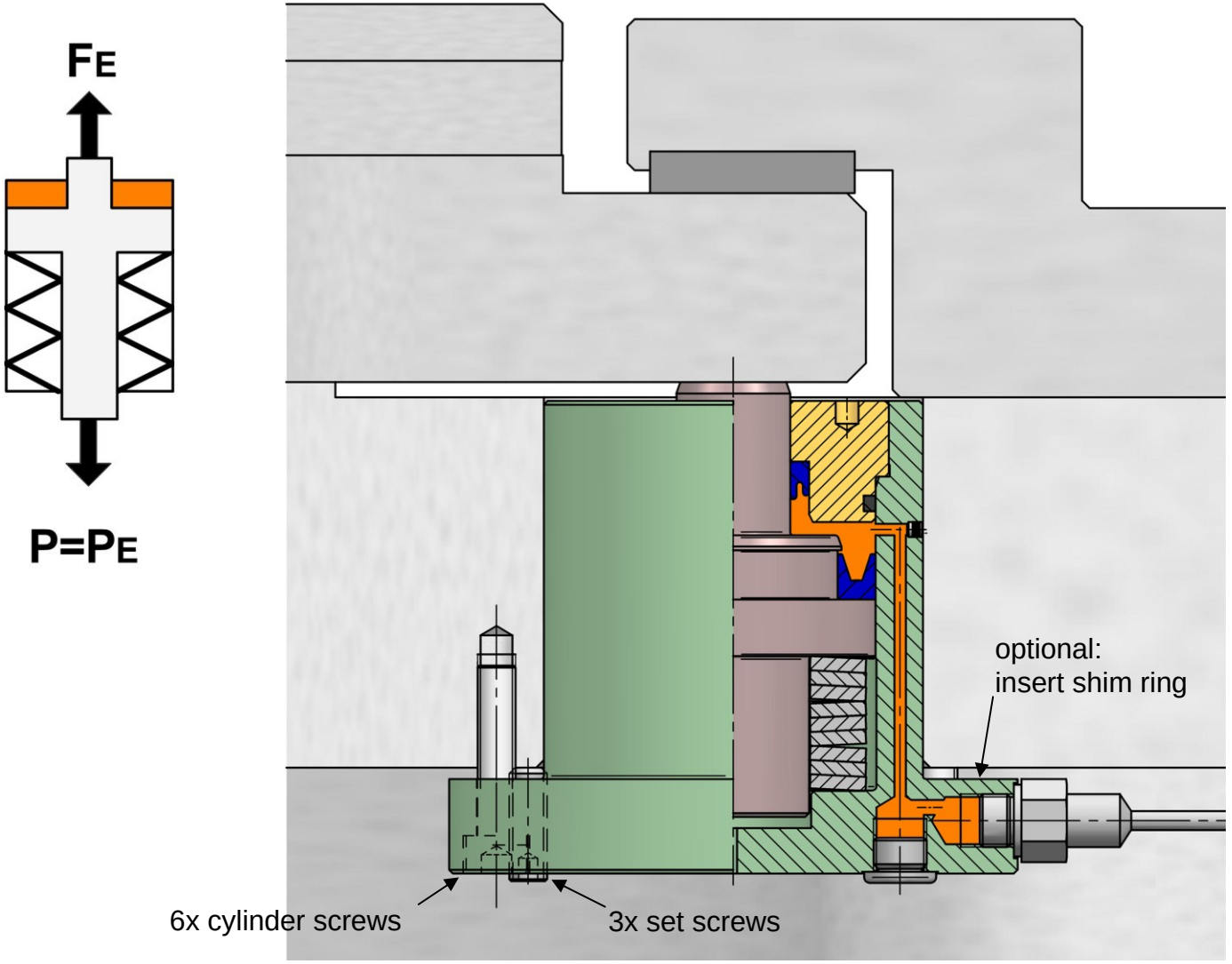
④ Initial position – without hydraulic pressure and without spring pre-load



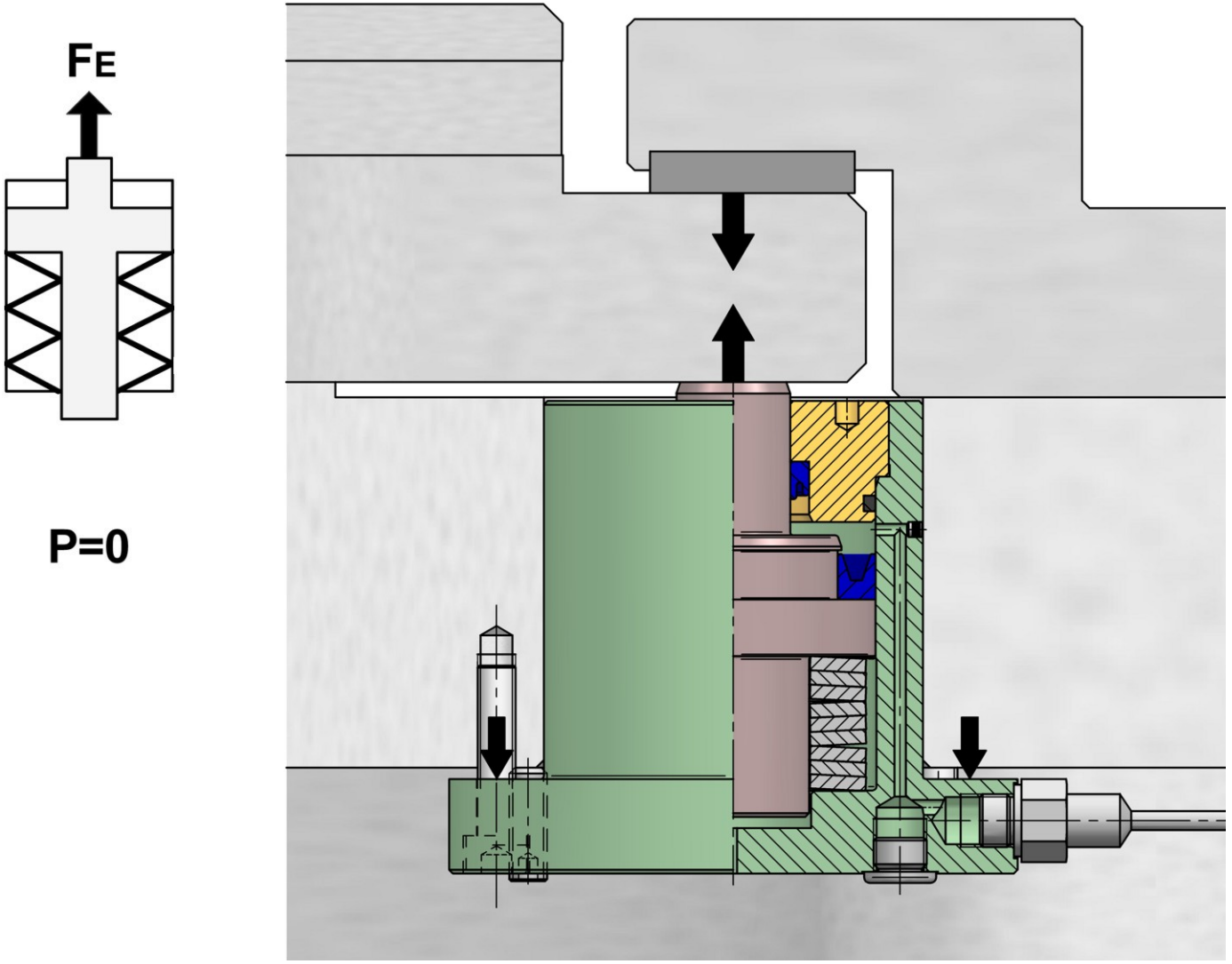





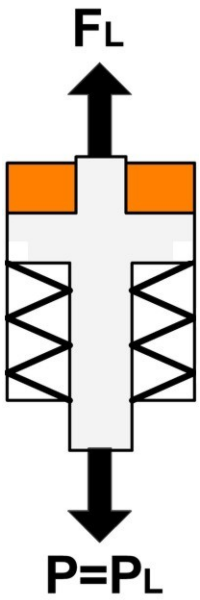

⑤ Load cylinder with adjusting pressure (size ZDF-u 6.300: PE=180 bar) – disk spring package is getting compressed – piston moves some millimeter backwards till ü = approx. 5mm

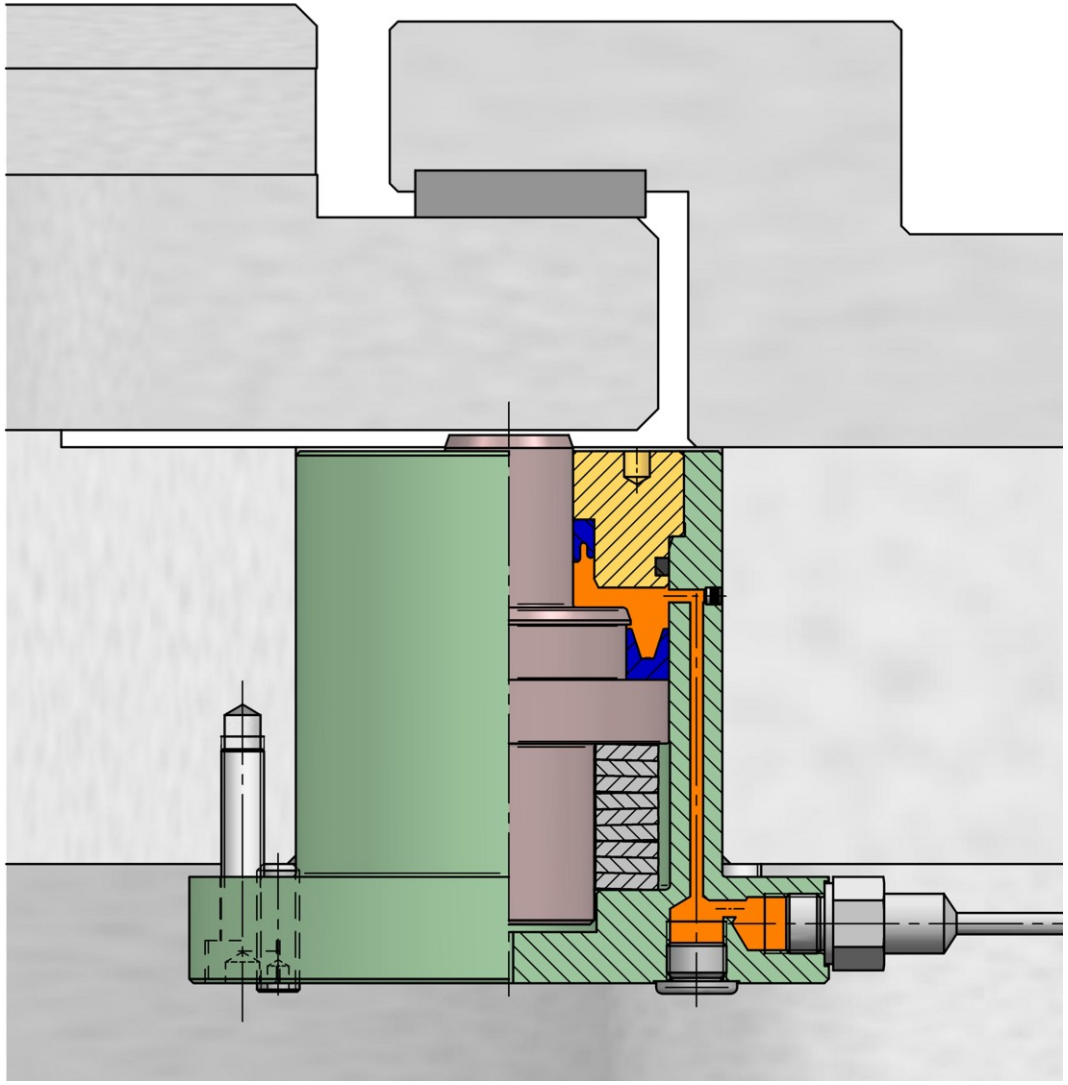


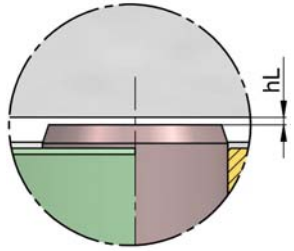

⑥ Adjusting of spring clamping cylinder at setting pressure PE :Screw in cylinder screws till contact of the piston – exact positioning through setscrews or shim ring



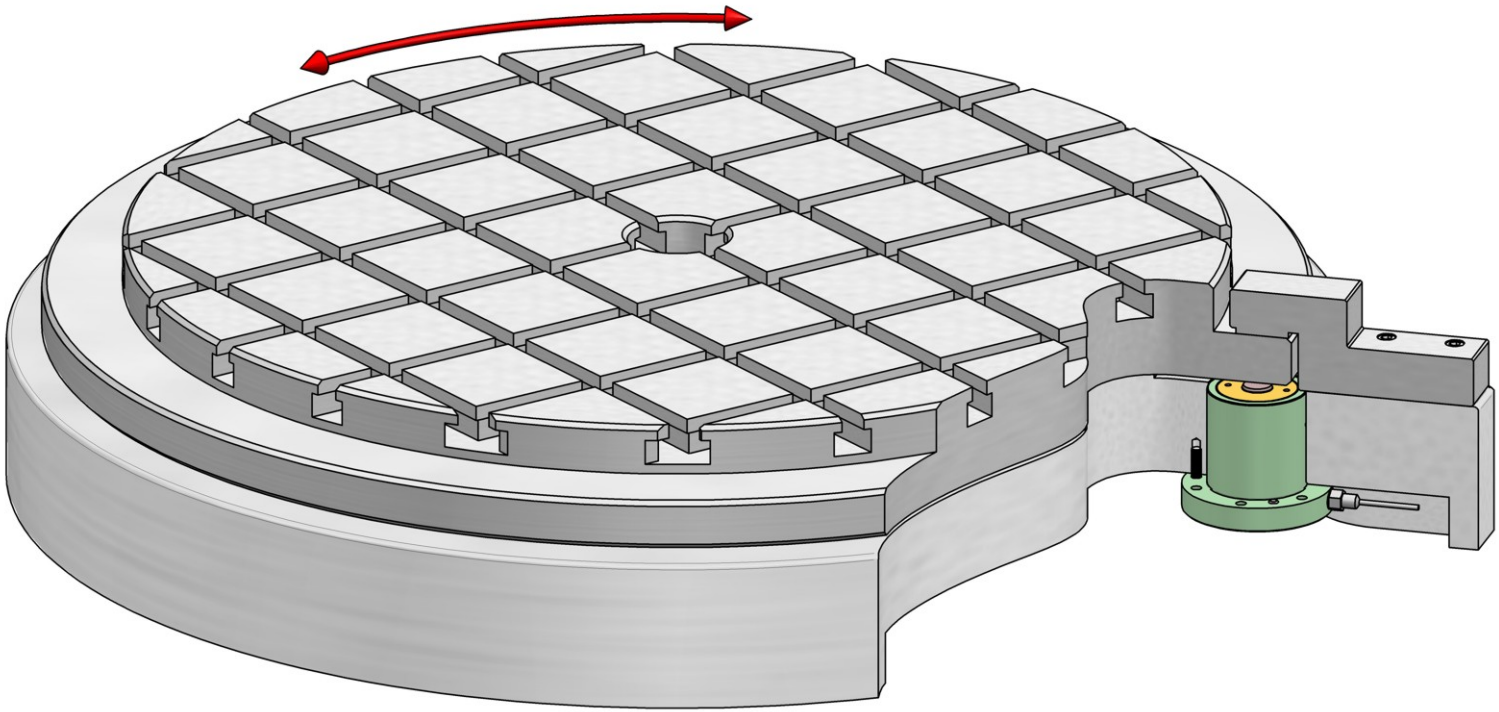

⑦ Clamping operation: release hydraulic pressure - P=0 bar disk spring package is clamping with nominal clamping force $F_E$ (ZDF-u 6.300: $F_E$ = 63 kN)






⑧ Release operation: with release pressure $P_L$ – disk spring package is getting stronger compressed – resultant release stroke $h_L$ of piston (ZDF-u 6.300: $P_L$=max 230 bar / $h_L$=1mm)



⑨ Release position: The clamping piston is loaded with release pressure $P_L$, now the table can be turned to the new clamping position and can be clamped (P=0 bar) again