

# Piston force diagram



## Formulas for calculation:

• of piston force on piston side: (pushing) 
$$F = \frac{p \cdot D^2 \cdot \pi}{40000}$$

• of piston force on rod side: (pulling) 
$$F = \frac{p \cdot (D^2 - d^2) \cdot \pi}{40000}$$

• of the required piston-ø : 
$$D_{\text{erf}} = \sqrt{\frac{F \cdot 40000}{p \cdot \pi}}$$

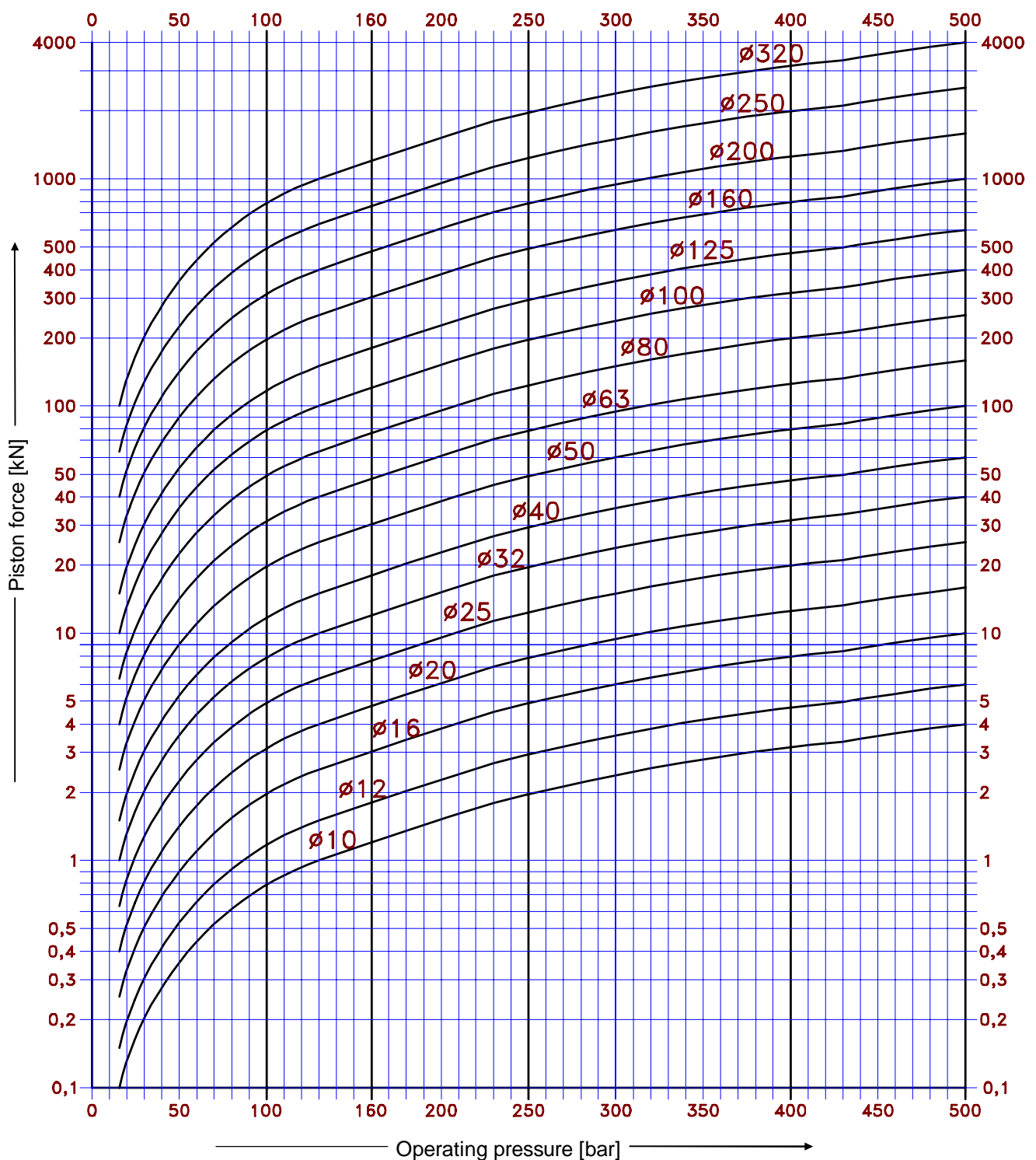
• of the required operating pressure: 
$$p_{\text{erf}} = \frac{F \cdot 40000}{\pi \cdot D^2}$$

F ... piston force [kN]

p ... operating press. [bar]

D ... piston-ø [mm]

d ... rod-ø [mm].



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