

FORMULAS

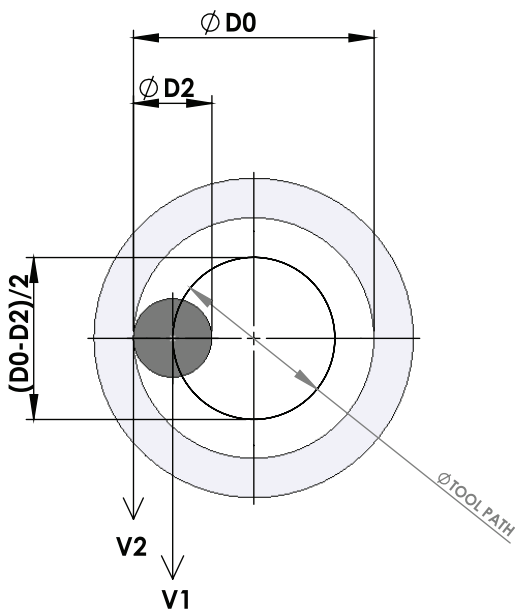
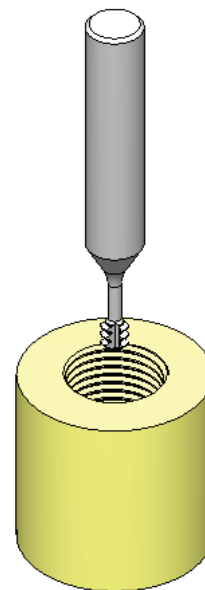
how to calculate the center tool speed (V1) ?
 how to calculate the cycle time T ?

DATA FROM CATALOG

- D0- MAJOR DIA. (mm)
- D2- CUTTING TOOL DIA. (mm)
- N- NO. OF FLUTE
- VR- RECOMMENDE CUTTING SPEED (m/min)
- F- FEED (mm/flute)
- W- TOOL ROTATIONAL SPEED
- V1- CENTER TOOL SPEED (M/MIN)
- V2- tangential tool speed
- T= CYCLE TIME (SECOND)

$$W = VR * 1000 / (\pi * D2) \text{ (rpm)}$$

$$V2 = W * F * N \text{ (mm/min)}$$

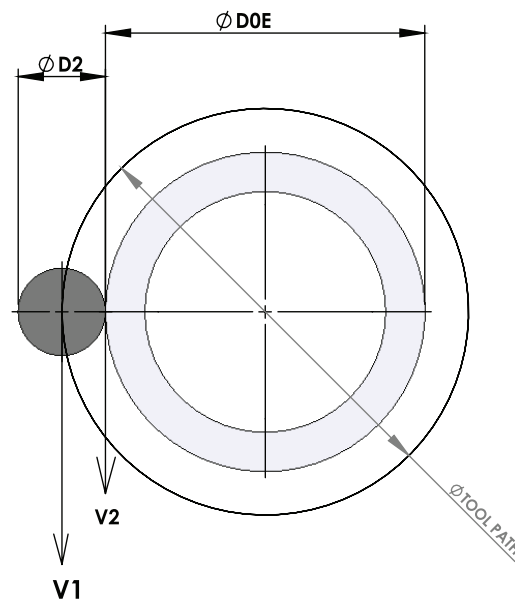


$$V1 = V2 * (D0 - D2) / D0$$

$$W2 = V2 / (\pi * D0) = W * F * N / (\pi * D0)$$

$$T = D0 * D2 * \pi * \pi / (V * F * N * 1000) \text{ (min)}$$

for one revolution



$$V1 = V2 * (D0E + D2) / D0$$

$$W2 = V2 / (\pi * D0E) = W * F * N / (\pi * D0)$$

$$T = D0E * D2 * \pi * \pi / (V * F * N * 1000) \text{ (min)}$$

for one revolution