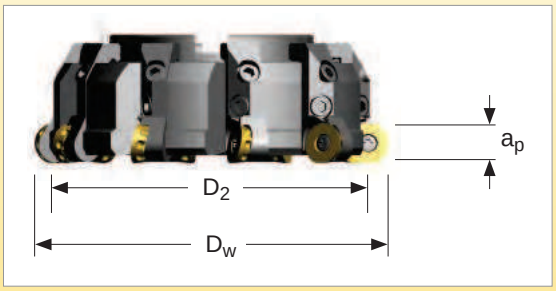
80.0VR00-_R-20 Technical Information



Working Diameter:

Formula to evaluate the correct working diameter based on axial depth of cut (a_p).

$$D_w = D_2 + 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where:

D_w = Working Diameter
D_2 = Diameter of cutter insert centre to centre
r = Insert radius
a_p = Axial Depth of Cut

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where:

f_z = Feed per tooth
h_m = Average chip thickness
r = Insert radius
a_e = Radial Depth of Cut
a_p = Axial Depth of Cut

Formula to find programmed feed rate based on radial engagement and axial depth of cut.

$$f_z = \frac{h_m}{\frac{\sqrt{r^2-(r-a_e)^2}}{r} \times \frac{\sqrt{r^2-(r-a_p)^2}}{r}}$$

Formula to calculate the average chip thickness h_m in relation with radial engagement and depth of cut.

$$h_m = f_z \times \frac{\sqrt{r^2-(r-a_e)^2}}{r} \times \frac{\sqrt{r^2-(r-a_p)^2}}{r}$$