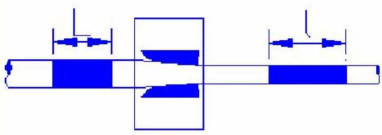
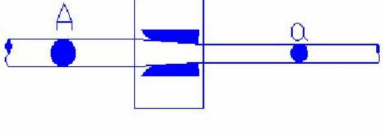
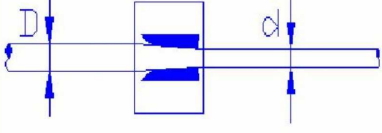


Wire drawing die formula

Input diameter (D) :	$D = \frac{d}{(1 - (A_r/100))^{1/2}}$
Output diameter (d):	$d = D(\sqrt{1 - (A_r/100)})$
Elongation (E):	$E = 100 [(D/d)^2 - 1]$
Area reduced rate (A _r):	$A_r = 100 [1 - (d/D)^2]$
Whole Area reduced rate (A _{re}):	$A_{re} = 100 [1 - \sqrt{(d/D)^2}]^2$
Speed of input wire (VD):	$VD = Vd(d/D)^2$
Speed of output wire (Vd):	$Vd = \frac{VD}{1 - (A_r/100)}$
Number of dies (n):	$n = \frac{\log[1 - (A_r/100)]}{\log[1 - (A_{re}/100)]}$

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	<p><i>E</i> – Elongation <i>L</i> – Input length <i>l</i> – Output length $E = \frac{l-L}{L} \times 100\% = \frac{100A_r}{100 - A_r}$</p>
	<p><i>A_r</i> – Area reduced rate <i>A</i> – Input area <i>a</i> – Output area $A_r = \frac{A-a}{A} \times 100\% = \frac{100E}{100 + E}$</p>
	<p><i>D_r</i> – Diameter reduced rate <i>D</i> – Input diameter <i>d</i> – Output diameter $D_r = \frac{D-d}{D} = 100 - \left(1 - \sqrt{\frac{A_r}{E}}\right)$</p>