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**ANSI B92.1-1970 FORMULAS FOR THE BASIC DIMENSIONS 30°, 37.5° & 45° PA**

Terms & Symbols	30° Spline			37.5° Spline	45° Spline
	Flat Root Side Fit	Flat Root Major Dia. Fit	Fillet Root Side Fit	Fillet Root Side Fit	Fillet Root Side Fit
	2.5/5 thru 32/64 Pitch	3/6 thru 16/32 Pitch	2.5/5 thru 48/96 Pitch	2.5/5 thru 48/96 Pitch	10/20 thru 128/256 Pitch
Stub Pitch (Ps)	$2P$	$2P$	$2P$	$2P$	$2P$
Pitch Diameter (D)	$\frac{N}{P}$	$\frac{N}{P}$	$\frac{N}{P}$	$\frac{N}{P}$	$\frac{N}{P}$
Base Diameter (Db)	$D \cos j_{\phi}$	$D \cos j_{\phi}$	$D \cos j_{\phi}$	$D \cos j_{\phi}$	$D \cos j_{\phi}$
Circular Pitch (P)	$\frac{\pi}{P}$	$\frac{\pi}{P}$	$\frac{\pi}{P}$	$\frac{\pi}{P}$	$\frac{\pi}{P}$
Min. Effective Space Width (Sv)	$\frac{\pi}{2P}$	$\frac{\pi}{2P}$	$\frac{\pi}{2P}$	$\frac{5\pi + 0.1}{P}$	$\frac{5\pi + 0.2}{P}$
Major Diameter Internal (Dri)	$\frac{N + 1.35}{P}$	$\frac{N + 1}{P}$	$\frac{N + 1.8}{P}$	$\frac{N + 1.6}{P}$	$\frac{N + 1.4}{P}$
Major Diameter External (Do)	$\frac{N + 1}{P}$	$\frac{N + 1}{P}$	$\frac{N + 1}{P}$	$\frac{N + 1}{P}$	$\frac{N + 1}{P}$
Minor Diameter Internal (Di)	$\frac{N - 1}{P}$	$\frac{N - 1}{P}$	$\frac{N - 1}{P}$	$\frac{N - 0.8}{P}$	$\frac{N - 0.6}{P}$
Minor Diameter External (Dre)	2.5/5 thru 12/24 Pitch	$\frac{N + 1.35}{P}$	$\frac{N - 1.8}{P}$	$\frac{N - 1.3}{P}$	$\frac{N - 1}{P}$
	16/32 Pitch & Finer		$\frac{N - 2}{P}$		
	10/20 Pitch & Finer				
Form Diameter Internal (Dfi)	$\frac{N + 1}{P} + 2cf$	$\frac{N + 0.8}{P} + 2cf$	$\frac{N + 1}{P} + 2cf$	$\frac{N + 1}{P} + 2cf$	$\frac{N + 1}{P} + 2cf$
Form Diameter External (Dfe)	$\frac{N - 1}{P} + 2cf$	$\frac{N - 1}{P} + 2cf$	$\frac{N - 1}{P} + 2cf$	$\frac{N - 1}{P} + 2cf$	$\frac{N - 1}{P} + 2cf$
Form Clearance (Radial) (cf)	0.001 D with Max of 0.010, Min of 0.002				