

Material	Material	Material	Matière
Application	Aplicaciones	Aplicação	Utilisation
Type	Tipo	Tipo	Type
teeth (z)	Dientes	Navalhas	Dent
Cut length	Longitud de corte	Comprimento Navalha	Longueur de coupe
Helix angle/ Rake angle	Ângulo de la hélice/ Ângulo de corte	Ângulo da Hélice / Ângulo de Saída	Angle d'hélice / Angle de coupe
Shank standard	Mango	Encabadouro	Queue
Coating	Tratamiento superficial	Revestimento	Revêtement
Diameter tolerance	Tolerancia del diámetro	Tolerância do diâmetro	Tolérance
Direction	Dirección	Direção	Direction
Standard	Norma	Standard	Standard
<ul style="list-style-type: none"> ■ Excellent for Application ● Good for Application 	<p>Excelente para la Aplicación</p> <p>Bueno para la Aplicación</p>	<p>Excelente para a Aplicação</p> <p>Bom para a Aplicação</p>	<p>Excellent pour les applications</p> <p>Acceptable pour les applications</p>
<p>Example</p> <p>10 = Peripheral speed in metres/minute +/- 10%</p>	<p>Ejemplo</p> <p>10 = Velocidad Periférica en metros/ minuto +/- 10%</p>	<p>Exemplo</p> <p>10 = velocidade periférica em metros / minuto + / - 10%</p>	<p>Exemple</p> <p>10 = Vitesse périphérique en mètres/ minute +/- 10%</p>
Codes	Código de producto	Código	Codes
Range	Rango de Diámetros	Gama de medidas	Gamme

AMG	English	Español	Português	Français
1.1	Magnetic soft steel	Acero blando	Aço macio de baixa resistência	Acier doux magnétique
1.2	Structural steel, case carburizing steel	Acero de construcción/cementación	Aço estrutural / Aço cementado	Acier de construction, Acier de cémentation
1.3	Plain Carbon steel	Acero al carbono	Aço carbono	Acier au carbone ordinaire
1.4	Alloy steel	Acero aleado	Aço de liga	Acier allié
1.5	Alloy steel, Hardened and tempered steel	Acero aleado/temple y revenido	Aço de Liga endurecido e temperado	Acier allié/ Acier trempé et revenu
1.6	Alloy steel, Hardened and tempered steel	Acero aleado/temple y revenido	Aço de Liga endurecido e temperado	Acier allié/ Acier trempé et revenu
1.7	Alloy steel, Heat treated	Acero aleado cementado	Aço de liga temperado	Acier allié trempé
1.8	Alloy steel, Hardened & Wear resistant steel	Acero aleado cementado	Aço de liga temperado / resistente ao desgaste	Acier allié trempé
2.1	Free machining, Stainless Steel	Acero inoxidable fácil mecanizado	Aço inoxidável de fácil maquinação	Acier inoxydable de décolletage
2.2	Austenitic	Austenítico	Austenítico	Austénitique
2.3	Ferritic + Austenitic, Ferritic, Martensitic	Ferrítico, Ferr. + Aust., Marten	Ferrítico + Austenítico + Martensítico	Ferritique + Austénitique, Martensitique
2.4	Precipitation Hardened	Acero Inoxidable Templado	Aço Inoxidável Temperado	Acier inoxydable Trempé
3.1	Lamellar graphite	Con grafito laminar	Grafite Lamelar	Graphite lamellaire
3.2	Lamellar graphite	Con grafito laminar	Grafite Lamelar	Graphite lamellaire
3.3	Nodular graphite, Malleable Cast Iron	Con graf. laminar, fundic. maleable	Grafite nodular / Ferro fundido maleável	Graphite nodulaire/ Fonte malléable
3.4	Nodular graphite, Malleable Cast Iron	Con graf. laminar, fundic. maleable	Grafite nodular / Ferro fundido maleável	Graphite nodulaire/ Fonte malléable
4.1	Titanium, unalloyed	Titanio no aleado	Titânio, sem liga	Titane, non-allié
4.2	Titanium, alloyed	Titanio aleado	Ligas de Titânio	Titane, allié
4.3	Titanium, alloyed	Titanio aleado	Ligas de Titânio	Titane, allié
5.1	Nickel, unalloyed	Níquel no aleado	Níquel, sem liga	Nickel, non-allié
5.2	Nickel, alloyed	Níquel aleado	Ligas de níquel	Nickel, allié
5.3	Nickel, alloyed	Níquel aleado	Ligas de níquel	Nickel, allié
6.1	Copper	Cobre	Cobre	Cuivre
6.2	β-Brass, Bronze	β-Latón, bronce	Latão beta, bronze	β-Laiton, Bronze
6.3	α-Brass	α-Latón	Latão alfa	α-Laiton
6.4	High Strength Bronze	Metal AMPCO	Ligas de Cu-Al-Fe, Bronze de alta resistência	Bronze, haute résistance
7.1	Al, Mg, unalloyed	Al, Mg, no aleado	Al, Mg, sem liga	Al, Mg, non-allié
7.2	Al alloyed, Si < 0.5%	Al aleado con Si < 0.5%	Ligas de Al, Si : Si < 0.5%	Al allié, Si < 0.5%
7.3	Al alloyed, Si > 0.5% < 10%	Al aleado con Si > 0.5% < 10%	Ligas de Al, Si : Si > 0.5% < 10%	Al allié, Si > 0.5% < 10%
7.4	Al alloyed, Si > 10% Whisker reinforced Al-alloys Mg-alloys	Al aleado, Si > 10% Reforzado por filamentos, Al-aleados, Mg-aleados	Al com liga, Si > 10%, reforçadas com monocristais filiformes, ligas Al/Mg	Al allié, Si > 10% Alliages d'Al ou Mg, céramique renforcée
8.1	Thermoplastics	Termoplásticos	Termoplásticos	Thermoplastiques
8.2	Thermosetting plastics	Plásticos endurecidos por calor	Plásticos termoduros	Plastiques thermodurcissables
8.3	Reinforced plastic materials	Materiales plásticos reforzados	Materiais plásticos reforçados	Plastiques renforcés
9.1	Cermets (metals-ceramics)	Cerametales (metales-cerámicas)	Materiais cerâmicos (metalocerâmica)	Cermets (céramiques métalliques)
10.1	Graphite	Grafito standard	Grafite standard	Graphite standard

	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM		
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
	Z 2	Z 2	Z 2	Z 2	Z 2	Z 3	Z 3	Z 3	Z 3	Z 3	Z 2	Z 2	Z 2	Z 3	Z 3		
	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$		
	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HB		
											h9	h10	h10	h9	h10		
	DIN 6527K	DIN 6527K	DIN 6527L	DIN 6527L	DORMER	DIN 6527K	DIN 6527K	DIN 6527L	DIN 6527L	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER		
	S802HA	S802HB	S812HA	S812HB	S822	S803HA	S803HB	S813HA	S813HB	S823	S710	S902	S922	S713	S903	S933	
	1.00 - 20.00	1.80 - 20.00	2.00 - 20.00	2.00 - 20.00	2.00 - 20.00	1.00 - 20.00	1.80 - 20.00	2.00 - 20.00	2.00 - 20.00	2.00 - 20.00	1.00 - 20.00	2.00 - 20.00	2.00 - 20.00	1.50 - 20.00	2.00 - 20.00	2.00 - 20.00	
AMG	390	390	391	391	392	393	393	394	394	395	396	397	397	398	399	399	ISO
1.1	■260B	■260B	■210B	■210B	■180B	■260B	■260B	■210B	■210B	■180B	■140C	■65B	■95B	■140C	■65B	■95B	P 1
1.2	■260B	■260B	■210B	■210B	■180B	■260B	■260B	■210B	■210B	■180B	■140C	■65B	■95B	■140C	■65B	■95B	P 1
1.3	■155B	■155B	■125B	■125B	■110B	■155B	■155B	■125B	■125B	■110B	■130C	■55B	■80B	■130C	■55B	■80B	P 2
1.4	■155B	■155B	■125B	■125B	■110B	■155B	■155B	■125B	■125B	■110B	■130C	■50B	■75B	■130C	■50B	■75B	P 3
1.5	■115B	■115B	■90B	■90B	■80B	■115B	■115B	■90B	■90B	■80B	■120C	■30B	■45B	■120C	■30B	■45B	P 4
1.6	■90B	■90B	■75B	■75B	■65B	■90B	■90B	■75B	■75B	■65B		■30B	■30B		■30B	■30B	H 1
1.7																	H 3
1.8																	H 4
2.1	■105A	■105A	■75A	■75A	■70A	■105A	■105A	■85A	■85A	■70A	■80B			■80B			M 1
2.2	■70A	■70A	■55A	■55A	■50A	■70A	■70A	■55A	■55A	■50A	■70B			■70B			M 3
2.3	■70A	■70A	■55A	■55A	■50A	■70A	■70A	■55A	■55A	■50A							M 2
2.4	■50A	■50A				■50A	■50A										S 2
3.1	■180B	■180B	■145B	■145B	■125B	■180B	■180B	■145B	■145B	■125B	■170C	■55B	■80B	■170C	■55B	■80B	K 1
3.2	■110B	■110B	■85B	■85B	■75B	■110B	■110B	■85B	■85B	■75B	■150C	■30B	■45B	■150C	■30B	■45B	K 2
3.3	■145B	■145B	■115B	■115B	■100B	■145B	■145B	■115B	■115B	■100B	■130C	■55B	■80B	■130C	■55B	■80B	K 3
3.4	■95B	■95B	■75B	■75B	■65B	■95B	■95B	■75B	■75B	■65B	■120C	■30B	■45B	■120C	■30B	■45B	K 4
4.1	■170B	■170B	■140B	■140B	■120B	■170B	■170B	■140B	■140B	■120B	■65B	■95B	■65B	■95B	■65B	■95B	S 1
4.2	■115B	■115B	■90B	■90B	■80B	■115B	■115B	■90B	■90B	■80B	■70B	■30B	■45B	■70B	■30B	■45B	S 2
4.3												■15B	■20B		■15B	■20B	S 3
5.1	■165B	■165B	■130B	■130B	■115B	■165B	■165B	■130B	■130B	■115B	■65B	■95B	■65B	■95B	■65B	■95B	S 1
5.2	■35A	■35A	■25A	■25A	■25A	■35A	■35A	■25A	■25A	■25A	■70B			■70B			S 2
5.3																	S 3
6.1	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	■220C	■110C	■155C		■110C	■155C		N 3
6.2	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	■220C	■110C	■155C		■110C	■155C		N 4
6.3	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	■220C	■110C	■155C		■110C	■155C		N 3
6.4	■40B	■40B	■30C	■30C	■25B	■40B	■40B	■30C	■30C	■25B		■15B	■20B		■15B	■20B	N 4
7.1	■800C	■800C	■640C	■640C	■550C	■800C	■800C	■640C	■640C	■550C		■275C	■390C		■275C	■390C	N 1
7.2	■800C	■800C	■640C	■640C	■550C	■800C	■800C	■640C	■640C	■550C		■275C	■390C		■275C	■390C	N 1
7.3	■480C	■480C	■380C	■380C	■330C	■480C	■480C	■380C	■380C	■330C		■165C	■235C		■165C	■235C	N 1
7.4	■240B	■240B	■190B	■190B	■160B	■240B	■240B	■190B	■190B	■160B							N 2
8.1	■320C	■320C	■255C	■255C	■245C	■320C	■320C	■255C	■255C	■245C		■110C	■155C		■110C	■155C	O
8.2	■320C	■320C	■255C	■255C	■245C	■320C	■320C	■255C	■255C	■245C		■110C	■155C		■110C	■155C	O
8.3												■30B	■45B		■30B	■45B	O
9.1																	H
10.1																	O

	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	
	N	N	W	W	W	W	N	N	N	N	N	N	N	N	N	
	Z 3	Z 3	Z 1	Z 2	Z 2	Z 2	Z 4	Z 4	Z 4	Z 4	Z 4	Z 4	Z 4	Z 4	Z 4	
	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 25^\circ$ $\gamma 20^\circ$	$\lambda 30^\circ$ $\gamma 20^\circ$	$\lambda 30^\circ$ $\gamma 20^\circ$	$\lambda 30^\circ$ $\gamma 20^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 40^\circ$ $\gamma 3^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$
	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HB
	AlCrN	AlCrN	Hi	Hi	Hi	Hi	AlCrN	AlCrN	AlTiN	AlCrN	AlCrN	AlCrN	Diamond	AlTiN	AlCrN	TiAlN
	h9	h9	h9	h9	h9	h9	h10	h10	h9	h10	h10	h9	h9	h9	h12	h12
	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DIN 6527K	DIN 6527K	DORMER	DIN 6527L	DIN 6527L	DORMER	DORMER	DORMER	DORMER	DORMER
	S714	S715	S637	S638	S610	S611	S804HA	S804HB	S219	S814HA	S814HB	S716	S612	S216	S904	S944
	3.00 - 20.00	3.00 - 20.00	2.00 - 12.00	6.20 - 20.30	3.00 - 20.00	6.00 - 20.00	2.00 - 25.00	2.00 - 25.00	3.00 - 20.00	2.00 - 25.00	2.00 - 25.00	2.00 - 20.00	1.00 - 12.00	2.00 - 20.00	2.00 - 20.00	2.00 - 20.00
AMG	400	401	402	403	404	405	406	406	407	408	408	409	410	411	412	412
1.1	■110C	■70C					■360B	■360B		■270B	■270B	■140C			■95B	■140B
1.2	■110C	■70C					■300B	■300B		■225B	■225B	■140C			■95B	■140B
1.3	■100C	■65C					■230B	■230B		■175B	■175B	■130C			■80B	■120B
1.4	■100C	■65C					■230B	■230B		■175B	■175B	■130C			■70B	■105B
1.5	■95C	■60C					■165B	■165B		■125B	■125B	■120C			●55B	■80B
1.6							■130B	■130B	■90C	●100B	●100B				●30B	●45B
1.7																
1.8																
2.1	■65B	■40B					■165A	■165A		■125A	■125A	■80B				
2.2	■55B	■35B					■110A	■110A		●85A	●85A	■70B				
2.3							●110A	●110A	■70B	●85A	●85A					
2.4							●75A	●75A	■50B					■70B		
3.1	■135C	■85C					■275B	■275B		■205B	■205B	■170C			■80B	■120B
3.2	■120C	■75C					■165B	■165B		■125B	■125B	■150C			●55B	■80B
3.3	■100C	■65C					■165B	■165B		■125B	■125B	■130C			■70B	■105B
3.4	■95C	■60C					■135B	■135B		■105B	■105B	■120C			●55B	■80B
4.1							●275B	●275B		●205B	●205B				■95B	■140B
4.2	■55B	■35B					●140B	●140B		●105B	●105B	■70B			●40B	●60B
4.3									■50B						●30B	●45B
5.1							●275B	●275B		●205B	●205B				■135B	■200B
5.2	■55B	■35B					●55A	●55A		●40A	●40A	■70B			●30A	●45A
5.3									■50B						●25A	●35A
6.1	●200E	●125E	■350E	■400E	■350E	■280E	●320C	●320C		●255C	●255C			■110C	■155C	N 3
6.2	●190E	●115E	■300E	■345E	■300E	■240E	■320C	■320C		■255C	■255C			■110C	■155C	N 4
6.3	●175E	●110E	■250E	■290E	■250E	■200E	■320C	■320C		■255C	■255C			■110C	■155C	N 3
6.4	●160E	●100E	■200E	■230E	■200E	■160E	■40B	■40B		■32C	■32C			●15B	●20B	N 4
7.1	●200E	●125E	■600E	■690E	■600E	■480E	●800C	●800C		●640C	●640C			●275C	●390C	N 1
7.2	●190E	●115E	■500E	■575E	■500E	■400E	●800C	●800C		●640C	●640C			●275C	●390C	N 1
7.3	●175E	●110E	■400E	■460E	■400E	■320E	●480C	●480C		●380C	●380C			●165C	●235C	N 1
7.4	●160E	●100E	■350E	■400E	■350E	■280E	●240B	●240B		●190B	●190B					N 2
8.1			■800E	■980E	■800E	■640E	●320C	●320C		●255C	●255C			●110C	●155C	O
8.2			■800E	■980E	■800E	■640E	●320C	●320C		●255C	●255C			●110C	●155C	O
8.3														●55B	●80B	O
9.1																
10.1												■350A				

	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM		
	N	N	N	N	N	N	N	N	N	N	N	N	NR	NR	N	N		
	Z 4	Z 4	Z 4	Z 4	Z 4	Z 4	Z 4	Z 6-8	Z 6-8	Z 6-8	Z 6-8	Z 6-8	Z 4	Z 4	Z 4	Z 4		
	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 3^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 3^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 4^\circ$	$\lambda \neq$ $\gamma 10^\circ$	$\lambda 50^\circ$ $\gamma 3^\circ$	$\lambda 50^\circ$ $\gamma 26^\circ$	$\lambda 50^\circ$ $\gamma 3^\circ$	$\lambda 50^\circ$ $\gamma 26^\circ$	$\lambda 50^\circ$ $\gamma 3^\circ$	$\lambda 50^\circ$ $\gamma 26^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 4^\circ$	$\lambda 40^\circ$ $\gamma 6^\circ$	$\lambda 45^\circ$ $\gamma 10^\circ$	
	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	
	AICN	AITN	AICN	AITN	AICN	AICN	TISN	AITN	TISN	AITN	TISN	AITN	TISN	AICN	AICN	TISN	TISN	
	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	
	S717	S217	S718	S218	S761	S260	S766	S225	S525	S226	S526	S227	S527	S765	S264	S524	S521	
	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	4.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	6.00 - 20.00	3.00 - 20.00	6.00 - 20.00	6.00 - 20.00	3.00 - 16.00	3.00 - 16.00	
AMG	413	413	414	414	415	415	416	417	417	418	418	419	419	420	421	422	423	ISO
1.1	■110C		■70C		■140D		■140D							■140D				P 1
1.2	■110C		■70C		■140D		■140D							■140D				P 1
1.3	■100C		■65C		■130D		■130D							■130D				P 2
1.4	■100C		■65C		■130D		■130D							■130D				P 3
1.5	■95C		■60C		■120D		■120D							■120D				P 4
1.6		■72C		■45C		■110D		■90C		■72C		■45C			■110D			H 1
1.7					■85B			■70A		■56A		■45C		■35A	■85B	■56A	■70A	H 3
1.8								■50A		■40A		■25A			■40A	■50A		H 4
2.1	■65B		■40B		■80C		■80C							■80C				M 1
2.2	■55B		■35B		■70C		■70C							■70C				M 3
2.3		■56B		■35B		■70C		■70B		■56B		■35B			■70C			M 2
2.4		■40B		■25B		■50C		■50B		■40B		■25B			■50C			S 2
3.1	■135C		■85C		■170D		■170D							■170D				K 1
3.2	■120C		■75C		■150D		■150D							■150D				K 2
3.3	■100C		■65C		■130D		■130D							■130D				K 3
3.4	■95C		■60C		■120D		■120D							■120D				K 4
4.1																		S 1
4.2	■55B		■35B		■70C		■70C							■70C				S 2
4.3		■40B		■25B		■50C		■50B		■40B		■25B			■50C			S 3
5.1																		S 1
5.2	■55B		■35B		■70C		■70C							■70C				S 2
5.3		■40B		■25B		■50C		■50B		■40B		■25B			■50C			S 3
6.1	●200E		●125E															N 3
6.2	●190E		●115E															N 4
6.3	●175E		●110E															N 3
6.4	●160E		●100E															N 4
7.1	●200E		●125E															N 1
7.2	●190E		●115E															N 1
7.3	●175E		●110E															N 1
7.4	●160E		●100E															N 2
8.1																		O
8.2																		O
8.3																		O
9.1																		H
10.1																		O

	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM			
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	W	N			
	Z 4	Z 4	Z 4	Z 4	Z 4-6	Z 2	Z 2	Z 2	Z 2	Z 2	Z 2	Z 2	Z 4	Z 4	Z 4	Z 2	Z 2			
	$\lambda 40^\circ$ $\gamma -6^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 4^\circ$	$\lambda \neq$ $\gamma 10^\circ$	$\lambda 25^\circ$ $\gamma 0^\circ$	$\lambda 30^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$			
	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA			
	TISIN	AICN	AICN	TISIN	TISIN	TISIN	TISIN	TISIN	TISIN	TISIN	TISIN	X-CEED	TISIN	TISIN	X-CEED	HI	AITN			
	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9			
	S523	S763	S262	S767	S536	S229	S231	S233	S529	S531	S533	S501	S534	S535	S511	S629	S739	S740		
	1.50 - 16.00	3.00 - 20.00	3.00 - 20.00	4.00 - 20.00	6.00 - 12.00	1.50 - 16.00	1.50 - 16.00	2.00 - 16.00	1.50 - 16.00	1.50 - 16.00	2.00 - 16.00	1.00 - 16.00	3.00 - 16.00	3.00 - 16.00	3.00 - 16.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00		
AMG	424	425	426	428	429	430	431	432	433	434	435	436	437	438	439	440	441	441	ISO	
1.1		■140D		■140D								■181B			■230B		■140C	■140C	P 1	
1.2		■140D		■140D								■181B			■192B		■140C	■140C	P 1	
1.3		■130D		■130D								■118B			■130C		■130C	■130C	P 2	
1.4		■130D		■130D								■118B			■153B		■130C	■130C	P 3	
1.5		■120D		■120D								■90B			■115B		■120C	■120C	P 4	
1.6			■110D			■630C	■500C	■315C				■72B			■92B		■120C	■120C	H 1	
1.7	■70A		■85B		■105E				■330A	■260A	■165A	●45A	■330A	■260A	●61A				H 3	
1.8	■50A				■75E				■280A	■225A	■140A		■280A	■225A					H 4	
2.1		■80C		■80C								■81A			■115A		■80B	■80B	M 1	
2.2		■70C		■70C								■54A			■76A		■70B	■70B	M 3	
2.3			■70C			■540B	■430B	■270B				■54A			■76A				M 2	
2.4			■50C			■315B	■250B	■155B											S 2	
3.1		■170D		■170D								■136B			■192B		■170C	■170C	K 1	
3.2		■150D		■150D								■81B			■115B		■155C	■155C	K 2	
3.3		■130D		■130D								■109B			■115B		■145C	■145C	K 3	
3.4		■120D		■120D								■72B			■96B		■130C	■130C	K 4	
4.1												■136B			■192B				S 1	
4.2		■70C		■70C								■90B			■96B		■70B	■70B	S 2	
4.3			■50C			■315B	■250B	■155B				■45B			■61B				S 3	
5.1												■136B			■192B				S 1	
5.2		■70C		■70C								■27A			■38A		■70B	■70B	S 2	
5.3			■50C			■315B	■250B	■155B				■22A			■30A				S 3	
6.1												■363C		●384C	■350E	■250E	■250E		N 3	
6.2												■363C		■384C	■300E	■235E	■235E			N 4
6.3												■363C		●384C	■250E	■220E	■220E			N 3
6.4												■54B		●61B	■200E	■200E	■200E			N 4
7.1												■950C		■950C	■600E	■250E	■250E			N 1
7.2												■950C		●950C	■500E	■235E	■235E			N 1
7.3												■681C		■576C	■400E	■220E	■220E			N 1
7.4												■363B		■307B	■350E	■200E	■200E			N 2
8.1												■318C		●307C	■800E					O
8.2												■318C		■307C	■800E					O
8.3												■318B		■307B						O
9.1												■5A			■9A					H
10.1																				O

		HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E	HSS-E PM	HSS-E	
		N	N	N	N	N	N	N	N	N	N	W	W	N	
		Z 2	Z 2	Z 2	Z 2	Z 2	Z 3	Z 3	Z 3	Z 3	Z 3	Z 2	Z 3	Z 2	
		$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 40^\circ$ $\gamma 15^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 40^\circ$ $\gamma 20^\circ$	$\lambda 40^\circ$ $\gamma 25^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	
		DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835A	
			TiCN		TiCN			Alcrona	Alcrona		Alcrona				
		e8	e8	e8	e8	e8	e8 h10	e8 h10	e8	e8	e8	e8	k10	js14	
		DIN 327D	DIN 327D	DIN 844K	DIN 844K	DORMER	DIN 327D	DIN 327D	DIN 327D	DIN 844K	DIN 844K	DIN 844K	DIN 844K	DORMER	
	S991 Set	C110	C126	C123	C139	C135	C306	C353	C367	C305	C352	C159	C336	C167	
		1.00 - 40.00	1.00 - 30.00	1/16 - 30.00	2.00 - 25.00	2.00 - 20.00	3.00 - 30.00	3.00 - 30.00	2.00 - 20.00	2.00 - 32.00	3.00 - 20.00	2.00 - 20.00	10.00 - 30.00	6.00 - 16.00	
AMG	443	443	443	445	445	447	448	448	449	450	450	451	452	453	ISO
1.1		■60A	■135A	■55A	■120A	■50A	●53A	●145A	■146A	●56A	●135A	■50A	●55A	■50A	P 1
1.2		■50A	■105A	■45A	■95A	■40A	■49A	■120A	■117A	■44A	■105A	■40A	■44A	■40A	P 1
1.3		●40B	■95B	■40B	■85B	■35B	■41B	■100B	■102B	■39B	■95B	■35B	■38B	■35B	P 2
1.4		●35B	■80B	■35B	■70B	■30B	●35B	■85B	■87B	■33B	■80B		●30B	●30B	P 3
1.5			●55C		●50C			■60C			■55C				P 4
1.6			●25C		●20C			●25C			●25C				H 1
1.7															H 3
1.8															H 4
2.1		●30F	●45F	●25F	●45F	●25F	●26F	●50F	■67F	●26F	●50F	●23F	●25F	●25F	M 1
2.2								●45F	■55F		●40F	●19F	●21F		M 3
2.3			●25F		●25F			●30F	■35F		●25F				M 2
2.4									■25F						S 2
3.1		●35A	■60A	●30A	■55A	●30A	●32A	■65A		●30A	■60A			●30A	K 1
3.2		●30A	■50A	●25A	■45A	●25A	●27A	■55A		●25A	■50A			●25A	K 2
3.3		●50B	■90B	●45B	■80B	●40B	●48B	■95B		●45B	■90B			●40B	K 3
3.4		●30B	■55B	●30B	■50B	●25B	●30B	■60B		●27B	■55B			●25B	K 4
4.1		■35D	■45D	■30D	■45D	■30D	■33D	■50D	●50D	■29D	■45D	●28D	●30D	■30D	S 1
4.2		●25D	■40D	●25D	■35D	●25D	●26D	■40D		●24D	■35D			●25D	S 2
4.3			●15D		●15D			■20D			●15D				S 3
5.1		■60D	■130D	■50D	■115D	■50D	■58D	■140D	●140D	■51D	■125D	●48D	●52D	■50D	S 1
5.2		●15C	■25C	●15C	■25C	●15C	●15C	■30C		■13C	■25C			●15C	S 2
5.3			●10D		●10D			●15D			●10D				S 3
6.1		■85C	■190C	■80C	■170C	■70C	■110C	■210C	■209C	■100C	■190C	■100C	■100C	■75C	N 3
6.2		■85C	■190C	■80C	■170C	■70C	■110C	■210C	■209C	■100C	■190C	■100C	■100C	■75C	N 4
6.3		■85C	■190C	■80C	■170C	■70C	■110C	■210C	■209C	■100C	■190C	■100C	■100C	■75C	N 3
6.4			●25C		●25C			●30C			●25C				N 4
7.1		●220E	●480E	●200E	●435E	●180E		■528E			■250E	■250E	●200E	●200E	N 1
7.2		●220E	●480E	●200E	●435E	●180E	●219E	●530E	●528E	●198E	●480E	■250E	■250E	●200E	N 1
7.3		●85E	●190E	●80E	●170E	●70E	●86E	●210E	●209E	●79E	●190E	■100E	■100E	●75E	N 1
7.4			●95A		●85A			●105A			●95A				N 2
8.1		●90C	●190C	●80C	●175C	●70C	●72C	●210C	●209C	●65C	●190C	■100C	■100E	●80C	O
8.2												■100C	■100E		O
8.3															O
9.1															H
10.1															O

	HSS-E	HSS-E	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	
	N	N	N	N	N	N	N	N	N	W	HRA	HRA	HRA	
	Z 2	Z 3	Z 3-5	Z 3-6	Z 3-5	Z 4-8	Z 4-6	Z 4-6	Z 4-6	Z 3	Z 3-4	Z 4-6	Z 3-6	
	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 45^\circ$ $\gamma 12^\circ$	$\lambda 45^\circ$ $\gamma 12^\circ$	$\lambda 45^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 40^\circ$ $\gamma 25^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	
	DIN 1835A	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	
	e8	e8	k10	k10	k10	k10	k10	k10	k10	k10	k12	k12	k12	
	DORMER	DIN 844L	DIN 844K	DIN 844K	DIN 844L	DIN 844K	DIN 844K	DIN 844L	DIN 844L	DIN 844L	DIN 844K	DIN 844K	DIN 844L	
	C122	C346	C299	C907	C920	C247	C246	C273	C295	C333	C922	C428	C492	
	5.00 - 22.00	3.00 - 20.00	3.00 - 20.00	3.00 - 32.00	6.00 - 25.00	2.00 - 50.00	2.00 - 25.00	2.00 - 40.00	2.00 - 40.00	10.00 - 30.00	6.00 - 32.00	6.00 - 40.00	6.00 - 30.00	
AMG	454	455	456	456	457	458	458	460	460	462	463	464	465	ISO
1.1	■45A	●45A				■55S	■120S	■50S	■110S					P 1
1.2	■36A	■35A				■45S	■95S	■50S	■85S					P 1
1.3	■31B	■30B	■37T	■95T	■85T	■40T	■85T	■35T	■75T		●95H	●93H	■83H	P 2
1.4	■27B	●25B	■33T	■80T	■70T	●35T	■70T	●30T	■65T		■80H	■79H	■71H	P 3
1.5			■22U	■55U	■50U		●50U	●45U			■55I	■54I	■49I	P 4
1.6			●10U	■25U	■20U		●20U	●20U			■25I	■24I	■21I	H 1
1.7														H 3
1.8														H 4
2.1	●20F	●20F	■26Y	■50Y	■45Y	●25Y	●45Y	●10Y	●40Y		■50L	■48L	■43L	M 1
2.2			●21Y	■40Y	■35Y						■40L	■40L	■36L	M 3
2.3			■13Y	■25Y	■25Y		●25Y		●20Y		■25L	■26L	■23L	M 2
2.4														S 2
3.1	■25A	■25A	■30S	■60S	■55S	●30S	■55S	●25S	■50S		■60G	■61G	■55G	K 1
3.2	■20A	■20A	■25S	■50S	■45S	●25S	■45S	●20S	■40S		■50G	■50G	■45G	K 2
3.3	■36B	■35B	■45T	■90T	■80T	●45T	■79T	■40T	■70T		■90H	■88H	■79H	K 3
3.4	■22B	■20B	■27T	■55T	■50T	●25T	■49T	●25T	■45T		■55H	■55H	■49H	K 4
4.1	■25D	■25D	●29V	●45V	●40V	■30V	■43V	■25V	■40V		●45J	●46J	●41J	S 1
4.2	■20D	■20D	■37V	■85V	■35V	●25V	■35V	■20V	■30V		■35J	■37J	■34J	S 2
4.3			■10V	■15V	■15V		●15V	●15V	●15V		■15J	■16J	■15J	S 3
5.1	■43D	■45D	■51V	■125V	■115V	■50V	■116V	■45V	■105V		●125J	●127J	●114J	S 1
5.2	■11C	●10C	■13U	■25U	■25U	●15U	■24U	■10U	■20U		■25I	■27I	■24I	S 2
5.3			■5V	■10V	■10V		●10V	●10V	●10V		■10J	■11J	■10J	S 3
6.1	■112C	■70C				■80U	■170U	■70U	■155U	■90C				N 3
6.2	■112C	■70C				■80U	■170U	■70U	■155U	■90C				N 4
6.3	■112C	■70C	■100U	■190U	■170U	■80U	■170U	■70U	■155U	■90C				N 3
6.4							●25U	●20U	●20U		●25I	●25I	●23I	N 4
7.1	●270E	●180E				●200X	●435X	●180X	●390X	■225E				N 1
7.2	●270E	●180E				●200X	●435X	●180X	●390X	■225E				N 1
7.3	●81E					●80X	●170X	●70X	●155X	■90E				N 1
7.4			■39S	■95S	■85S		●85S	●75S	●75S		■95G	■95G	■85G	N 2
8.1	●112C	●70C				●80U	●175U	●70U	●155U	■90E				O
8.2										■90E				O
8.3														O
9.1														H
10.1														O

	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS	HSS-E	
	Z 4-6	Z 4-6	Z 4-6	Z 4-6	Z 4-6	Z 4-6	Z 2	Z 2	Z 6-8	Z 6-8	Z 8-12	
	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 15^\circ$ $\gamma 10^\circ$	$\lambda 12^\circ$ $\gamma 10^\circ$	$\lambda 15^\circ$ $\gamma 15^\circ$	
	k12	k12	k12	k12	k12	k12	e8	e8	d11	d11	js16	
	C407	C908	C948	C400	C413	C403	C500	C505	C800	C810	C825	
	6.00 - 20.00	6.00 - 32.00	6.00 - 32.00	6.00 - 20.00	6.00 - 20.00	10.00 - 50.00	2.00 - 25.00	3.00 - 30.00	11.00 - 50.00	12.50 - 40.00	40.00 - 63.00	
AMG	466	466	467	468	468	469	470	471	472	473	474	ISO
1.1	■55G			●50G	●100G	●45G	■55S	■50S	■35P	■25P	■35P	P 1
1.2	■44G			■40G	■80G	■35G	■45S	■40S	■35P	■25P	■30P	P 1
1.3	■38H	■93H	■83H	■35H	■70H	■30H	■40T	■35T	■30O	■20O	■30O	P 2
1.4	■33H	■79H	■71H	●30H	■60H	●25H	●35T	●30T	■25O	■15O	■20O	P 3
1.5	■22I	■54I	■49I		●40I				■20N	●10N	■15N	P 4
1.6	●10I	●24I	■21I		●20I				■15N	●10N	■10N	H 1
1.7												H 3
1.8												H 4
2.1	■25L	■48L	■43L	●25L	●35L	●20L	●25Y	●25Y	■20M	■15M	■15M	M 1
2.2	●21L	■40L	■36L						■15M	●10M	■10M	M 3
2.3	■13L	■26L	■23L		●20L				■10M	●10M	■10M	M 2
2.4												S 2
3.1	■30G	■61G	■55G	●30G	■45G	●25G	●30S	●30S	■20P	■20P	■25P	K 1
3.2	■25G	■50G	■45G	●25G	■35G	●20G	●25S	●25S	■20P	■20P	■20P	K 2
3.3	■44H	■88H	■79H	●40H	■65H	●35H	●45T	●40T	■30O	■20O	■30O	K 3
3.4	■27H	■55H	■49H	●25H	■40H	●20H	●30T	●25T	■20O	■10O	■20O	K 4
4.1	●30J	●46J	●41J	●30J	■35J	●25J	■30V	■30V	■30P	■20P	■35P	S 1
4.2	■25J	■37J	■34J	●25J	■30J	●20J	●25V	●25V	■20P	●15P	■20P	S 2
4.3	■11J	■16J	■15J		●10J				■10O	●5O	■10O	S 3
5.1	●52J	●127J	●114J	●50J	●95J	●45J	■50V	■50V	■35P	■25P	■35P	S 1
5.2	■14I	■27I	■24I	●15I	●20I	●10I	●15U	●15U	■10O	●5O	■5O	S 2
5.3	■6J	■11J	■10J		●10J				■5N	●5N	■5N	S 3
6.1				●70I	●140I	●65I	■85U	■80U	■100Q	■50Q	■30Q	N 3
6.2	■100I	■190I	■170I	■70I	■140I	■65I	■85U	■80U	■100P	■55P	■35P	N 4
6.3				■70I	■140I	■65I	■85U	■80U	■35P	■20P	■35P	N 3
6.4	●13I	●25I	●23I		●20I				■15O	■5O	■10O	N 4
7.1							●220X	●200X	■250R	■60R	■70R	N 1
7.2				●180K	●360K	●160K	●220X	●200X	■250R	■50R	■70R	N 1
7.3				●70K	●140K	●65K	●85X	●80X	■65R	■30R	■30R	N 1
7.4	●39G	●95G	■85G		●70G				■45Q	●20Q	■20Q	N 2
8.1				●70I	●145I	●65I	●90U	●80U	■100R	●50R	■35R	O
8.2												O
8.3												O
9.1												H
10.1									■45Q	●20Q	■20Q	O

	HSS-E	HSS-E	HSS	HSS	HSS	HSS-E	HSS-E	HSS	HSS-E	HSS-E
	Z 6-8	Z 6-12	Z 6-12	Z 6-8	Z 6-8	Z 10-12	Z 10-12	Z 4	Z 4-6	Z 16-30
	$\lambda 12^\circ$ $\gamma 10^\circ$	$\lambda 10^\circ$ $\gamma 10^\circ$	$\lambda 12^\circ$ $\gamma 10^\circ$	$\lambda 0^\circ$ $\gamma 0^\circ$	$\lambda 0^\circ$ $\gamma 0^\circ$	$\lambda 0^\circ$ $\gamma 0^\circ$	$\lambda 0^\circ$ $\gamma 0^\circ$	$\lambda 0^\circ$ $\gamma 0^\circ$	$\lambda 0^\circ$ $\gamma 0^\circ$	$\lambda 15^\circ$ $\gamma 10^\circ$
	DIN 1835B	DIN 1835 D B	DIN 1835D	DIN 1835D	DIN 1835D	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835A
	d11	h11				js16	js16			js16
	DIN 851	DIN 850	DORMER	DORMER	DORMER	DIN 1833C	DIN 1833D	BS 122/4	DORMER	DIN 885A
	C801	C822	C820	C837	C835	C830	C831	C710	C700	D200
	16.00 - 32.00	4.50 - 45.50	10.50 - 45.50	13.00 - 38.00	1/2 - 1.1/2	12.00 - 32.00	12.00 - 32.00	1/16 - 1/2	1.00 - 20.00	50.00 - 125.00

AMG	475	476	477	479	480	481	482	483	484	485	ISO
1.1	■40F	■40P	■25P	■20P	■20P	■30P	■30P	■20P	■35P	■45P	P 1
1.2	■40P	■40P	■25P	■20P	■20P	■30P	■30P	■20P	■35P	■40P	P 1
1.3	■30O	■30O	■20O	■15O	■15O	■25O	■25O	■15O	■35P	■35P	P 2
1.4	■25O	■25O	■20O	■15O	■15O	■20O	■20O	■15O	■25O	■30P	P 3
1.5	■20N	■20N	●10N	●10N	●10N	■15N	■15N	●10N	■15N	■20P	P 4
1.6	■15N	■15N	●10N	●5N	●5N	■10N	■10N	●10N	■15N	■10P	H 1
1.7											H 3
1.8											H 4
2.1	■25M	■25M	■15M	■10M	■10M	■20M	■20M	■15M	■20M	■30P	M 1
2.2	■15M	■15M	■10M	●10M	●10M	■15M	■15M	■10M	■15M	■20P	M 3
2.3	■15M	■15M	●10M	●5M	●5M	■10M	■10M	●5M	■10M	■10Q	M 2
2.4											S 2
3.1	■25P	■25P	■20P	■15P	■15P	■20P	■20P	■20P	■20P	■30Q	K 1
3.2	■20P	■20P	■20P	■15P	■15P	■15P	■15P	■15P	■15P	■25Q	K 2
3.3	■35O	■30O	■20O	■15O	■15O	■25O	■25O	■15O	■25O	■40Q	K 3
3.4	■20O	■20O	■15O	■10O	■10O	■15O	■15O	■10O	■15O	■25Q	K 4
4.1	■30P	■30P	■20P	■15P	■15P	■25P	■25P	■15P	■25P	■30N	S 1
4.2	■20P	■20P	●15P	●10P	●10P	■15P	■15P	■10P	■20P	■20O	S 2
4.3	■10O	■10O	●10O	●5O	●5O	■10O	■10O	●5O	■10O	■15O	S 3
5.1	■40P	■35P	■25P	■20P	■20P	■30P	■30P	■20P	■35P	■40P	S 1
5.2	■10O	■10O	●5O	●5O	●5O	■10O	■10O	■10O	■10O	■15O	S 2
5.3	■5N	■5N	●5N	●5N	●5N	■5N	■5N	●5N	■5N	■10M	S 3
6.1	■110Q	■100Q	■50Q	■40Q	■40Q	■90Q	■90Q	■40Q	■90Q	■150P	N 3
6.2	■110P	■100P	■55P	■45P	■45P	■90P	■90P	■45P	■90P	■150P	N 4
6.3	■40P	■100P	■55P	■15P	■15P	■75P	■75P	■45P	■90P	■150P	N 3
6.4	■15O	■15O	●5O	●5O	●5O	■10O	■10O	●5O	■15O	■15M	N 4
7.1	■275R	■260R	■65R	■50R	■50R	■190R	■190R	■55R	■245R	■400Q	N 1
7.2	■275R	■260R	■50R	■40R	■40R	■190R	■190R	■40R	■230R	■400Q	N 1
7.3	■70R	■66R	■35R	■25R	■25R	■55R	■55R	■25R	■60R	■100Q	N 1
7.4	■45Q	■44Q	●20Q	●17Q	●17Q	■35Q	■35Q	●15Q	■40Q	■70Q	N 2
8.1	■110R	■100R	●50R	●40R	●40R	■75R	■75R			■150M	O
8.2											O
8.3											O
9.1											H
10.1	■45Q	■45Q	●20Q			■35Q	■35Q	●15Q	■40Q		O

	HSS-E	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E	
	Z 28-44	Z 28-100	Z 40-200	Z 80-180	Z 100-140	Z 128-220	Z 160-350	N Z 8-12	
	$\lambda 15^\circ$ $\gamma 10^\circ$	$\gamma 15^\circ$	$\gamma 5^\circ$	$\gamma 18^\circ$	$\gamma 18^\circ$	$\gamma 18^\circ$	$\gamma 18^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	
	js16			ST	ST	ST	ST	js16	
	D763	D745	D747	D752	D753	D750	D751	D400	
	63.00 - 125.00	50.00 - 250.00	32.00 - 200.00	250.00 - 350.00	250.00 - 350.00	200.00 - 350.00	200.00 - 350.00	40.00 - 63.00	
AMG	485	486	488	490	490	491	491	492	ISO
1.1	■45P	■40R	■40R	■40R	■40R	■40R	■40R	■40J	P 1
1.2	■40P	■30R	■30R	■30R	■30R	■30R	■30R	■40J	P 1
1.3	■35P	■30R	■30R	■30R	■30R	■30R	■30R	■30I	P 2
1.4	■30P	■20S	■20S	■20S	■20S	■20S	■20S	■25I	P 3
1.5	■20P							●20H	P 4
1.6	■10P							●15H	H 1
1.7									H 3
1.8									H 4
2.1	■30P	●10S	●10S	●10S	●10S	●10S	●10S	■25H	M 1
2.2	■20P	●10S	●10S	●10S	●10S	●10S	●10S	●15G	M 3
2.3	■10Q							■10G	M 2
2.4									S 2
3.1	■30Q	■40R	■40R	■40R	■40R	■40R	■40R	■20J	K 1
3.2	■25Q	■40R	■40R	■40R	■40R	■40R	■40R	■20J	K 2
3.3	■40Q	■30R	■30R	■30R	■30R	■30R	■30R	■30I	K 3
3.4	■25Q							■20I	K 4
4.1	■30N							■30J	S 1
4.2	■20O							●20I	S 2
4.3	■15O							●10I	S 3
5.1	■40P							■35J	S 1
5.2	■15O							●10I	S 2
5.3	■10M							●5H	S 3
6.1	■150P	■200R	■200R	■200R	■200R	■200R	■200R	■105M	N 3
6.2	■150P	■200T	■200T	■200T	■200T	■200T	■200T	■105K	N 4
6.3	■150P	■200T	■200T	■200T	■200T	■200T	■200T	■35K	N 3
6.4	■15M							●15H	N 4
7.1	■400Q	■600T	■600T	■600T	■600T	■600T	■600T	●260N	N 1
7.2	■400Q	■500T	■500T	■500T	■500T	■500T	■500T	■260N	N 1
7.3	■100Q	■500T	■500T	■500T	■500T	■500T	■500T	■65N	N 1
7.4	■70Q							●45L	N 2
8.1	■150M	■60T	■60T	■60T	■60T	■60T	■60T	●105N	O
8.2								●30N	O
8.3								●5L	O
9.1									H
10.1								●45K	O

	HSS-E	HSS-E	HSS-E
	N	NR	NR
	Z 8-12	Z 6-10	Z 6-10
	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$
	TiCN	TiCN	TiCN
	js16	js16	js16
	DIN 1880	DIN 1880	DIN 1880
	D420	D402	D422
	40.00 - 63.00	40.00 - 63.00	40.00 - 63.00

AMG	492	493	493	ISO
1.1	■75J	■40J	■75J	P 1
1.2	■75J	■40J	■75J	P 1
1.3	■65I	■30I	■65I	P 2
1.4	■50I	■25I	■50I	P 3
1.5	■35H	●20H	■35H	P 4
1.6	■30H	●15H	■30H	H 1
1.7				H 3
1.8				H 4
2.1	■35H	■25H	■35H	M 1
2.2	■30G	●15G	■30G	M 3
2.3	■20G	■10G	■20G	M 2
2.4				S 2
3.1	■35J	■20J	■35J	K 1
3.2	■30J	■20J	■30J	K 2
3.3	■50I	■30I	■50I	K 3
3.4	■30I	■20I	■30I	K 4
4.1	■35J	■30J	■35J	S 1
4.2	■25I	●20I	■25I	S 2
4.3	■15I	●10I	■15I	S 3
5.1	■75J	■35J	■75J	S 1
5.2	■20I	●10I	■20I	S 2
5.3	■10H	●5H	■10H	S 3
6.1	■150M	■105M	■150M	N 3
6.2	■150K	■105K	■150K	N 4
6.3	■50K	■35K	■50K	N 3
6.4	■20H	●15H	■20H	N 4
7.1	●260N	■260N	●260N	N 1
7.2	■260N	■260N	■260N	N 1
7.3	■135N	■65N	■135N	N 1
7.4	■75L	●45L	■75L	N 2
8.1	■120N	●105N	■120N	O
8.2	●60N	●30N	●60N	O
8.3	●15L	●5L	●15L	O
9.1				H
10.1	■125K	●45K	■125K	O

HM					Ae Ap (x Ø) (x Ø)		fz ø [mm] fz [mm/Z] ± 25 %												
Z	Z	Z	Z	Z	Ø	1	2	3	4	5	6	8	10	12	14	16	18	20	
						A	0.012	0.024	0.035	0.045	0.055	0.065	0.080	0.093	0.107	0.121	0.134	0.149	0.162
						B	0.016	0.032	0.047	0.061	0.074	0.087	0.107	0.124	0.143	0.162	0.179	0.198	0.216
						C	0.020	0.040	0.058	0.076	0.092	0.108	0.134	0.156	0.179	0.202	0.224	0.248	0.271
						D	0.024	0.048	0.070	0.091	0.111	0.130	0.160	0.187	0.214	0.242	0.268	0.297	0.325
						E	0.028	0.056	0.081	0.106	0.129	0.152	0.187	0.218	0.250	0.283	0.313	0.347	0.379
						F	0.032	0.064	0.093	0.121	0.148	0.173	0.214	0.249	0.286	0.323	0.358	0.396	0.433
						G	0.037	0.071	0.105	0.136	0.166	0.195	0.240	0.280	0.321	0.364	0.403	0.446	0.487
						H	0.041	0.079	0.116	0.152	0.185	0.216	0.267	0.311	0.357	0.404	0.447	0.495	0.541
							A	0.010	0.019	0.028	0.036	0.044	0.052	0.064	0.074	0.085	0.096	0.107	0.118
					B		0.013	0.025	0.037	0.048	0.059	0.069	0.085	0.099	0.114	0.128	0.142	0.157	0.172
					C		0.016	0.032	0.046	0.060	0.073	0.086	0.106	0.124	0.142	0.161	0.178	0.197	0.215
					D		0.019	0.038	0.055	0.072	0.088	0.103	0.127	0.148	0.170	0.193	0.213	0.236	0.258
					E		0.023	0.044	0.065	0.084	0.103	0.120	0.149	0.173	0.199	0.225	0.249	0.276	0.301
					F		0.026	0.050	0.074	0.096	0.118	0.138	0.170	0.198	0.227	0.257	0.284	0.315	0.344
					G		0.029	0.057	0.083	0.108	0.132	0.155	0.191	0.223	0.256	0.289	0.320	0.354	0.387
					H		0.032	0.063	0.092	0.120	0.147	0.172	0.212	0.247	0.284	0.321	0.356	0.394	0.430
							A	0.007	0.014	0.021	0.027	0.033	0.038	0.047	0.055	0.063	0.071	0.079	0.087
						B	0.010	0.019	0.027	0.036	0.043	0.051	0.063	0.073	0.084	0.095	0.105	0.116	0.127
						C	0.012	0.023	0.034	0.045	0.054	0.064	0.078	0.091	0.105	0.119	0.132	0.146	0.159
						D	0.014	0.028	0.041	0.053	0.065	0.076	0.094	0.110	0.126	0.143	0.158	0.175	0.191
						E	0.017	0.033	0.048	0.062	0.076	0.089	0.110	0.128	0.147	0.166	0.184	0.204	0.223
						F	0.019	0.037	0.055	0.071	0.087	0.102	0.126	0.146	0.168	0.190	0.210	0.233	0.255
						G	0.021	0.042	0.062	0.080	0.098	0.115	0.141	0.165	0.189	0.214	0.237	0.262	0.286
						H	0.024	0.047	0.068	0.089	0.109	0.127	0.157	0.183	0.210	0.238	0.263	0.291	0.318
							A	0.005	0.010	0.015	0.019	0.024	0.028	0.034	0.040	0.046	0.052	0.058	0.064
					B		0.007	0.014	0.020	0.026	0.032	0.037	0.046	0.053	0.061	0.069	0.077	0.085	0.093
					C		0.009	0.017	0.025	0.032	0.040	0.046	0.057	0.067	0.077	0.087	0.096	0.106	0.116
					D		0.010	0.020	0.030	0.039	0.048	0.056	0.069	0.080	0.092	0.104	0.115	0.127	0.139
					E		0.012	0.024	0.035	0.045	0.055	0.065	0.080	0.093	0.107	0.121	0.134	0.149	0.162
					F		0.014	0.027	0.040	0.052	0.063	0.074	0.092	0.107	0.122	0.138	0.153	0.170	0.185
					G		0.016	0.031	0.045	0.058	0.071	0.083	0.103	0.120	0.138	0.156	0.173	0.191	0.209
					H		0.017	0.034	0.050	0.065	0.079	0.093	0.114	0.133	0.153	0.173	0.192	0.212	0.232
							A	0.004	0.008	0.011	0.015	0.018	0.021	0.026	0.031	0.035	0.040	0.044	0.049
						B	0.005	0.010	0.015	0.020	0.024	0.028	0.035	0.041	0.047	0.053	0.059	0.065	0.071
						C	0.007	0.013	0.019	0.025	0.030	0.035	0.044	0.051	0.058	0.066	0.073	0.081	0.089
						D	0.008	0.016	0.023	0.030	0.036	0.043	0.052	0.061	0.070	0.079	0.088	0.097	0.106
						E	0.009	0.018	0.027	0.035	0.042	0.050	0.061	0.071	0.082	0.093	0.103	0.114	0.124
						F	0.011	0.021	0.030	0.040	0.048	0.057	0.070	0.082	0.094	0.106	0.117	0.130	0.142
						G	0.012	0.023	0.034	0.045	0.054	0.064	0.079	0.092	0.105	0.119	0.132	0.146	0.159
						H	0.013	0.026	0.038	0.050	0.061	0.071	0.087	0.102	0.117	0.132	0.146	0.162	0.177

Excellent
 Excelente
 Excelente
 Excellent

Good
 Bueno
 Bom
 Acceptable

HM					Ae Ap (x Ø) (x Ø)		fz Ø [mm] fz [mm/Z] ± 25 %																				
Z	Z	Z	Z	Z					Ø	1	2	3	4	5	6	8	10	12	14	16	18	20					
1	2	3	4	>4																							
					A	0.003	0.006	0.009	0.012	0.014	0.017	0.021	0.024	0.028	0.032	0.035	0.039	0.042									
					B	0.004	0.008	0.012	0.016	0.019	0.023	0.028	0.033	0.037	0.042	0.047	0.052	0.057									
					C	0.005	0.010	0.015	0.020	0.024	0.028	0.035	0.041	0.047	0.053	0.058	0.065	0.071									
					D	0.006	0.012	0.018	0.024	0.029	0.034	0.042	0.049	0.056	0.063	0.070	0.078	0.085									
					E	0.007	0.015	0.021	0.028	0.034	0.040	0.049	0.057	0.065	0.074	0.082	0.091	0.099									
					F	0.008	0.017	0.024	0.032	0.039	0.045	0.056	0.065	0.075	0.084	0.093	0.103	0.113									
					G	0.010	0.019	0.027	0.036	0.043	0.051	0.063	0.073	0.084	0.095	0.105	0.116	0.127									
					H	0.011	0.021	0.030	0.040	0.048	0.057	0.070	0.081	0.093	0.106	0.117	0.129	0.141									
										A	0.003	0.005	0.007	0.010	0.012	0.014	0.017	0.020	0.022	0.025	0.028	0.031	0.034				
B	0.003	0.007	0.010	0.013						0.015	0.018	0.022	0.026	0.030	0.034	0.037	0.041	0.045									
C	0.004	0.008	0.012	0.016						0.019	0.023	0.028	0.033	0.037	0.042	0.047	0.052	0.057									
D	0.005	0.010	0.015	0.019						0.023	0.027	0.033	0.039	0.045	0.051	0.056	0.062	0.068									
E	0.006	0.012	0.017	0.022						0.027	0.032	0.039	0.046	0.052	0.059	0.065	0.072	0.079									
F	0.007	0.013	0.019	0.025						0.031	0.036	0.045	0.052	0.060	0.068	0.075	0.083	0.090									
G	0.008	0.015	0.022	0.029						0.035	0.041	0.050	0.059	0.067	0.076	0.084	0.093	0.102									
H	0.008	0.017	0.024	0.032						0.039	0.045	0.056	0.065	0.075	0.084	0.093	0.103	0.113									
										A	0.004	0.008	0.012	0.016	0.020	0.023	0.029	0.033	0.038	0.043	0.048	0.053	0.058				
					B	0.006	0.011	0.017	0.022	0.026	0.031	0.038	0.044	0.051	0.058	0.064	0.071	0.077									
					C	0.007	0.014	0.021	0.027	0.033	0.039	0.048	0.056	0.064	0.072	0.080	0.088	0.097									
					D	0.009	0.017	0.025	0.032	0.040	0.046	0.057	0.067	0.076	0.086	0.096	0.106	0.116									
					E	0.010	0.020	0.029	0.038	0.046	0.054	0.067	0.078	0.089	0.101	0.112	0.124	0.135									
					F	0.012	0.023	0.033	0.043	0.053	0.062	0.076	0.089	0.102	0.115	0.128	0.141	0.154									
					G	0.013	0.025	0.037	0.049	0.059	0.069	0.086	0.100	0.115	0.130	0.144	0.159	0.174									
					H	0.014	0.028	0.042	0.054	0.066	0.077	0.095	0.111	0.127	0.144	0.160	0.177	0.193									

Excellent
 Excelente
 Excelente
 Excellent

Good
 Bueno
 Bom
 Acceptable

HSS HSS-E HSS-E PM

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		10	12	16	20	25	32	38	50	63	80	100	125	160	200	300	350
C800 C801 C810 C820 C822 C825		M	0.017	0.022	0.036	0.038	0.041	0.044	0.045	0.047							
	N	0.022	0.027	0.045	0.046	0.052	0.058	0.06	0.062								
	O	0.025	0.03	0.052	0.055	0.056	0.058	0.06	0.062								
	P	0.030	0.043	0.063	0.064	0.062	0.068	0.07	0.072								
	Q	0.045	0.048	0.063	0.064	0.066	0.068	0.07	0.072								
	R	0.055	0.07	0.115	0.119	0.123	0.126	0.128	0.13								

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		10	12	16	20	25	32	38	50	63	80	100	125	160	200	300	350
C830 C835 C837 C831		M	0.036	0.045	0.057	0.064	0.074	0.084									
	N	0.048	0.058	0.073	0.084	0.095	0.105										
	O	0.052	0.063	0.081	0.092	0.103	0.114										
	P	0.059	0.071	0.089	0.1	0.112	0.125										
	Q	0.072	0.088	0.106	0.12	0.133	0.147										
	R	0.079	0.095	0.114	0.13	0.143	0.157										

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		10	12	16	20	25	32	38	50	63	80	100	125	160	200	300	350
C700 C710		M	0.03	0.03	0.03	0.04	0.05	0.05									
	N	0.04	0.04	0.04	0.05	0.06	0.07										
	O	0.04	0.04	0.05	0.06	0.07	0.08										
	P	0.04	0.04	0.05	0.07	0.08	0.08										
	Q	0.05	0.05	0.07	0.08	0.09	0.10										
	R	0.06	0.06	0.07	0.09	0.10	0.11										

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		10	12	16	20	25	32	38	50	63	80	100	125	160	200	300	350
D745 D747 D750 D751 D752 D753		R					0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
	S					0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
	T					0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		10	12	16	20	25	32	38	50	63	80	100	125	160	200	300	350
D200 D763		M						0.040	0.050	0.060	0.070	0.080	0.090	0.100			
	N							0.060	0.070	0.080	0.090	0.100	0.105	0.115			
	O							0.070	0.080	0.090	0.100	0.105	0.110	0.120			
	P							0.080	0.090	0.095	0.110	0.115	0.115	0.125			
	Q							0.090	0.100	0.105	0.110	0.115	0.125	0.135			

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		40	50	60	80	100	125										
D402 D422		G	0.042	0.049	0.040	0.047	0.040	0.037									
	H	0.050	0.059	0.047	0.055	0.048	0.044										
	I	0.062	0.071	0.058	0.066	0.058	0.054										
	J	0.082	0.095	0.078	0.090	0.078	0.073										
	K	0.118	0.140	0.110	0.130	0.110	0.103										
	L	0.145	0.171	0.136	0.160	0.136	0.127										
	M	0.185	0.160	0.170	0.200	0.170	0.160										
	N	0.270	0.320	0.250	0.290	0.250	0.230										

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		40	50	60	80	100											
D400 D420		G	0.042	0.049	0.040	0.047	0.040										
	H	0.050	0.059	0.047	0.055	0.048											
	I	0.062	0.071	0.058	0.066	0.058											
	J	0.082	0.095	0.078	0.090	0.078											
	K	0.118	0.140	0.110	0.130	0.110											
	L	0.145	0.171	0.136	0.160	0.136											
	M	0.185	0.160	0.170	0.200	0.170											
	N	0.270	0.320	0.250	0.290	0.250											

	Tooth Pitch Choice Elección De Paso De Dientes Escolha do Passo do Dente Choix du pas (nombre de dents)									
	 t (mm)						 Ø (mm)			
	<1.0 mm	1.0 - 1.5 mm	1.5 - 2.0 mm	2.0 - 3.0 mm	3.0 - 4.0 mm	>4.0 mm	10 - 20 mm	20 - 40 mm	40 - 60 mm	
1.1	3	4	5	5	6	7	5	8		P 1
1.2	3	4	4	5	6	7	5	6		P 1
1.3	3	4	4	5	6	7	5	6		P 2
1.4	3	4	4	5	6	7	5	6		P 3
1.5	3	3	4	5	5	6	5	6	8	P 4
1.6										H 1
1.7										H 3
1.8										H 4
2.1	3	4	5	5	6	6	5	6	8	M 1
2.2	3	4	5	5	6	6	5	6	8	M 3
2.3	3	4	5	5	6	6	5	6	8	M 2
2.4	3	4	5	5	6	6	5	6	8	S 2
3.1							6	8		K 1
3.2							6	8		K 2
3.3							6	8		K 3
3.4							6	8		K 4
4.1										S 1
4.2										S 2
4.3										S 3
5.1										S 1
5.2										S 2
5.3										S 3
6.1	4	5	6	7	8	8	6	8		N 3
6.2	4	5	6	7	8	8	8			N 4
6.3	4	5	6	7	8	8	8			N 3
6.4	4	5	6	7	8		6	8		N 4
7.1	4	5	6	7	8	8	6	8		N 1
7.2	4	5	6	7	8	8	6	8		N 1
7.3	4	5	6	7	8	8	6	8		N 1
7.4	4	5	6	7	8	8	6	8		N 2
8.1										O
8.2										O
8.3										O
9.1										H
10.1										O

	Hollow tube Tubo Hueco Tubo Tube creux		Solid section Barra Maciza Varão Maciço Tube plein
--	---	--	---

S802HA

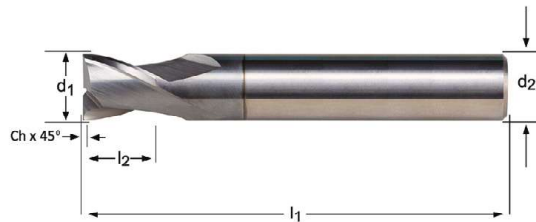
- Slot Drill
- Fresas de ranurar

S802HB

- Fresa de Ranhurar
- Fraises à rainurer

S802HA; S802HB	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	3.1	3.2	3.3	3.4	6.2	6.3	6.4	7.2	7.3	7.4	
	•	2.3	2.4	4.1	4.2	5.1	5.2	6.1	7.1	8.1	8.2									

S802HA	HM		N	Z 2		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HA			DIN 6527K
S802HB	HM		N	Z 2		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HB			DIN 6527K



d_1 Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 Ø _{h8} mm	l_2 mm	l_1 mm	z	S802HA	S802HB
1.00	-	3	3	38	2	S802HA1.0	
1.50	-	3	3	38	2	S802HA1.5	
2.00	-	6	3	50	2	S802HA2.0	S802HB2.0
2.50	0.08	6	3	50	2	S802HA2.5	S802HB2.5
3.00	0.08	6	4	50	2	S802HA3.0	S802HB3.0
3.50	0.08	6	4	50	2	S802HA3.5	S802HB3.5
4.00	0.13	6	5	54	2	S802HA4.0	S802HB4.0
4.50	0.13	6	5	54	2	S802HA4.5	S802HB4.5
5.00	0.13	6	6	54	2	S802HA5.0	S802HB5.0
6.00	0.13	6	7	54	2	S802HA6.0	S802HB6.0
7.00	0.13	8	8	58	2	S802HA7.0	S802HB7.0
8.00	0.20	8	9	58	2	S802HA8.0	¹⁾ S802HB8.0
9.00	0.20	10	10	66	2	S802HA9.0	¹⁾ S802HB9.0
10.00	0.20	10	11	66	2	S802HA10.0	¹⁾ S802HB10.0
12.00	0.20	12	12	73	2	S802HA12.0	¹⁾ S802HB12.0
14.00	0.20	14	14	75	2	S802HA14.0	¹⁾ S802HB14.0
16.00	0.20	16	16	82	2	S802HA16.0	¹⁾ S802HB16.0
18.00	0.20	18	18	84	2	S802HA18.0	¹⁾ S802HB18.0
20.00	0.30	20	20	92	2	S802HA20.0	¹⁾ S802HB20.0

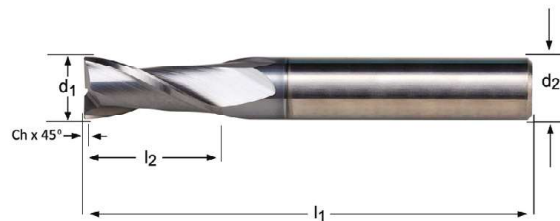
¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm
390

S812HA S812HB

- Slot Drill
- Fresas de ranurar
- Fresa de Ranhurar
- Fraises à rainurer

S812HA; S812HB	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2
	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2							

S812HA	HM		N	Z 2		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HA			DIN 6527L
S812HB	HM		N	Z 2		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HB			DIN 6527L



d_1 \varnothing mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	S812HA	S812HB
2.00	-	6	6	57	2	S812HA2.0	S812HB2.0
2.50	0.08	6	7	57	2	S812HA2.5	S812HB2.5
3.00	0.08	6	7	57	2	S812HA3.0	S812HB3.0
3.50	0.08	6	7	57	2	S812HA3.5	S812HB3.5
4.00	0.13	6	8	57	2	S812HA4.0	S812HB4.0
4.50	0.13	6	8	57	2	S812HA4.5	S812HB4.5
5.00	0.13	6	10	57	2	S812HA5.0	S812HB5.0
6.00	0.13	6	10	57	2	S812HA6.0	S812HB6.0
7.00	0.13	8	13	63	2	S812HA7.0	S812HB7.0
8.00	0.20	8	16	63	2	S812HA8.0	S812HB8.0 ¹⁾
9.00	0.20	10	16	72	2	S812HA9.0	S812HB9.0 ¹⁾
10.00	0.20	10	19	72	2	S812HA10.0	S812HB10.0 ¹⁾
12.00	0.20	12	22	83	2	S812HA12.0	S812HB12.0 ¹⁾
14.00	0.20	14	22	83	2	S812HA14.0	S812HB14.0 ¹⁾
16.00	0.20	16	26	92	2	S812HA16.0	S812HB16.0 ¹⁾
18.00	0.20	18	26	92	2	S812HA18.0	S812HB18.0 ¹⁾
20.00	0.30	20	32	104	2	S812HA20.0	S812HB20.0 ¹⁾

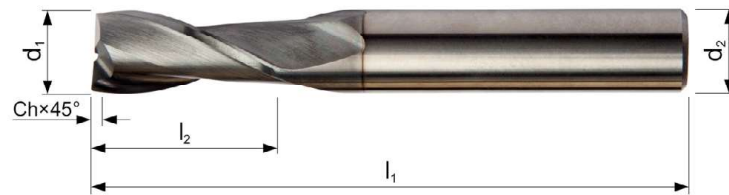
¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm

S822

- Slot Drill
- Fresas de ranurar
- Fresa de Ranhurar
- Fraises à rainurer

S822	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3	
	6.4	7.1	7.2	7.3	7.4	8.1	8.2														

S822 **HM**  **N**   $\lambda 28^\circ$ $\gamma 9^\circ$   



S822



2.00 - 20.00

d_1 \varnothing mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	S822
2.00	-	6	8	57	2	S8222.0
2.50	0.08	6	12	57	2	S8222.5
3.00	0.08	6	12	57	2	S8223.0
4.00	0.13	6	14	57	2	S8224.0
5.00	0.13	6	16	57	2	S8225.0
6.00	0.13	6	19	57	2	S8226.0
7.00	0.13	8	19	63	2	S8227.0
8.00	0.20	8	19	63	2	S8228.0 ¹⁾
9.00	0.20	10	21	72	2	S8229.0 ¹⁾
10.00	0.20	10	22	72	2	S82210.0 ¹⁾
12.00	0.20	12	25	83	2	S82212.0 ¹⁾
14.00	0.20	14	30	83	2	S82214.0 ¹⁾
16.00	0.20	16	32	92	2	S82216.0 ¹⁾
18.00	0.20	18	32	92	2	S82218.0 ¹⁾
20.00	0.30	20	38	104	2	S82220.0 ¹⁾

¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm
392

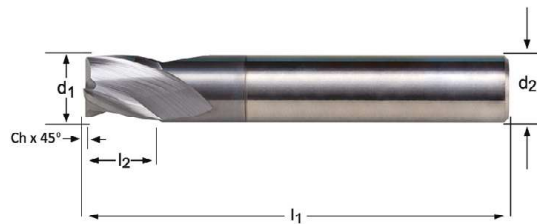
S803HA

S803HB

- Slot Drill
- Fresas de ranurar
- Fresa de Ranhurar
- Fraises à rainurer

S803HA; S803HB	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	3.1	3.2	3.3	3.4	6.2	6.3	6.4	7.2	7.3	7.4	
	•	2.3	2.4	4.1	4.2	5.1	5.2	6.1	7.1	8.1	8.2									

S803HA	HM		N	Z 3		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HA			DIN 6527K
S803HB	HM		N	Z 3		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HB			DIN 6527K



d ₁ Ø mm	Ch ±0.03x45° mm	d ₂ Øh ₆ mm	l ₂ mm	l ₁ mm	z	S803HA	S803HB
1.00	-	3	3	38	3	S803HA1.0	
1.50	-	3	3	38	3	S803HA1.5	
2.00	-	6	3	50	3	S803HA2.0	S803HB2.0
2.50	0.08	6	3	50	3	S803HA2.5	S803HB2.5
2.80	0.08	6	4	50	3	S803HA2.8	S803HB2.8
3.00	0.08	6	4	50	3	S803HA3.0	S803HB3.0
3.50	0.08	6	4	50	3	S803HA3.5	S803HB3.5
3.80	0.08	6	5	54	3	S803HA3.8	S803HB3.8
4.00	0.13	6	5	54	3	S803HA4.0	S803HB4.0
4.50	0.13	6	5	54	3	S803HA4.5	S803HB4.5
4.80	0.13	6	6	54	3	S803HA4.8	S803HB4.8
5.00	0.13	6	6	54	3	S803HA5.0	S803HB5.0
5.75	0.13	6	7	54	3		S803HB5.75
6.00	0.13	6	7	54	3	S803HA6.0	S803HB6.0
6.75	0.13	8	8	58	3		S803HB6.75
7.00	0.13	8	8	58	3	S803HA7.0	S803HB7.0
7.75	0.13	8	9	58	3		S803HB7.75
8.00	0.20	8	9	58	3	S803HA8.0	¹⁾ S803HB8.0
9.00	0.20	10	10	66	3	S803HA9.0	¹⁾ S803HB9.0
9.70	0.20	10	11	66	3		¹⁾ S803HB9.7
10.00	0.20	10	11	66	3	S803HA10.0	¹⁾ S803HB10.0
11.70	0.20	12	12	73	3		¹⁾ S803HB11.7
12.00	0.20	12	12	73	3	S803HA12.0	¹⁾ S803HB12.0
14.00	0.20	14	14	75	3	S803HA14.0	¹⁾ S803HB14.0
16.00	0.20	16	16	82	3	S803HA16.0	¹⁾ S803HB16.0
18.00	0.20	18	18	84	3	S803HA18.0	¹⁾ S803HB18.0
20.00	0.30	20	20	92	3	S803HA20.0	¹⁾ S803HB20.0

¹⁾ Ch ±0.05x45° mm




S813HA

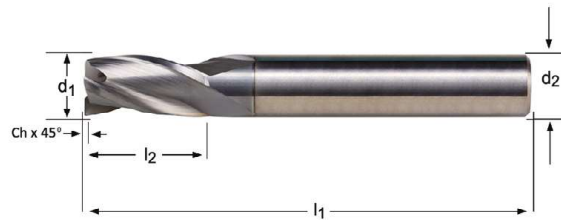
- Slot Drill
- Fresas de ranurar

S813HB

- Fresa de Ranhurar
- Fraises à rainurer

S813HA; S813HB	▪	1.1	1.2	1.3	1.4	1.5	2.1	3.1	3.2	3.3	3.4	6.2	6.3	6.4	7.2	7.3	7.4
	•	1.6	2.2	2.3	4.1	4.2	5.1	5.2	6.1	7.1	8.1	8.2					

S813HA	HM		N	Z 3		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HA			DIN 6527L
S813HB	HM		N	Z 3		$\lambda 28^\circ$ $\gamma 9^\circ$	DIN 6535HB			DIN 6527L



d_1 Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 Ø _{h₆} mm	l_2 mm	l_1 mm	z	S813HA	S813HB
2.00	0.00	6	6	57	3	S813HA2.0	S813HB2.0
2.50	0.08	6	7	57	3	S813HA2.5	S813HB2.5
3.00	0.08	6	7	57	3	S813HA3.0	S813HB3.0
3.50	0.08	6	7	57	3	S813HA3.5	S813HB3.5
4.00	0.13	6	8	57	3	S813HA4.0	S813HB4.0
4.50	0.13	6	8	57	3	S813HA4.5	S813HB4.5
5.00	0.13	6	10	57	3	S813HA5.0	S813HB5.0
6.00	0.13	6	10	57	3	S813HA6.0	S813HB6.0
7.00	0.13	8	13	63	3	S813HA7.0	S813HB7.0
8.00	0.20	8	16	63	3	S813HA8.0	S813HB8.0 ¹⁾
9.00	0.20	10	16	72	3	S813HA9.0	S813HB9.0 ¹⁾
10.00	0.20	10	19	72	3	S813HA10.0	S813HB10.0 ¹⁾
12.00	0.20	12	22	83	3	S813HA12.0	S813HB12.0 ¹⁾
14.00	0.20	14	22	83	3	S813HA14.0	S813HB14.0 ¹⁾
16.00	0.20	16	26	92	3	S813HA16.0	S813HB16.0 ¹⁾
18.00	0.20	18	26	92	3	S813HA18.0	S813HB18.0 ¹⁾
20.00	0.30	20	32	104	3	S813HA20.0	S813HB20.0 ¹⁾

¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm
394

- S823**
- Slot Drill
 - Fresas de ranurar
 - Fresa de Ranhurar
 - Fraises à rainurer

S823	▪	1.1	1.2	1.3	1.4	1.5	2.1	3.1	3.2	3.3	3.4	6.2	6.3	6.4	7.2	7.3	7.4
	•	1.6	2.2	2.3	4.1	4.2	5.1	5.2	6.1	7.1	8.1	8.2					

S823 **HM** **N** $\lambda 28^\circ$ $\gamma 9^\circ$



d_1 \varnothing mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 $\varnothing h_5$ mm	l_2 mm	l_1 mm	z	S823
2.00	-	6	8	57	3	S8232.0
2.50	0.08	6	12	57	3	S8232.5
3.00	0.08	6	12	57	3	S8233.0
4.00	0.13	6	14	57	3	S8234.0
5.00	0.13	6	16	57	3	S8235.0
6.00	0.13	6	19	57	3	S8236.0
7.00	0.13	8	19	63	3	S8237.0
8.00	0.20	8	19	63	3	S8238.0 ¹⁾
9.00	0.20	10	21	72	3	S8239.0 ¹⁾
10.00	0.20	10	22	72	3	S82310.0 ¹⁾
12.00	0.20	12	25	83	3	S82312.0 ¹⁾
14.00	0.20	14	30	83	3	S82314.0 ¹⁾
16.00	0.20	16	32	92	3	S82316.0 ¹⁾
18.00	0.20	18	32	92	3	S82318.0 ¹⁾
20.00	0.30	20	38	104	3	S82320.0 ¹⁾

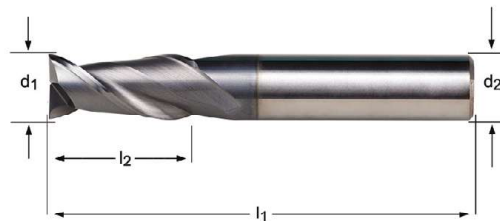
¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm

S710

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S710 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S710 **HM**  **N** **Z 2**  $\lambda 40^\circ$ $\gamma 10^\circ$ **DIN 6535HA**  **AlCrN** **h9**  **DORMER**



S710



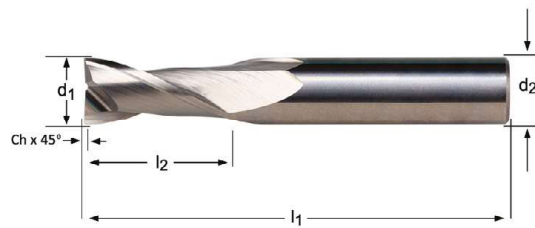
1.00 - 20.00

d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S710
1.00	3	3	40	2	S7101.0
1.50	3	4.5	40	2	S7101.5
2.00	3	6.5	40	2	S7102.0
2.50	3	6.5	40	2	S7102.5
3.00	6	9	50	2	S7103.0
4.00	6	12	50	2	S7104.0
5.00	6	15	50	2	S7105.0
6.00	6	20	60	2	S7106.0
8.00	8	20	64	2	S7108.0
10.00	10	22	75	2	S71010.0
12.00	12	25	75	2	S71012.0
16.00	16	32	90	2	S71016.0
20.00	20	38	100	2	S71020.0

S902 • End Mill
• Fresas de acabado
S922 • Fresa de Acabamento
• Fraises de finition

S902	▪	1.1	1.2	1.3	1.4	3.1	3.3	4.1	5.1	6.1	6.2	6.3			
	•	1.5	3.2	3.4	4.2	4.3	6.4	7.1	7.2	7.3	8.1	8.2	8.3		
S922	▪	1.1	1.2	1.3	1.4	1.5	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3
	•	1.6	4.2	4.3	6.4	7.1	7.2	7.3	8.1	8.2	8.3				

S902	HM		N	Z 2		λ 30° γ 12°	DIN 6535HA		h10			
S922	HM		N	Z 2		λ 30° γ 12°	DIN 6535HB	TiAlN	h10			S991 437



d ₁ Ø mm	Ch ±0.03x45° mm	d ₂ Øh ₆ mm	l ₂ mm	l ₁ mm	z	S902	S922
2.00	0.08	3	6	38	2	S9022.0	S9222.0 ²⁾
2.50	0.08	3	9	38	2	S9022.5	S9222.5 ²⁾
3.00	0.08	3	12	38	2	S9023.0	S9223.0 ²⁾
4.00	0.08	4	14	50	2	S9024.0	S9224.0 ²⁾
5.00	0.13	5	16	50	2	S9025.0	S9225.0 ²⁾
6.00	0.13	6	19	57	2	S9026.0	S9226.0
7.00	0.13	8	19	63	2	S9027.0	S9227.0
8.00	0.13	8	19	63	2	S9028.0	S9228.0
9.00	0.13	10	21	72	2	S9029.0	S9229.0
10.00	0.18	10	22	72	2	S90210.0	S92210.0
12.00	0.20	12	25	73	2	S90212.0 ¹⁾	S92212.0 ¹⁾
14.00	0.20	14	30	83	2	S90214.0 ¹⁾	S92214.0 ¹⁾
16.00	0.20	16	32	92	2	S90216.0 ¹⁾	S92216.0 ¹⁾
18.00	0.20	18	32	92	2	S90218.0 ¹⁾	S92218.0 ¹⁾
20.00	0.30	20	38	104	2	S90220.0 ¹⁾	S92220.0 ¹⁾

¹⁾ Ch ±0,05x45° mm

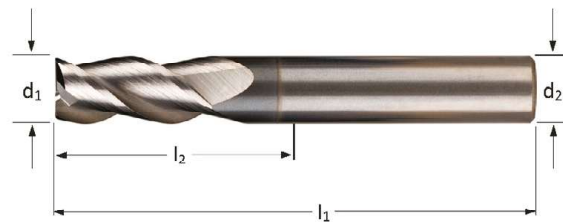
²⁾ Cylindrical shank / Mango cilíndrico / Haste cilíndrica / queue cylindrique

S713

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S713 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S713 **HM**  **N** **Z 3**  $\lambda 40^\circ$ $\gamma 10^\circ$ **DIN 6535HA**  **AlCrN** **h9**  **DORMER**



S713



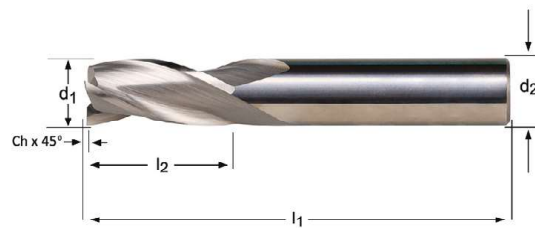
1.50 - 20.00

d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S713
1.50	4	4.5	40	3	S7131.5
2.00	4	6.5	40	3	S7132.0
3.00	3	9	40	3	S7133.0
4.00	4	12	50	3	S7134.0
5.00	5	15	50	3	S7135.0
6.00	6	16	50	3	S7136.0
8.00	8	20	64	3	S7138.0
10.00	10	22	70	3	S71310.0
12.00	12	25	75	3	S71312.0
14.00	14	32	90	3	S71314.0
16.00	16	32	90	3	S71316.0
18.00	18	38	100	3	S71318.0
20.00	20	38	100	3	S71320.0

- S903** • End Mill
• Fresas de acabado
- S933** • Fresa de Acabamento
• Fraises de finition

S903	▪	1.1	1.2	1.3	1.4	3.1	3.3	4.1	5.1	6.1	6.2	6.3			
	•	1.5	3.2	3.4	4.2	4.3	6.4	7.1	7.2	7.3	8.1	8.2	8.3		
S933	▪	1.1	1.2	1.3	1.4	1.5	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3
	•	1.6	4.2	4.3	6.4	7.1	7.2	7.3	8.1	8.2	8.3				

S903	HM		N	Z 3		λ 30° γ 12°	DIN 6535HA		h10			
S933	HM		N	Z 3		λ 30° γ 12°	DIN 6535HB	TiAIN	h10			 437



d_1 \emptyset mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 $\emptyset h_6$ mm	l_2 mm	l_1 mm	z	S903	S933
2.00	0.08	3	6	38	3	S9032.0	S9332.0 ²⁾
2.50	0.08	3	9	38	3	S9032.5	S9332.5 ²⁾
3.00	0.08	3	12	38	3	S9033.0	S9333.0 ²⁾
4.00	0.08	4	14	50	3	S9034.0	S9334.0 ²⁾
5.00	0.13	5	16	50	3	S9035.0	S9335.0 ²⁾
6.00	0.13	6	19	57	3	S9036.0	S9336.0
7.00	0.13	8	19	63	3	S9037.0	S9337.0
8.00	0.13	8	19	63	3	S9038.0	S9338.0
9.00	0.13	10	21	72	3	S9039.0	S9339.0
10.00	0.20	10	22	72	3	S90310.0 ¹⁾	S93310.0 ¹⁾
12.00	0.20	12	25	73	3	S90312.0 ¹⁾	S93312.0 ¹⁾
14.00	0.20	14	30	83	3	S90314.0 ¹⁾	S93314.0 ¹⁾
16.00	0.20	16	32	92	3	S90316.0 ¹⁾	S93316.0 ¹⁾
18.00	0.20	18	32	92	3	S90318.0 ¹⁾	S93318.0 ¹⁾
20.00	0.30	20	38	104	3	S90320.0 ¹⁾	S93320.0 ¹⁾

¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm

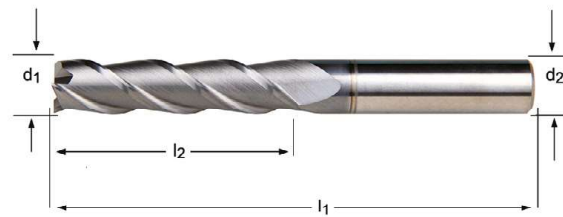
²⁾ Cylindrical shank / Mango cilíndrico / Haste cilíndrica / queue cylindrique

S714

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S714	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	3.1	3.2	3.3	3.4	4.2	5.2
	•	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4					

S714 **HM**  **N** **Z 3**  **λ 40°** **γ 10°** **DIN 6535HA**  **AlCrN** **h9**  **DORMER**



d_1 Ø mm	d_2 Ø _{h₉} mm	l_2 mm	l_1 mm	z	S714
3.00	3	19	60	3	S7143.0
4.00	4	19	60	3	S7144.0
5.00	5	19	60	3	S7145.0
6.00	6	31	75	3	S7146.0
8.00	8	31	75	3	S7148.0
10.00	10	31	75	3	S71410.0
12.00	12	50	100	3	S71412.0
14.00	14	57	125	3	S71414.0
16.00	16	57	125	3	S71416.0
18.00	18	57	125	3	S71418.0
20.00	20	57	125	3	S71420.0

- S715**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

S715	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	3.1	3.2	3.3	3.4	4.2	5.2
	•	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4					

S715

HM

N

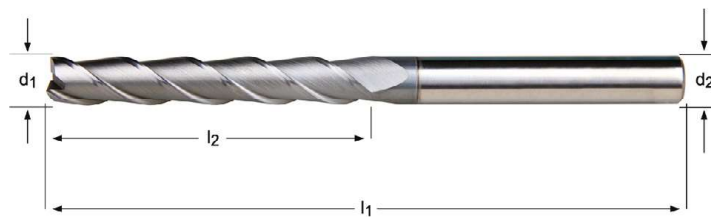
Z
3

λ 40°
 γ 10°

DIN 6535HA

AICrN

h9



d_1 \varnothing mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	S715
3.00	3	25	100	3	S7153.0
4.00	4	31	100	3	S7154.0
5.00	5	31	100	3	S7155.0
6.00	6	38	100	3	S7156.0
8.00	8	41	100	3	S7158.0
10.00	10	57	125	3	S71510.0
12.00	12	75	150	3	S71512.0
14.00	14	75	150	3	S71514.0
16.00	16	75	150	3	S71516.0
18.00	18	75	150	3	S71518.0
20.00	20	75	150	3	S71520.0

S637

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S637 ■ 6.1 6.2 6.3 6.4 7.1 7.2 7.3 7.4 8.1 8.2

S637 **HM**  **W** **Z 1**  **λ 25°** **γ 20°** **DIN 6535HA**  **h9**  **DORMER**



S637



2.00 - 12.00

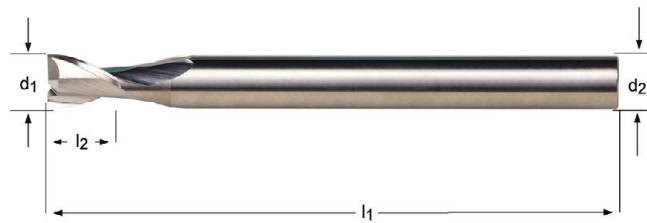
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S637
2.00	2	10	40	1	S6372.0
3.00	3	12	40	1	S6373.0
4.00	4	15	50	1	S6374.0
5.00	5	16	50	1	S6375.0
6.00	6	20	60	1	S6376.0
8.00	8	22	63	1	S6378.0
10.00	10	25	72	1	S63710.0
12.00	12	30	83	1	S63712.0

- S638**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

- Reduced shank
- Mango reducido
- Encabadouro reduzido
- Queue réduite

S638 ■ 6.1 6.2 6.3 6.4 7.1 7.2 7.3 7.4 8.1 8.2

S638 **HM** **W** **Z 2** $\lambda 30^\circ$ $\gamma 20^\circ$ **DIN 6535HA** **h9** **DORMER**



d_1 \varnothing mm	r ± 0.02 mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	S638
6.20	0.10	6	8	100	2	S6386.2
8.20	0.10	8	10	100	2	S6388.2
10.30	0.10	10	14	125	2	S63810.3
12.30	0.10	12	16	125	2	S63812.3
16.30	0.10	16	20	125	2	S63816.3
20.30	0.10	20	25	125	2	S63820.3

S610

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S610 ■ 6.1 6.2 6.3 6.4 7.1 7.2 7.3 7.4 8.1 8.2

S610 **HM**  **W** **Z 2**  **λ 30°**
γ 20° **DIN 6535HA**  **Hi** **h9**  **DORMER**



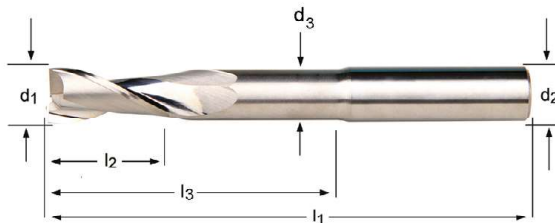
d_1 Ø mm	r ±0.02 mm	d_2 Ø h_6 mm	l_2 mm	l_1 mm	z	S610
3.00	0.10	3	9	40	2	S6103.0XD3
3.00	0.10	6	9	50	2	S6103.0XD6
4.00	0.10	4	12	50	2	S6104.0XD4
4.00	0.10	6	12	50	2	S6104.0XD6
5.00	0.10	6	15	50	2	S6105.0
6.00	0.10	6	20	50	2	S6106.0
8.00	0.10	8	20	64	2	S6108.0
10.00	0.10	10	22	75	2	S61010.0
12.00	0.10	12	25	75	2	S61012.0
14.00	0.10	14	32	90	2	S61014.0
16.00	0.10	16	32	90	2	S61016.0
20.00	0.10	20	38	100	2	S61020.0

S611

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S611 ■ 6.1 6.2 6.3 6.4 7.1 7.2 7.3 7.4 8.1 8.2

S611 **HM** **W** **Z 2** $\lambda 30^\circ$ $\gamma 20^\circ$ **DIN 6535HA** **h9**



d_1 Ø mm	r ±0.02 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S611
6.00	0.10	6	16	80	2	40.0	5.5	S6116.0
8.00	0.10	8	20	80	2	40.0	7.4	S6118.0
10.00	0.10	10	22	100	2	60.0	9.2	S61110.0
12.00	0.10	12	25	100	2	60.0	11.0	S61112.0
14.00	0.10	14	32	125	2	75.0	13.0	S61114.0
16.00	0.10	16	32	125	2	75.0	15.0	S61116.0
20.00	0.10	20	38	125	2	75.0	19.0	S61120.0

S804HA

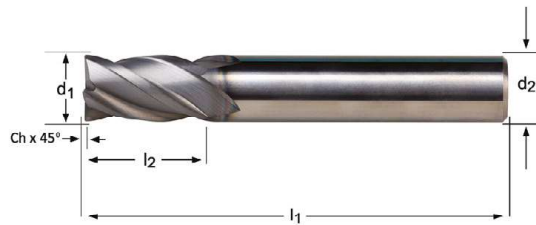
- End Mill
- Fresas de acabado

S804HB

- Fresa de Acabamento
- Fraises de finition

S804HA; S804HB	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	3.1	3.2	3.3	3.4	6.2	6.3	6.4
	•	2.3	2.4	4.1	4.2	5.1	5.2	6.1	7.1	7.2	7.3	7.4	8.1	8.2		

S804HA	HM		N	Z 4		$\lambda 34^\circ$ $\gamma 9^\circ$	DIN 6535HA		h10		DIN 6527K
S804HB	HM		N	Z 4		$\lambda 34^\circ$ $\gamma 9^\circ$	DIN 6535HB		h10		DIN 6527K



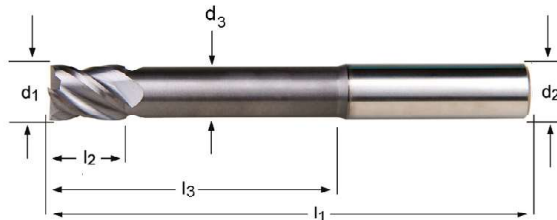
d_1 Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S804HA	S804HB
2.00	-	6	4	50	4	S804HA2.0	S804HB2.0
3.00	0.08	6	5	50	4	S804HA3.0	S804HB3.0
4.00	0.13	6	8	54	4	S804HA4.0	S804HB4.0
5.00	0.13	6	9	54	4	S804HA5.0	S804HB5.0
6.00	0.13	6	10	54	4	S804HA6.0	S804HB6.0
8.00	0.13	8	12	58	4	S804HA8.0	S804HB8.0
10.00	0.20	10	14	66	4	S804HA10.0	S804HB10.0 ¹⁾
12.00	0.20	12	16	73	4	S804HA12.0	S804HB12.0 ¹⁾
16.00	0.20	16	22	82	4	S804HA16.0	S804HB16.0 ¹⁾
20.00	0.30	20	26	92	4	S804HA20.0	S804HB20.0 ¹⁾
25.00	0.30	25	32	121	4	S804HA25.0	S804HB25.0 ¹⁾

¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm
406

- S219**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

S219 ■ 1.6 2.3 2.4 4.3 5.3

S219 **HM** **N** **Z 4** $\lambda 40^\circ$ $\gamma 3^\circ$ **DIN 6535HA** **h9**



d_1 Ø mm	d_2 Ø _{h₆} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S219
3.00	3	5	60	4	30.0	2.8	S2193.0
4.00	4	8	60	4	32.0	3.7	S2194.0
5.00	5	9	60	4	32.0	4.6	S2195.0
6.00	6	10	75	4	40.0	5.5	S2196.0
8.00	8	12	75	4	40.0	7.4	S2198.0
10.00	10	14	75	4	40.0	9.2	S21910.0
12.00	12	16	100	4	60.0	11.0	S21912.0
14.00	14	22	125	4	85.0	13.0	S21914.0
16.00	16	22	125	4	85.0	15.0	S21916.0
18.00	18	26	125	4	85.0	17.0	S21918.0
20.00	20	26	125	4	85.0	19.0	S21920.0

S814HA

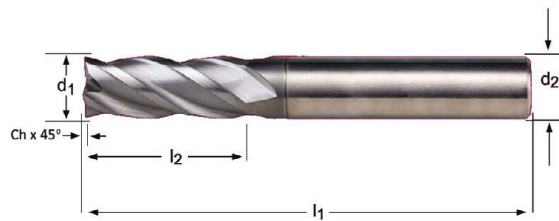
- End Mill
- Fresas de acabado

S814HB

- Fresa de Acabamento
- Fraises de finition

S814HA; S814HB	▪	1.1	1.2	1.3	1.4	1.5	2.1	3.1	3.2	3.3	3.4	6.2	6.3	6.4	
	•	1.6	2.2	2.3	4.1	4.2	5.1	5.2	6.1	7.1	7.2	7.3	7.4	8.1	8.2

S814HA	HM		N	Z 4		$\lambda 34^\circ$ $\gamma 9^\circ$	DIN 6535HA		h10		DIN 6527L
S814HB	HM		N	Z 4		$\lambda 34^\circ$ $\gamma 9^\circ$	DIN 6535HB		h10		DIN 6527L



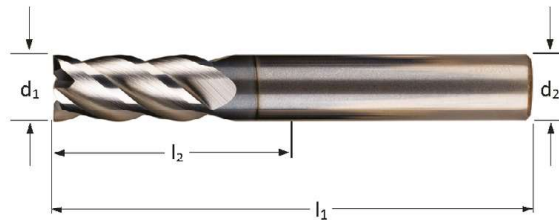
d_1 Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S814HA	S814HB
2.00	0.00	6	7	57	4	S814HA2.0	S814HB2.0
3.00	0.08	6	8	57	4	S814HA3.0	S814HB3.0
4.00	0.13	6	11	57	4	S814HA4.0	S814HB4.0
5.00	0.13	6	13	57	4	S814HA5.0	S814HB5.0
6.00	0.13	6	13	57	4	S814HA6.0	S814HB6.0
8.00	0.13	8	19	63	4	S814HA8.0	S814HB8.0
10.00	0.20	10	22	72	4	S814HA10.0 ¹⁾	S814HB10.0 ¹⁾
12.00	0.20	12	26	83	4	S814HA12.0 ¹⁾	S814HB12.0 ¹⁾
16.00	0.20	16	32	92	4	S814HA16.0 ¹⁾	S814HB16.0 ¹⁾
20.00	0.30	20	38	104	4	S814HA20.0 ¹⁾	S814HB20.0 ¹⁾
25.00	0.30	25	45	121	4	S814HA25.0 ¹⁾	S814HB25.0 ¹⁾

¹⁾ Ch $\pm 0.05 \times 45^\circ$ mm
408

- S716**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

S716 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S716 **HM** **N** **Z 4** $\lambda 40^\circ$ $\gamma 10^\circ$ **DIN 6535HA** **AlCrN** **h9**



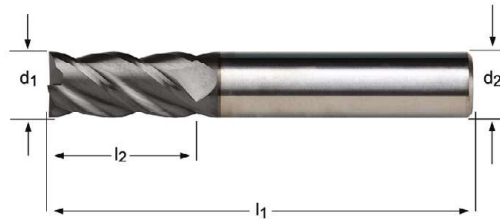
d_1 \varnothing mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	S716
2.00	4	6.5	40	4	S7162.0
3.00	3	9	40	4	S7163.0
4.00	4	12	50	4	S7164.0
5.00	5	15	50	4	S7165.0
6.00	6	16	50	4	S7166.0
8.00	8	20	64	4	S7168.0
10.00	10	22	70	4	S71610.0
12.00	12	25	75	4	S71612.0
14.00	14	32	90	4	S71614.0
16.00	16	32	90	4	S71616.0
18.00	18	38	100	4	S71618.0
20.00	20	38	100	4	S71620.0

S612

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S612 ■ 10.1

S612 **HM**  **N**  **Z 4**  **λ 40°**
γ 10°  **DIN 6535HA**  **Diamond** **h9**  **DORMER**



S612



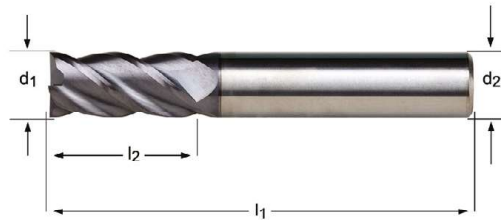
1.00 - 12.00

d_1 Ø mm	d_2 Ø _{h₆} mm	l_2 mm	l_1 mm	z	S612
1.00	3	3	50	4	S6121.0
1.50	3	4.5	50	4	S6121.5
2.00	3	6.5	50	4	S6122.0
2.50	3	6.5	50	4	S6122.5
3.00	3	9	50	4	S6123.0
4.00	4	12	50	4	S6124.0
5.00	5	15	50	4	S6125.0
6.00	6	20	60	4	S6126.0
8.00	8	20	64	4	S6128.0
10.00	10	22	70	4	S61210.0
12.00	12	25	75	4	S61212.0

- S216**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

S216 ■ 1.6 2.3 2.4 4.3 5.3

S216 **HM** **N** **Z 4** $\lambda 40^\circ$ $\gamma 3^\circ$ **DIN 6535HA** **AITIN** **h9**

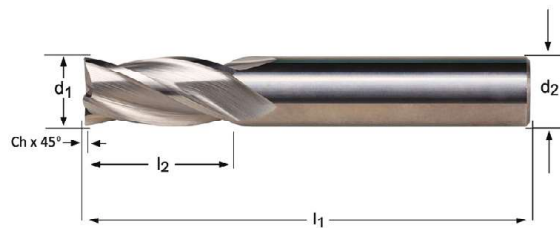


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S216
2.00	4	6.5	40	4	S2162.0
3.00	3	9	40	4	S2163.0XD3
3.00	6	9	50	4	S2163.0XD6
4.00	4	12	50	4	S2164.0XD4
4.00	6	12	50	4	S2164.0XD6
5.00	5	15	50	4	S2165.0
6.00	6	16	50	4	S2166.0
8.00	8	20	64	4	S2168.0
10.00	10	22	70	4	S21610.0
12.00	12	25	75	4	S21612.0
14.00	14	32	90	4	S21614.0
16.00	16	32	90	4	S21616.0
18.00	18	38	100	4	S21618.0
20.00	20	38	100	4	S21620.0

S904 • End Mill
• Fresas de acabado
S944 • Fresa de Acabamento
• Fraises de finition

S904	▪	1.1	1.2	1.3	1.4	3.1	3.3	4.1	5.1	6.1	6.2	6.3								
	•	1.5	1.6	3.2	3.4	4.2	4.3	5.2	5.3	6.4	7.1	7.2	7.3	8.1	8.2	8.3				
S944	▪	1.1	1.2	1.3	1.4	1.5	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3					
	•	1.6	4.2	4.3	5.2	5.3	6.4	7.1	7.2	7.3	8.1	8.2	8.3							

S904	HM		N	Z 4		λ 30° γ 12°	DIN 6535HA		h12			
S944	HM		N	Z 4		λ 30° γ 12°	DIN 6535HB	TiAIN	h12			S991 437



d ₁ Ø mm	Ch ±0.03x45° mm	d ₂ Øh ₆ mm	l ₂ mm	l ₁ mm	z	S904	S944
2.00	0.08	3	6	38	4	S9042.0	S9442.0 ²⁾
2.50	0.08	3	9	38	4	S9042.5	S9442.5 ²⁾
3.00	0.08	3	12	38	4	S9043.0	S9443.0 ²⁾
4.00	0.08	4	14	50	4	S9044.0	S9444.0 ²⁾
5.00	0.13	5	16	50	4	S9045.0	S9445.0 ²⁾
6.00	0.13	6	19	57	4	S9046.0	S9446.0
7.00	0.13	8	19	63	4	S9047.0	S9447.0
8.00	0.13	8	19	63	4	S9048.0	S9448.0
9.00	0.13	10	21	72	4	S9049.0	S9449.0
10.00	0.20	10	22	72	4	S90410.0 ¹⁾	S94410.0 ¹⁾
12.00	0.20	12	25	73	4	S90412.0 ¹⁾	S94412.0 ¹⁾
14.00	0.20	14	30	83	4	S90414.0 ¹⁾	S94414.0 ¹⁾
16.00	0.20	16	32	92	4	S90416.0 ¹⁾	S94416.0 ¹⁾
18.00	0.20	18	32	92	4	S90418.0 ¹⁾	S94418.0 ¹⁾
20.00	0.30	20	38	104	4	S90420.0 ¹⁾	S94420.0 ¹⁾

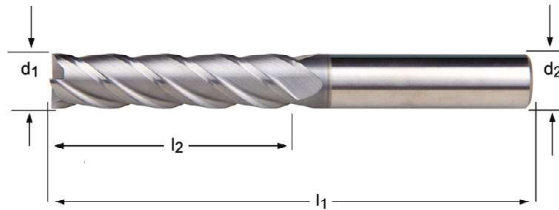
¹⁾ Ch ±0.05x45° mm

²⁾ Cylindrical shank / Mango cilíndrico / Haste cilíndrica / queue cylindrique

- S717** • End Mill
• Fresas de acabado
- S217** • Fresa de Acabamento
• Fraises de finition

S717	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	3.1	3.2	3.3	3.4	4.2	5.2
	•	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4					
S217	▪	1.6	2.3	2.4	4.3	5.3								

S717	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 10^\circ$	DIN 6535HA		AICrN	h9		
S217	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 3^\circ$	DIN 6535HA		AlTiN	h9		



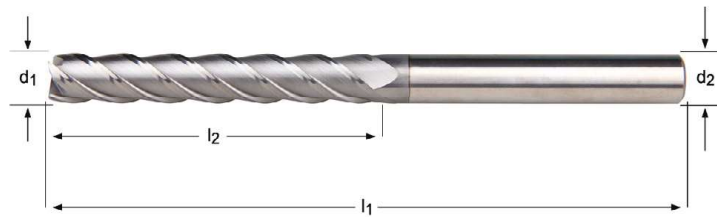
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S717	S217
3.00	3	19	60	4	S7173.0	S2173.0XD3
3.00	6	19	75	4		S2173.0XD6
4.00	4	19	60	4	S7174.0	S2174.0XD4
4.00	6	19	75	4		S2174.0XD6
5.00	5	19	60	4	S7175.0	S2175.0
6.00	6	31	75	4	S7176.0	S2176.0
8.00	8	31	75	4	S7178.0	S2178.0
10.00	10	31	75	4	S71710.0	S21710.0
12.00	12	50	100	4	S71712.0	S21712.0
14.00	14	57	125	4	S71714.0	S21714.0
16.00	16	57	125	4	S71716.0	S21716.0
18.00	18	57	125	4	S71718.0	S21718.0
20.00	20	57	125	4	S71720.0	S21720.0

S718 • End Mill
• Fresas de acabado

S218 • Fresa de Acabamento
• Fraises de finition

S718	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	3.1	3.2	3.3	3.4	4.2	5.2
	•	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4					
S218	▪	1.6	2.3	2.4	4.3	5.3								

S718	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 10^\circ$	DIN 6535HA		h9		
S218	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 3^\circ$	DIN 6535HA		h9		



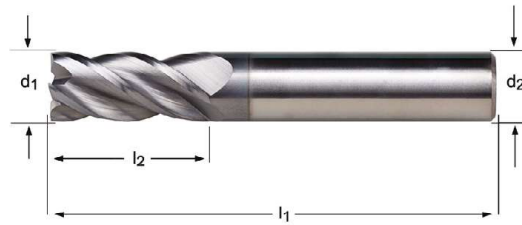
d_1 Ø mm	d_2 Ø _{h8} mm	l_2 mm	l_1 mm	z	S718	S218
3.00	3	25	100	4	S7183.0	S2183.0
4.00	4	31	100	4	S7184.0	S2184.0
5.00	5	31	100	4	S7185.0	S2185.0
6.00	6	38	100	4	S7186.0	S2186.0
8.00	8	41	100	4	S7188.0	S2188.0
10.00	10	57	125	4	S71810.0	S21810.0
12.00	12	75	150	4	S71812.0	S21812.0
14.00	14	75	150	4	S71814.0	S21814.0
16.00	16	75	150	4	S71816.0	S21816.0
18.00	18	75	150	4	S71818.0	S21818.0
20.00	20	75	150	4	S71820.0	S21820.0

S761 • End Mill
• Fresas de acabado

S260 • Fresa de Acabamento
• Fraises de finition

S761	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	3.1	3.2	3.3	3.4	4.2	5.2
S260	▪	1.6	1.7	2.3	2.4	4.3	5.3							

S761	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 10^\circ$	DIN 6535HA	AICrN	h9		
S260	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 4^\circ$	DIN 6535HA	AICrN	h9		



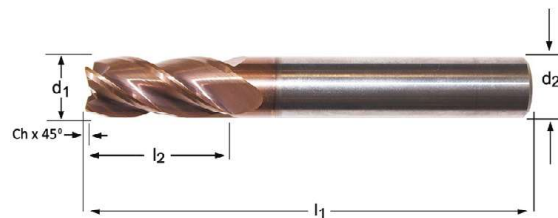
d_1 \varnothing mm	d_2 \varnothing_{h_9} mm	l_2 mm	l_1 mm	z	S761	S260
3.00	6	9	57	4	S7613.0	S2603.0
4.00	6	12	57	4	S7614.0	S2604.0
5.00	6	13	57	4	S7615.0	S2605.0
6.00	6	13	57	4	S7616.0	S2606.0
8.00	8	20	64	4	S7618.0	S2608.0
10.00	10	22	72	4	S76110.0	S26010.0
12.00	12	26	83	4	S76112.0	S26012.0
14.00	14	32	83	4	S76114.0	S26014.0
16.00	16	32	92	4	S76116.0	S26016.0
18.00	18	38	92	4	S76118.0	S26018.0
20.00	20	38	104	4	S76120.0	S26020.0

S766

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

S766 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S766 **HM**  **N**   $\lambda \neq \gamma 10^\circ$   **h9**  



S766



4.00 - 20.00

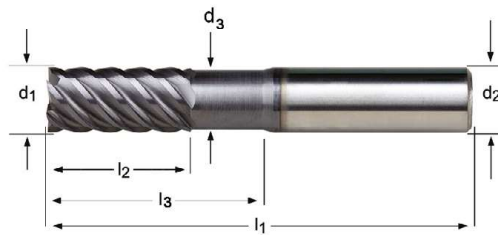
d_1 Ø mm	Ch $\pm 0.02 \times 45^\circ$ mm	d_2 Ø mm	l_2 mm	l_1 mm	z	S766
4.00	0.10	6	11	57	4	S7664.0
5.00	0.10	6	13	57	4	S7665.0
6.00	0.10	6	13	57	4	S7666.0
8.00	0.20	8	20	64	4	S7668.0
10.00	0.20	10	22	72	4	S76610.0
12.00	0.20	12	26	83	4	S76612.0
14.00	0.30	14	26	83	4	S76614.0
16.00	0.30	16	32	92	4	S76616.0
20.00	0.40	20	38	104	4	S76620.0

- S225** • Finishing End Mill
• Fresas de acabado
- S525** • Fresa de Acabamento
• Fraises de finition

S225 ■ 1.6 2.3 2.4 4.3 5.3

S525 ■ 1.7 1.8

S225	HM		N	Z 6-8		$\lambda 50^\circ$ $\gamma 3^\circ$	DIN 6535HA		h9		
S525	HM		N	Z 6-8		$\lambda 50^\circ$ $\gamma -26^\circ$	DIN 6535HA		h9		



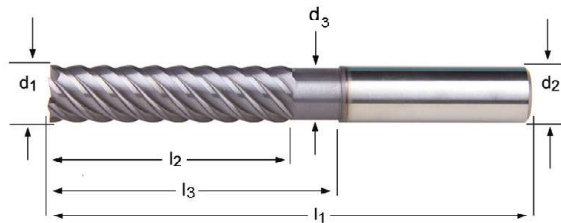
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S225	S525
3.00	6	8	50	6	20.0	2.8	S2253.0	S5253.0
4.00	6	11	50	6	20.0	3.7	S2254.0	S5254.0
6.00	6	15	50	6	20.0	5.5	S2256.0	S5256.0
8.00	8	20	64	6	30.0	7.4	S2258.0	S5258.0
10.00	10	22	70	6	32.0	9.2	S22510.0	S52510.0
12.00	12	25	75	6	37.0	11.0	S22512.0	S52512.0
14.00	14	30	90	6	44.0	13.0	S22514.0	S52514.0
16.00	16	30	90	8	46.0	15.0	S22516.0	S52516.0
18.00	18	35	100	8	53.0	17.0	S22518.0	S52518.0
20.00	20	38	100	8	58.0	19.0	S22520.0	S52520.0

- S226** • Finishing End Mill
• Fresas de acabado
- S526** • Fresa de Acabamento
• Fraises de finition

S226 ■ 1.6 2.3 2.4 4.3 5.3

S526 ■ 1.7 1.8

S226	HM		N	Z 6-8		$\lambda 50^\circ$ $\gamma 3^\circ$	DIN 6535HA		h9		
S526	HM		N	Z 6-8		$\lambda 50^\circ$ $\gamma -26^\circ$	DIN 6535HA		h9		



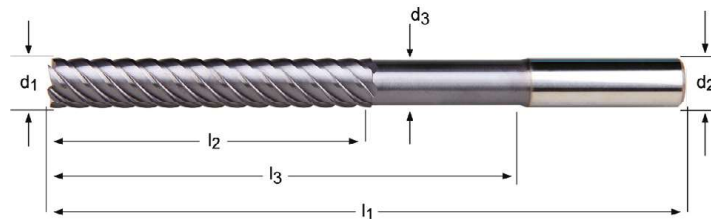
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S226	S526
3.00	6	19	75	6	30.0	2.8	S2263.0	S5263.0
4.00	6	19	75	6	32.0	3.7	S2264.0	S5264.0
6.00	6	31	75	6	40.0	5.5	S2266.0	S5266.0
8.00	8	31	75	6	40.0	7.4	S2268.0	S5268.0
10.00	10	45	100	6	60.0	9.2	S22610.0	S52610.0
12.00	12	50	100	6	60.0	11.0	S22612.0	S52612.0
14.00	14	57	125	6	85.0	13.0	S22614.0	S52614.0
16.00	16	57	125	8	85.0	15.0	S22616.0	S52616.0
18.00	18	57	125	8	85.0	17.0	S22618.0	S52618.0
20.00	20	57	125	8	85.0	19.0	S22620.0	S52620.0

- S227** • Finishing End Mill
• Fresas de acabado
- S527** • Fresa de Acabamento
• Fraises de finition

S227 ■ 1.6 2.3 2.4 4.3 5.3

S527 ■ 1.7 1.8

S227	HM		N	Z 6-8		$\lambda 50^\circ$ $\gamma 3^\circ$	DIN 6535HA		h9		
S527	HM		N	Z 6-8		$\lambda 50^\circ$ $\gamma -26^\circ$	DIN 6535HA		h9		



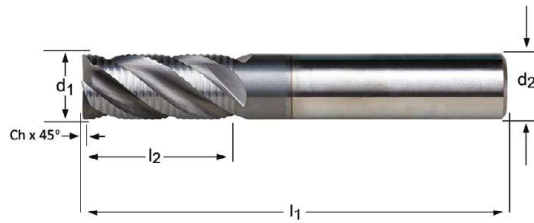
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S227	S527
3.00	6	25	100	6	60.0	2.8		S5273.0
4.00	6	31	100	6	60.0	3.7		S5274.0
6.00	6	38	100	6	60.0	5.5	S2276.0	S5276.0
8.00	8	41	100	6	60.0	7.4	S2278.0	S5278.0
10.00	10	57	125	6	85.0	9.2	S22710.0	S52710.0
12.00	12	75	150	6	110.0	11.0	S22712.0	S52712.0
14.00	14	75	150	6	110.0	13.0	S22714.0	
16.00	16	75	150	8	110.0	15.0	S22716.0	S52716.0
18.00	18	75	150	8	110.0	17.0	S22718.0	
20.00	20	75	150	8	110.0	19.0	S22720.0	S52720.0

S765

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

S765 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S765 **HM**  **NR**   $\lambda 40^\circ$ $\gamma 10^\circ$   **h9**  **DORMER**



S765



6.00 - 20.00

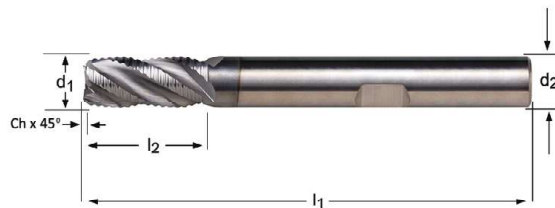
d_1 \varnothing mm	Ch $\pm 0.02 \times 45^\circ$ mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	S765
6.00	0.10	6	16	50	4	S7656.0
8.00	0.20	8	20	64	4	S7658.0
10.00	0.20	10	22	70	4	S76510.0
12.00	0.20	12	26	75	4	S76512.0
14.00	0.30	14	32	90	4	S76514.0
16.00	0.30	16	32	90	4	S76516.0
18.00	0.30	18	38	100	4	S76518.0
20.00	0.40	20	38	100	4	S76520.0

S264

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

S264 ■ 1.6 1.7 2.3 2.4 4.3 5.3

S264 **HM** **NR** **Z 4** **λ 40°** **γ 4°** **DIN 6535HB** **AICrN** **h9**

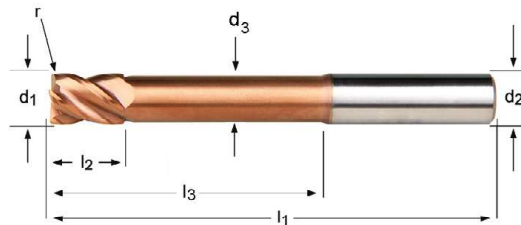


d_1 Ø mm	Ch ±0.02x45° mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S264
6.00	0.10	6	13	57	4	S2646.0
8.00	0.20	8	20	64	4	S2648.0
10.00	0.20	10	22	72	4	S26410.0
12.00	0.20	12	26	83	4	S26412.0
14.00	0.30	14	26	83	4	S26414.0
16.00	0.30	16	32	92	4	S26416.0
18.00	0.30	18	32	92	4	S26418.0
20.00	0.40	20	38	104	4	S26420.0

- Corner Radius End Mill
- Fresas con radios en el extremo
- Fresa de Acabamento c/ Raio
- Fraises à matrice torique

S524 ■ 1.7 1.8

S524 **HM**  **N**  **Z 4**  **λ 40°**
γ -6°  **DIN 6535HA**  **TISIN**  **h9**  **DORMER**

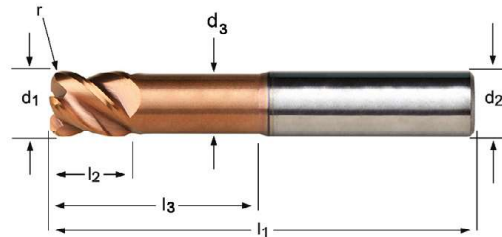


d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S524
3.00	0.30	6	5	75	4	30.0	2.8	S5243.0XR0.3
4.00	0.30	6	8	75	4	32.0	3.7	S5244.0XR0.3
4.00	0.50	6	8	75	4	32.0	3.7	S5244.0XR0.5
5.00	0.30	6	9	75	4	32.0	4.6	S5245.0XR0.3
5.00	0.50	6	9	75	4	32.0	4.6	S5245.0XR0.5
6.00	0.30	6	10	75	4	40.0	5.5	S5246.0XR0.3
6.00	0.50	6	10	75	4	40.0	5.5	S5246.0XR0.5
6.00	1.00	6	10	75	4	40.0	5.5	S5246.0XR1.0
8.00	0.30	8	12	75	4	40.0	7.4	S5248.0XR0.3
8.00	0.50	8	12	75	4	40.0	7.4	S5248.0XR0.5
8.00	1.00	8	12	75	4	40.0	7.4	S5248.0XR1.0
10.00	0.50	10	14	75	4	40.0	9.2	S52410.0XR0.5
10.00	1.00	10	14	75	4	40.0	9.2	S52410.0XR1.0
10.00	2.00	10	14	75	4	40.0	9.2	S52410.0XR2.0
12.00	0.50	12	16	100	4	60.0	11.0	S52412.0XR0.5
12.00	1.00	12	16	100	4	60.0	11.0	S52412.0XR1.0
12.00	2.00	12	16	100	4	60.0	11.0	S52412.0XR2.0
16.00	0.50	16	22	125	4	85.0	15.0	S52416.0XR0.5
16.00	1.00	16	22	125	4	85.0	15.0	S52416.0XR1.0
16.00	2.00	16	22	125	4	85.0	15.0	S52416.0XR2.0
16.00	3.00	16	22	125	4	85.0	15.0	S52416.0XR3.0

- S521**
- Corner Radius End Mill
 - Fresas con radios en el extremo
 - Fresa de Acabamento c/ Raio
 - Fraises à matrice torique

S521 ■ 1.7 1.8

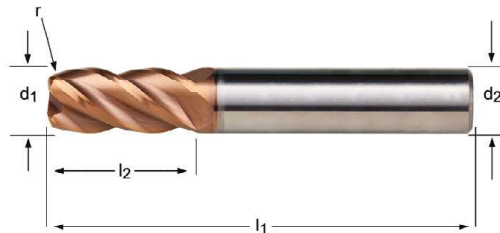
S521 **HM** **N** **Z 4** **λ 45°**
γ -10° **DIN 6535HA** **TISIN** **h9**



d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S521
3.00	0.30	6	4	60	4	14.0	2.8	S5213.0XR0.3
4.00	0.30	6	5	60	4	16.0	3.7	S5214.0XR0.3
4.00	0.50	6	5	60	4	16.0	3.7	S5214.0XR0.5
5.00	0.30	6	6	60	4	18.0	4.6	S5215.0XR0.3
5.00	0.50	6	6	60	4	18.0	4.6	S5215.0XR0.5
6.00	0.50	6	7	60	4	20.0	5.5	S5216.0XR0.5
6.00	1.00	6	7	60	4	20.0	5.5	S5216.0XR1.0
8.00	0.50	8	9	64	4	26.0	7.4	S5218.0XR0.5
8.00	1.00	8	9	64	4	26.0	7.4	S5218.0XR1.0
10.00	1.00	10	11	70	4	31.0	9.2	S52110.0XR1.0
10.00	2.00	10	11	70	4	31.0	9.2	S52110.0XR2.0
12.00	1.00	12	13	75	4	37.0	11.0	S52112.0XR1.0
12.00	2.00	12	13	75	4	37.0	11.0	S52112.0XR2.0
16.00	1.00	16	17	90	4	43.0	15.0	S52116.0XR1.0
16.00	2.00	16	17	90	4	43.0	15.0	S52116.0XR2.0
16.00	3.00	16	17	90	4	43.0	15.0	S52116.0XR3.0

- S523**
- Corner Radius End Mill
 - Fresas con radios en el extremo
 - Fresa de Acabamento c/ Raio
 - Fraises à matrice torique

S523 ■ 1.7 1.8

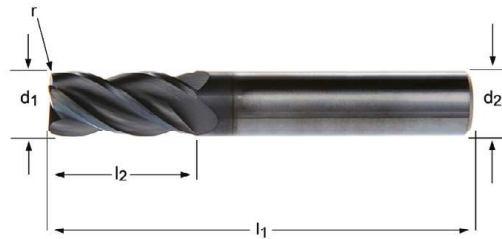


d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S523
1.50	0.20	6	4.5	50	4	S5231.5XR0.2
2.00	0.20	6	6.5	50	4	S5232.0XR0.2
3.00	0.20	3	9	50	4	S5233.0XR0.2XD3
3.00	0.30	3	9	50	4	S5233.0XR0.3XD3
3.00	0.20	6	9	50	4	S5233.0XR0.2XD6
3.00	0.30	6	9	50	4	S5233.0XR0.3XD6
3.00	0.50	6	9	50	4	S5233.0XR0.5XD6
4.00	0.30	4	12	50	4	S5234.0XR0.3XD4
4.00	0.50	4	12	50	4	S5234.0XR0.5XD4
4.00	0.30	6	12	50	4	S5234.0XR0.3XD6
4.00	0.50	6	12	50	4	S5234.0XR0.5XD6
5.00	0.30	5	15	50	4	S5235.0XR0.3XD5
5.00	0.50	5	15	50	4	S5235.0XR0.5XD5
5.00	0.30	6	15	50	4	S5235.0XR0.3XD6
5.00	0.50	6	15	50	4	S5235.0XR0.5XD6
6.00	0.30	6	16	50	4	S5236.0XR0.3
6.00	0.50	6	16	50	4	S5236.0XR0.5
6.00	1.00	6	16	50	4	S5236.0XR1.0
8.00	0.30	8	20	64	4	S5238.0XR0.3
8.00	0.50	8	20	64	4	S5238.0XR0.5
8.00	1.00	8	20	64	4	S5238.0XR1.0
8.00	2.00	8	20	64	4	S5238.0XR2.0
10.00	0.50	10	22	70	4	S52310.0XR0.5
10.00	1.00	10	22	70	4	S52310.0XR1.0
10.00	1.50	10	22	70	4	S52310.0XR1.5
10.00	2.00	10	22	70	4	S52310.0XR2.0
12.00	0.50	12	25	75	4	S52312.0XR0.5
12.00	1.00	12	25	75	4	S52312.0XR1.0
12.00	2.00	12	25	75	4	S52312.0XR2.0
12.00	3.00	12	25	75	4	S52312.0XR3.0
16.00	0.50	16	32	90	4	S52316.0XR0.5
16.00	1.00	16	32	90	4	S52316.0XR1.0
16.00	2.00	16	32	90	4	S52316.0XR2.0
16.00	3.00	16	32	90	4	S52316.0XR3.0

- Corner Radius End Mill
- Fresas con radios en el extremo
- Fresa de Acabamento c/ Raio
- Fraises à matrice torique

S763 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S763 **HM** **N** $\lambda 40^\circ$ $\gamma 10^\circ$ **h9**



S763



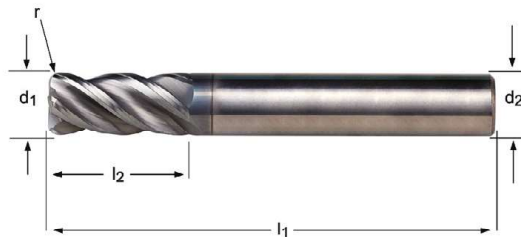
3.00 - 20.00

d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S763
3.00	0.30	3	9	40	4	S7633.0XR0.3
4.00	0.30	4	12	50	4	S7634.0XR0.3
4.00	0.50	4	12	50	4	S7634.0XR0.5
5.00	0.30	5	15	50	4	S7635.0XR0.3
5.00	0.50	5	15	50	4	S7635.0XR0.5
6.00	0.50	6	16	50	4	S7636.0XR0.5
6.00	1.00	6	16	50	4	S7636.0XR1.0
8.00	0.50	8	20	64	4	S7638.0XR0.5
8.00	1.00	8	20	64	4	S7638.0XR1.0
10.00	0.50	10	22	70	4	S76310.0XR0.5
10.00	1.00	10	22	70	4	S76310.0XR1.0
10.00	2.00	10	22	70	4	S76310.0XR2.0
12.00	1.00	12	25	75	4	S76312.0XR1.0
12.00	2.00	12	25	75	4	S76312.0XR2.0
12.00	3.00	12	25	75	4	S76312.0XR3.0
14.00	1.50	14	32	90	4	S76314.0XR1.5
16.00	1.00	16	32	90	4	S76316.0XR1.0
16.00	2.00	16	32	90	4	S76316.0XR2.0
16.00	3.00	16	32	90	4	S76316.0XR3.0
18.00	2.00	18	38	100	4	S76318.0XR2.0
20.00	3.00	20	38	100	4	S76320.0XR3.0

- S262**
- Corner Radius End Mill
 - Fresas con radios en el extremo
 - Fresa de Acabamento c/ Raio
 - Fraises à matrice torique

S262 ■ 1.6 1.7 2.3 2.4 4.3 5.3

S262 **HM**  **N**   $\lambda 40^\circ$ $\gamma 4^\circ$   **h9**  **DORMER**




d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S262
3.00	0.30	6	9	50	4	S2623.0XR0.3
3.00	0.50	6	9	50	4	S2623.0XR0.5
4.00	0.30	6	12	57	4	S2624.0XR0.3
4.00	0.50	6	12	57	4	S2624.0XR0.5
4.00	1.00	6	12	57	4	S2624.0XR1.0
5.00	0.30	6	15	57	4	S2625.0XR0.3
5.00	0.50	6	15	57	4	S2625.0XR0.5
6.00	0.30	6	16	57	4	S2626.0XR0.3
6.00	0.50	6	16	57	4	S2626.0XR0.5
6.00	1.00	6	16	57	4	S2626.0XR1.0
8.00	0.30	8	20	64	4	S2628.0XR0.3
8.00	0.50	8	20	64	4	S2628.0XR0.5
8.00	1.00	8	20	64	4	S2628.0XR1.0
8.00	1.50	8	20	64	4	S2628.0XR1.5
8.00	2.00	8	20	64	4	S2628.0XR2.0
10.00	0.30	10	22	72	4	S26210.0XR0.3
10.00	0.50	10	22	72	4	S26210.0XR0.5
10.00	1.00	10	22	72	4	S26210.0XR1.0
10.00	1.50	10	22	72	4	S26210.0XR1.5
10.00	2.00	10	22	72	4	S26210.0XR2.0
12.00	0.30	12	26	83	4	S26212.0XR0.3
12.00	0.50	12	26	83	4	S26212.0XR0.5
12.00	1.00	12	26	83	4	S26212.0XR1.0
12.00	2.00	12	26	83	4	S26212.0XR2.0
12.00	2.50	12	26	83	4	S26212.0XR2.5
12.00	3.00	12	26	83	4	S26212.0XR3.0
14.00	0.30	14	32	83	4	S26214.0XR0.3
14.00	0.50	14	32	83	4	S26214.0XR0.5
14.00	1.00	14	32	83	4	S26214.0XR1.0
14.00	2.00	14	32	83	4	S26214.0XR2.0
14.00	3.00	14	32	83	4	S26214.0XR3.0
16.00	0.30	16	32	92	4	S26216.0XR0.3
16.00	0.50	16	32	92	4	S26216.0XR0.5
16.00	1.00	16	32	92	4	S26216.0XR1.0
16.00	2.00	16	32	92	4	S26216.0XR2.0
16.00	2.50	16	32	92	4	S26216.0XR2.5
16.00	3.00	16	32	92	4	S26216.0XR3.0
16.00	4.00	16	32	92	4	S26216.0XR4.0
18.00	0.30	18	38	92	4	S26218.0XR0.3
18.00	0.50	18	38	92	4	S26218.0XR0.5

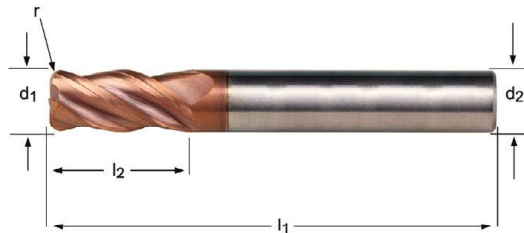
d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h₆} mm	l_2 mm	l_1 mm	z	S262
18.00	1.00	18	38	92	4	S26218.0XR1.0
18.00	2.00	18	38	92	4	S26218.0XR2.0
18.00	3.00	18	38	92	4	S26218.0XR3.0
20.00	0.30	20	38	104	4	S26220.0XR0.3
20.00	0.50	20	38	104	4	S26220.0XR0.5
20.00	1.00	20	38	104	4	S26220.0XR1.0
20.00	2.00	20	38	104	4	S26220.0XR2.0
20.00	2.50	20	38	104	4	S26220.0XR2.5
20.00	3.00	20	38	104	4	S26220.0XR3.0
20.00	4.00	20	38	104	4	S26220.0XR4.0

- Corner Radius End Mill
- Fresas con radios en el extremo
- Fresa de Acabamento c/ Raio
- Fraises à matrice torique

S767

S767 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2

S767 **HM**  **N**   $\lambda \neq 10^\circ$   **h9** 



d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h9} mm	l_2 mm	l_1 mm	z	S767
4.00	0.30	6	11	57	4	S7674.0XR0.3
4.00	0.50	6	11	57	4	S7674.0XR0.5
5.00	0.30	6	13	57	4	S7675.0XR0.3
5.00	0.50	6	13	57	4	S7675.0XR0.5
6.00	0.30	6	13	57	4	S7676.0XR0.3
6.00	0.50	6	13	57	4	S7676.0XR0.5
6.00	1.00	6	13	57	4	S7676.0XR1.0
8.00	0.30	8	20	64	4	S7678.0XR0.3
8.00	0.50	8	20	64	4	S7678.0XR0.5
8.00	1.00	8	20	64	4	S7678.0XR1.0
10.00	0.30	10	22	72	4	S76710.0XR0.3
10.00	0.50	10	22	72	4	S76710.0XR0.5
10.00	1.00	10	22	72	4	S76710.0XR1.0
12.00	0.30	12	26	83	4	S76712.0XR0.3
12.00	0.50	12	26	83	4	S76712.0XR0.5
12.00	1.00	12	26	83	4	S76712.0XR1.0
12.00	2.00	12	26	83	4	S76712.0XR2.0
16.00	0.30	16	32	92	4	S76716.0XR0.3
16.00	0.50	16	32	92	4	S76716.0XR0.5
16.00	1.00	16	32	92	4	S76716.0XR1.0
16.00	2.00	16	32	92	4	S76716.0XR2.0
20.00	0.30	20	38	104	4	S76720.0XR0.3
20.00	0.50	20	38	104	4	S76720.0XR0.5
20.00	1.00	20	38	104	4	S76720.0XR1.0
20.00	2.00	20	38	104	4	S76720.0XR2.0

- S536**
- High Feed End Mill
 - Fresas de acabado de gran avance
 - Fresa de Acabamento de alto avanço
 - Fraises grandes avance de Finition

S536 ■ 1.7 1.8

S536 **HM** **N** **Z 4-6** **$\lambda 25^\circ$** **$\gamma 0^\circ$** **DIN 6535HA** **TISIN** **h9** **DORMER**

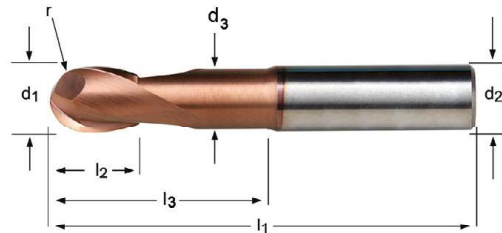


d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S536
6.00	1.00	6	6	60	4	S5366.0XR1.0
8.00	2.00	8	8	64	6	S5368.0XR2.0
10.00	2.00	10	10	75	6	S53610.0XR2.0
12.00	2.00	12	12	75	6	S53612.0XR2.0

- Ball-Nosed End Mill
- Fresas con punta esferica
- Fresa Topo Esférico
- Fraises de finition bout hémisphérique

S229 ■ 1.6 2.3 2.4 4.3 5.3

S229 **HM**  **N** **Z 2**  **$\lambda 30^\circ$** **$\gamma 3^\circ$** **DIN 6535HA**  **TISIN** **h9**  **DORMER**



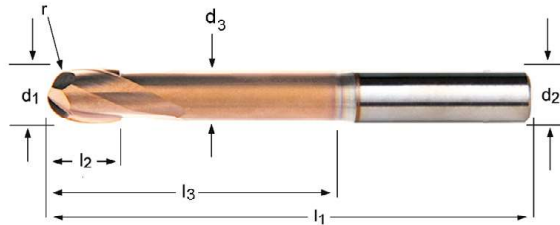
d_1 Ø mm	r +0/-0.02 mm	d_2 Ø mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S229
1.50	0.75	4	3	50	2	6.0	1.4	S2291.5XD4
2.00	1.00	3	4	50	2	8.0	1.9	S2292.0XD3
2.00	1.00	4	4	50	2	8.0	1.9	S2292.0XD4
3.00	1.50	3	5	50	2	14.0	2.8	S2293.0XD3
3.00	1.50	6	5	50	2	14.0	2.8	S2293.0XD6
4.00	2.00	4	8	50	2	20.0	3.7	S2294.0XD4
4.00	2.00	6	8	50	2	20.0	3.7	S2294.0XD6
5.00	2.50	5	9	50	2	20.0	4.6	S2295.0XD5
5.00	2.50	6	9	50	2	20.0	4.6	S2295.0XD6
6.00	3.00	6	10	50	2	20.0	5.5	S2296.0
8.00	4.00	8	12	64	2	30.0	7.4	S2298.0
10.00	5.00	10	14	70	2	32.0	9.2	S22910.0
12.00	6.00	12	16	75	2	38.0	11.0	S22912.0
14.00	7.00	14	32	90	2	44.0	13.0	S22914.0
16.00	8.00	16	32	90	2	46.0	15.0	S22916.0

S231

- Ball-Nosed End Mill
- Fresas con punta esférica
- Fresa Topo Esférico
- Fraises de finition bout hémisphérique

S231 ■ 1.6 2.3 2.4 4.3 5.3

S231 **HM** **N** **Z 2** **λ 30°** **γ 3°** **DIN 6535HA** **h9**

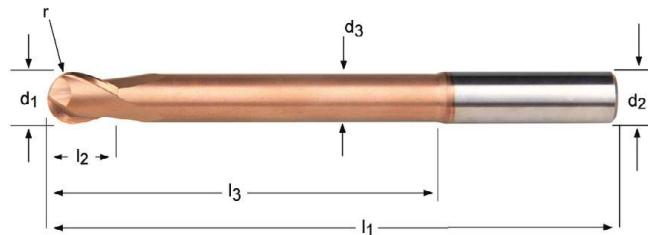


d_1 Ø mm	r +0/-0.02 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S231
1.50	0.75	4	3	75	2	10.0	1.4	S2311.5XD4
2.00	1.00	3	4	60	2	14.0	1.9	S2312.0XD3
2.00	1.00	4	4	75	2	14.0	1.9	S2312.0XD4
3.00	1.50	3	5	60	2	21.0	2.8	S2313.0XD3
3.00	1.50	6	5	75	2	21.0	2.8	S2313.0XD6
4.00	2.00	4	8	60	2	28.0	3.7	S2314.0XD4
4.00	2.00	6	8	75	2	28.0	3.7	S2314.0XD6
5.00	2.50	5	9	60	2	32.0	4.6	S2315.0
6.00	3.00	6	10	75	2	40.0	5.5	S2316.0
8.00	4.00	8	10	75	2	40.0	7.4	S2318.0
10.00	5.00	10	12	75	2	40.0	9.2	S23110.0
12.00	6.00	12	16	100	2	60.0	11.0	S23112.0
16.00	8.00	16	32	125	2	80.0	15.0	S23116.0

- S233**
- Ball-Nosed End Mill
 - Fresas con punta esferica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S233 ■ 1.6 2.3 2.4 4.3 5.3

S233 **HM**  **N**  **Z**
2  λ 30° γ 3°  **DIN 6535HA**  **TISIN**  **h9**  **DORMER**

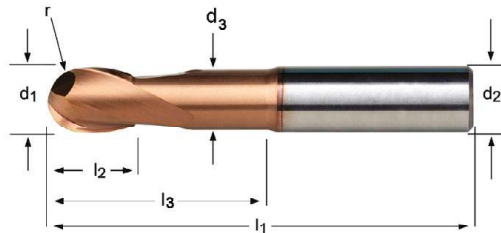


d_1 Ø mm	r +0/-0.02 mm	d_2 Ø h_6 mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S233
2.00	1.00	3	4	100	2	20.0	1.9	S2332.0XD3
2.00	1.00	4	4	100	2	20.0	1.9	S2332.0XD4
3.00	1.50	3	5	100	2	30.0	2.8	S2333.0XD3
3.00	1.50	6	5	100	2	30.0	2.8	S2333.0XD6
4.00	2.00	4	8	100	2	40.0	3.7	S2334.0XD4
4.00	2.00	6	8	100	2	40.0	3.7	S2334.0XD6
5.00	2.50	5	9	100	2	50.0	4.6	S2335.0
6.00	3.00	6	10	100	2	60.0	5.5	S2336.0
8.00	4.00	8	12	100	2	60.0	7.4	S2338.0
10.00	5.00	10	14	125	2	85.0	9.2	S23310.0
12.00	6.00	12	16	125	2	85.0	11.0	S23312.0
14.00	7.00	14	32	150	2	110.0	13.0	S23314.0
16.00	8.00	16	32	150	2	110.0	15.0	S23316.0

- S529**
- Ball-Nosed End Mill
 - Fresas con punta esferica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S529 ■ 1.7 1.8

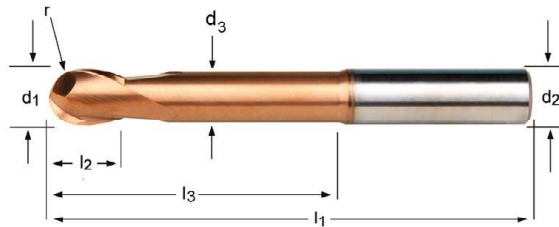
S529 **HM** **N** **Z 2** **$\lambda 30^\circ$** **$\gamma -10^\circ$** **DIN 6535HA** **TISIN** **h9** **DORMER**



d_1 Ø mm	r +0/-0.02 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S529
1.50	0.75	6	3	50	2	6.0	1.4	S5291.5
2.00	1.00	4	4	50	2	8.0	1.9	S5292.0XD4
2.00	1.00	6	4	50	2	8.0	1.9	S5292.0XD6
3.00	1.50	3	5	50	2	14.0	2.8	S5293.0XD3
3.00	1.50	6	5	50	2	14.0	2.8	S5293.0XD6
4.00	2.00	4	8	50	2	20.0	3.7	S5294.0XD4
4.00	2.00	6	8	50	2	20.0	3.7	S5294.0XD6
5.00	2.50	5	9	50	2	20.0	4.6	S5295.0XD5
5.00	2.50	6	9	50	2	20.0	4.6	S5295.0XD6
6.00	3.00	6	10	50	2	20.0	5.5	S5296.0
8.00	4.00	8	12	64	2	30.0	7.4	S5298.0
10.00	5.00	10	14	70	2	32.0	9.2	S52910.0
12.00	6.00	12	16	75	2	38.0	11.0	S52912.0
16.00	8.00	16	32	90	2	46.0	15.0	S52916.0

- S531**
- Ball-Nosed End Mill
 - Fresas con punta esferica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S531 ■ 1.7 1.8

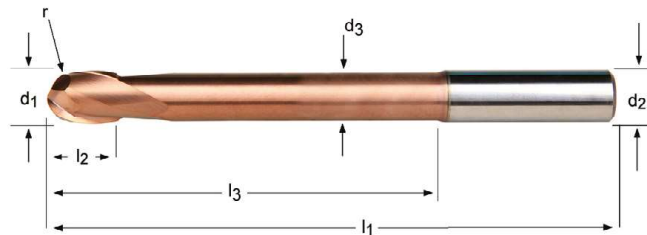


d_1 Ø mm	r +0/-0.02 mm	d_2 Ø mm _{h6}	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S531
1.50	0.75	6	3	75	2	10.0	1.4	S5311.5
2.00	1.00	4	4	75	2	14.0	1.9	S5312.0XD4
2.00	1.00	6	4	75	2	14.0	1.9	S5312.0XD6
3.00	1.50	3	5	60	2	21.0	2.8	S5313.0XD3
3.00	1.50	6	5	75	2	21.0	2.8	S5313.0XD6
4.00	2.00	4	8	60	2	28.0	3.7	S5314.0XD4
4.00	2.00	6	8	75	2	28.0	3.7	S5314.0XD6
5.00	2.50	5	9	60	2	32.0	4.6	S5315.0XD5
5.00	2.50	6	9	75	2	32.0	4.6	S5315.0XD6
6.00	3.00	6	10	75	2	40.0	5.5	S5316.0
8.00	4.00	8	12	75	2	40.0	7.4	S5318.0
10.00	5.00	10	14	75	2	40.0	9.2	S53110.0
12.00	6.00	12	16	100	2	60.0	11.0	S53112.0
16.00	8.00	16	32	125	2	80.0	15.0	S53116.0

- S533**
- Ball-Nosed End Mill
 - Fresas con punta esférica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S533 ■ 1.7 1.8

S533 **HM** **N** **Z 2** **$\lambda 30^\circ$** **$\gamma -10^\circ$** **DIN 6535HA** **TISIN** **h9**



d_1 Ø mm	r +0/-0.02 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S533
2.00	1.00	4	4	100	2	20.0	1.9	S5332.0XD4
2.00	1.00	6	4	100	2	20.0	1.9	S5332.0XD6
3.00	1.50	4	5	100	2	30.0	2.8	S5333.0XD4
3.00	1.50	6	5	100	2	30.0	2.8	S5333.0XD6
4.00	2.00	4	8	100	2	40.0	3.7	S5334.0XD4
4.00	2.00	6	8	100	2	40.0	3.7	S5334.0XD6
5.00	2.50	5	9	100	2	50.0	4.6	S5335.0XD5
5.00	2.50	6	9	100	2	50.0	4.6	S5335.0XD6
6.00	3.00	6	10	100	2	60.0	5.5	S5336.0
8.00	4.00	8	12	100	2	60.0	7.4	S5338.0
10.00	5.00	10	14	125	2	85.0	9.2	S53310.0
12.00	6.00	12	16	125	2	85.0	11.0	S53312.0
14.00	7.00	14	32	150	2	110.0	13.0	S53314.0
16.00	8.00	16	32	150	2	110.0	15.0	S53316.0

- S501**
- Ball-Nosed End Mill
 - Fresas con punta esférica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S501	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
		6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2	8.3	9.1										
	•	1.7																				

S501

HM

N

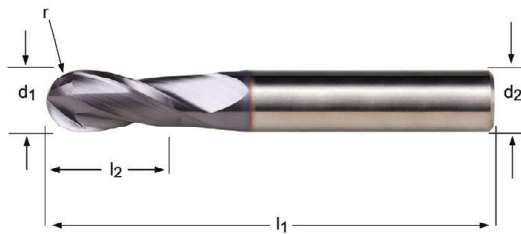
Z
2

λ 30°
γ 10°

DIN
6535HA

X-CEED

h9

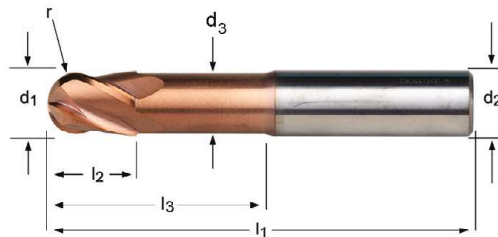


d_1 ∅ mm	r ±0.01 mm	d_2 ∅ h_6 mm	l_2 mm	l_1 mm	z	S501
1.00	0.50	3	3	38	2	S5011.0
1.50	0.75	3	3	38	2	S5011.5
2.00	1.00	3	6	38	2	S5012.0
2.50	1.25	3	7	38	2	S5012.5
3.00	1.50	3	7	38	2	S5013.0
4.00	2.00	6	8	57	2	S5014.0
5.00	2.50	6	10	57	2	S5015.0
6.00	3.00	6	10	57	2	S5016.0
7.00	3.50	8	13	63	2	S5017.0
8.00	4.00	8	16	63	2	S5018.0
9.00	4.50	10	16	72	2	S5019.0
10.00	5.00	10	19	72	2	S50110.0
12.00	6.00	12	22	83	2	S50112.0
16.00	8.00	16	26	92	2	S50116.0

- S534**
- Ball-Nosed End Mill
 - Fresas con punta esférica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S534 ■ 1.7 1.8

S534 **HM** **N** **Z 4** **$\lambda 30^\circ$** **$\gamma -10^\circ$** **DIN 6535HA** **TISIN** **h9** **DORMER**

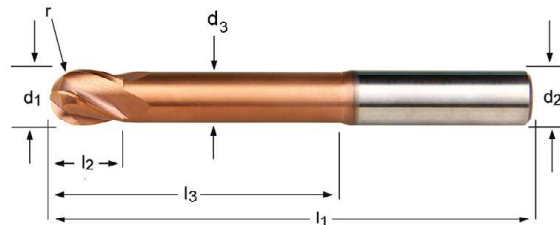


d_1 Ø mm	r +0/-0.02 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S534
3.00	1.50	6	5	50	4	14.0	2.8	S5343.0
4.00	2.00	6	8	50	4	20.0	3.7	S5344.0
5.00	2.50	6	9	50	4	20.0	4.6	S5345.0
6.00	3.00	6	10	50	4	20.0	5.5	S5346.0
8.00	4.00	8	12	64	4	30.0	7.4	S5348.0
10.00	5.00	10	14	70	4	32.0	9.2	S53410.0
12.00	6.00	12	16	75	4	38.0	11.0	S53412.0
14.00	7.00	14	32	90	4	44.0	13.0	S53414.0
16.00	8.00	16	32	90	4	46.0	15.0	S53416.0

- Ball-Nosed End Mill
- Fresas con punta esférica
- Fresa Topo Esférico
- Fraises de finition bout hémisphérique

S535 ■ 1.7 1.8

S535 **HM**  **N**  **Z 4**  **$\lambda 30^\circ$
 $\gamma -10^\circ$**  **DIN 6535HA**  **TISIN**  **h9**  **DORMER**



S535



3.00 - 16.00

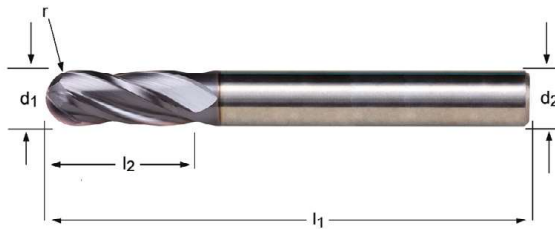
d_1 Ø mm	r +0/-0.02 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S535
3.00	1.50	6	5	75	4	21.0	2.8	S5353.0
4.00	2.00	6	8	75	4	28.0	3.7	S5354.0
5.00	2.50	6	9	75	4	32.0	4.6	S5355.0
6.00	3.00	6	10	75	4	40.0	5.5	S5356.0
8.00	4.00	8	12	75	4	40.0	7.4	S5358.0
10.00	5.00	10	14	75	4	40.0	9.2	S53510.0
12.00	6.00	12	16	100	4	60.0	11.0	S53512.0
14.00	7.00	14	32	125	4	80.0	13.0	S53514.0
16.00	8.00	16	32	125	4	80.0	15.0	S53516.0

S511

- Ball-Nosed End Mill
- Fresas con punta esferica
- Fresa Topo Esférico
- Fraises de finition bout hémisphérique

S511	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	7.3
		7.4	8.2	8.3	9.1																
	•	1.7	6.1	6.2	6.3	6.4	7.1	7.2	8.1												

S511	HM		N	Z 4		$\lambda 30^\circ$ $\gamma 10^\circ$	DIN 6535HA	X-CEED	h9	
------	----	--	---	--------	--	---	---------------	--------	----	--

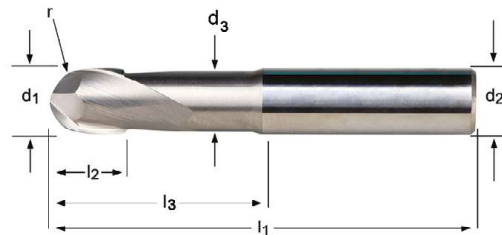


d_1 Ø mm	r ±0.01 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S511
3.00	1.50	6	8	80	4	S5113.0
4.00	2.00	6	11	80	4	S5114.0
5.00	2.50	6	13	80	4	S5115.0
6.00	3.00	6	13	80	4	S5116.0
7.00	3.50	8	16	100	4	S5117.0
8.00	4.00	8	19	100	4	S5118.0
9.00	4.50	10	19	100	4	S5119.0
10.00	5.00	10	22	100	4	S51110.0
12.00	6.00	12	26	100	4	S51112.0
16.00	8.00	16	32	100	4	S51116.0

- S629**
- Ball-Nosed End Mill
 - Fresas con punta esferica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

S629 ■ 6.1 6.2 6.3 6.4 7.1 7.2 7.3 7.4 8.1 8.2

S629 **HM**  **W**  **Z**
2  **λ 30°**
γ 15°  **Hi**  



S629



3.00 - 20.00

d_1 Ø mm	r +0/-0.02 mm	d_2 Ø mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	S629
3.00	1.50	6	5	57	2	20.0	2.8	S6293.0
4.00	2.00	6	6	57	2	20.0	3.7	S6294.0
5.00	2.50	6	7	57	2	20.0	4.6	S6295.0
6.00	3.00	6	8	57	2	20.0	5.5	S6296.0
8.00	4.00	8	10	64	2	25.0	7.4	S6298.0
10.00	5.00	10	12	75	2	35.0	9.2	S62910.0
12.00	6.00	12	14	75	2	35.0	11.0	S62912.0
16.00	8.00	16	18	90	2	45.0	15.0	S62916.0
20.00	10.00	20	22	100	2	50.0	19.0	S62920.0

S739

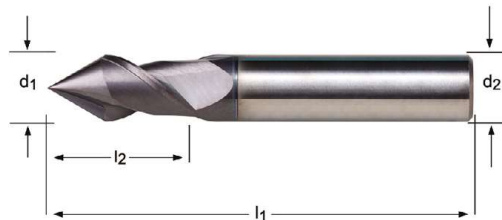
- Chamfering End Mill - 60°
- Fresas de achaflanar - 60°
- Fresa de Chanfrar - 60°
- Fraise à chanfreiner 60°

S740

- Chamfering End Mill - 90°
- Fresas de achaflanar - 90°
- Fresa de Chanfrar - 90°
- Fraise à chanfreiner 90°

S739; S740 ■ 1.1 1.2 1.3 1.4 1.5 2.1 2.2 3.1 3.2 3.3 3.4 4.2 5.2 6.1 6.2 6.3 6.4
 7.1 7.2 7.3 7.4

S739	HM		N	Z 2		$\lambda 40^\circ$ $\gamma 10^\circ$	DIN 6535HA	AITIN	h9		
S740	HM		N	Z 2		$\lambda 40^\circ$ $\gamma 10^\circ$	DIN 6535HA	AITIN	h9		



	d_1 Ø mm	d_2 Ø _{h8} mm	l_2 mm	l_1 mm	z	S739	S740
60°	3.00	3	9	40	2	S7393.0	
90°	3.00	3	9	40	2		S7403.0
60°	4.00	4	12	50	2	S7394.0	
90°	4.00	4	12	50	2		S7404.0
60°	5.00	5	15	50	2	S7395.0	
90°	5.00	5	15	50	2		S7405.0
60°	6.00	6	16	50	2	S7396.0	
90°	6.00	6	16	50	2		S7406.0
60°	8.00	8	20	64	2	S7398.0	
90°	8.00	8	20	64	2		S7408.0
60°	10.00	10	22	70	2	S73910.0	
90°	10.00	10	22	70	2		S74010.0
60°	12.00	12	25	75	2	S73912.0	
90°	12.00	12	25	75	2		S74012.0
60°	16.00	16	32	90	2	S73916.0	
90°	16.00	16	32	90	2		S74016.0
60°	20.00	20	38	100	2	S73920.0	
90°	20.00	20	38	100	2		S74020.0

S991

- Solid Carbide Cutter Set
- Juego de fresas de acabado
- Jogo de Fresa de Acabamento, metal duro
- Coffret de fraises de finition, carbure monobloc

A=Styles in Set, B=No. in Set, C=Diameters in Set

A=Tipos en el juego, B=No. en el Juego, C=Diámetros en el Juego

A=Tipos no Jogo, B=Quant. por Jogo., C=Diâmetros por Jogo

A=Types de coffrets, B=Nombre dans le coffret, C=Diamètres dans le coffret

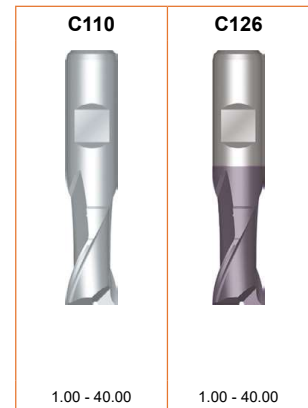
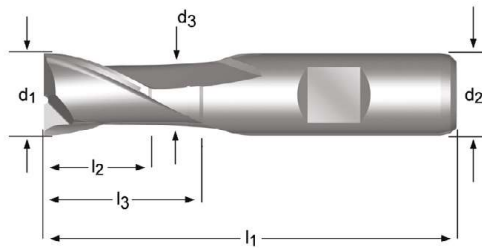


Nr.	A	B	C	S991
922	S922	6	Ø 3.00 mm, 4.00 mm, 5.00 mm, 6.00 mm, 8.00 mm, 10.00 mm	S991SET922
933	S933	6	Ø 3.00 mm, 4.00 mm, 5.00 mm, 6.00 mm, 8.00 mm, 10.00 mm	S991SET933
944	S944	6	Ø 3.00 mm, 4.00 mm, 5.00 mm, 6.00 mm, 8.00 mm, 10.00 mm	S991SET944

- C110** • Slot Drill
• Fresas de ranurar
C126 • Fresa de Ranhurar
• Fraises à rainurer

C110	▪	1.1	1.2	4.1	5.1	6.1	6.2	6.3								
	•	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	7.3	8.1		
C126	▪	1.1	1.2	1.3	1.4	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3
	•	1.5	1.6	2.1	2.3	4.3	5.3	6.4	7.1	7.2	7.3	7.4	8.1			

C110	HSS-E PM		N	Z 2		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		e8		DIN 327D
C126	HSS-E PM		N	Z 2		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	TiCN	e8		DIN 327D



d_1 Ø Inch	d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C110	C126
1/16	1.00	6	2.5	47	2	-	-	C1101.0	C1261.0
	1.50	6	3	47	2	-	-	C1101.5	C1261.5
	1.59	6	3	47	2	-	-	C1101/16	
	1.80	6	4	48	2	-	-	C1101.8	
3/32	2.00	6	4	48	2	-	-	C1102.0	C1262.0
	2.38	6	5	49	2	-	-	C1103/32	
	2.50	6	5	49	2	-	-	C1102.5	C1262.5
	2.80	6	5	49	2	-	-	C1102.8	
1/8	3.00	6	5	49	2	-	-	C1103.0	C1263.0
	3.18	6	6	50	2	-	-	C1101/8	
	3.50	6	6	50	2	-	-	C1103.5	C1263.5
	3.80	6	7	51	2	-	-	C1103.8	
3/16	4.00	6	7	51	2	-	-	C1104.0	C1264.0
	4.50	6	7	51	2	-	-	C1104.5	C1264.5
	4.76	6	8	52	2	-	-	C1103/16	
	4.80	6	8	52	2	-	-	C1104.8 ¹⁾²⁾	
	5.00	6	8	52	2	-	-	C1105.0	C1265.0
	5.50	6	8	52	2	-	-	C1105.5	C1265.5
1/4	5.75	6	8	52	2	-	-	C1105.75 ¹⁾²⁾	
	6.00	6	8	52	2	-	-	C1106.0	C1266.0
	6.35	10	10	60	2	-	-	C1101/4	
	6.50	10	10	60	2	-	-	C1106.5	C1266.5
	7.00	10	10	60	2	-	-	C1107.0	C1267.0
	7.50	10	10	60	2	-	-	C1107.5	C1267.5
5/16	7.75	10	11	61	2	-	-	C1107.75 ¹⁾²⁾	
	7.94	10	11	61	2	-	-	C1105/16	
	8.00	10	11	61	2	-	-	C1108.0	C1268.0

¹⁾ diameter tolerance h10 / Tolerancia diámetro h10 / tolerância no diâmetro h10 / tolérance sur le diamètre h10

²⁾ slot not in P9 tolerance / ≠ P9 / ≠ P9 tolerância / ≠ P9 tolérance

d ₁ Ø Inch	d ₁ Ø mm	d ₂ Øh ₆ mm	l ₂ mm	l ₁ mm	z	l ₃ mm	d ₃ Ø mm	C110	C126
	8.50	10	11	61	2	-	-	C1108.5	C1268.5
	9.00	10	11	61	2	-	-	C1109.0	C1269.0
3/8	9.50	10	11	61	2	-	-	C1109.5	C1269.5
	9.52	10	13	63	2	22.5	9.5	C1103/8	
13/32	10.00	10	13	63	2	22.5	9.5	C11010.0	C12610.0
	10.32	12	13	70	2	-	-	C11013/32	
7/16	10.50	12	13	70	2	-	-	C11010.5	C12610.5
	11.00	12	13	70	2	-	-	C11011.0	C12611.0
	11.11	12	13	70	2	-	-	C1107/16	
	11.50	12	13	70	2	-	-	C11011.5	C12611.5
1/2	12.00	12	16	73	2	27.5	11.5	C11012.0	C12612.0
	12.50	12	16	73	2	27.5	11.5	C11012.5	C12612.5
	12.70	12	16	73	2	27.5	11.5	C1101/2	
	13.00	12	16	73	2	27.5	11.5	C11013.0	C12613.0
17/32	13.49	12	16	73	2	27.5	11.5	C11017/32	
	14.00	12	16	73	2	27.5	11.5	C11014.0	C12614.0
9/16	14.29	12	16	73	2	27.5	11.5	C1109/16	
	15.00	12	16	73	2	27.5	11.5	C11015.0	C12615.0
5/8	15.88	16	19	79	2	30.5	15.5	C1105/8	
	16.00	16	19	79	2	30.5	15.5	C11016.0	C12616.0
	17.00	16	19	79	2	30.5	15.5	C11017.0	
11/16	17.46	16	19	79	2	30.5	15.5	C11011/16	
	18.00	16	19	79	2	30.5	15.5	C11018.0	C12618.0
	19.00	16	19	79	2	30.5	15.5	C11019.0	
3/4	19.05	20	22	88	2	37.5	18.5	C1103/4	
	20.00	20	22	88	2	37.5	19.5	C11020.0	C12620.0
7/8	22.00	20	22	88	2	37.5	19.5	C11022.0	C12622.0
	22.22	20	22	88	2	37.5	19.5	C1107/8	
	24.00	25	26	102	2	45.5	23.5	C11024.0	C12624.0
1"	25.00	25	26	102	2	45.5	24.5	C11025.0	C12625.0
	25.40	25	26	102	2	45.5	24.5	C1101	
	26.00	25	26	102	2	45.5	24.5	C11026.0	
	28.00	25	26	102	2	45.5	24.5	C11028.0	
	30.00	25	26	102	2	45.5	24.5	C11030.0	C12630.0
	32.00	32	32	112	2	51.5	31.5	C11032.0	
	35.00	32	32	112	2	51.5	31.5	C11035.0	¹⁾³⁾
36.00	32	32	112	2	51.5	31.5	C11036.0	¹⁾³⁾	
40.00	40	38	130	2	59.5	39.0	C11040.0	¹⁾³⁾	

¹⁾ diameter tolerance h10 / Tolerancia diámetro h10 / tolerância no diâmetro h10 / tolérance sur le diamètre h10

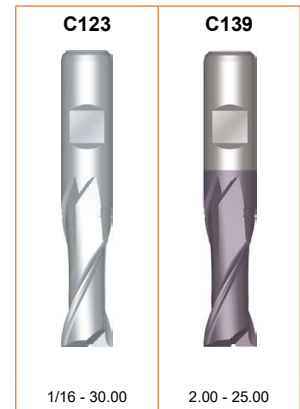
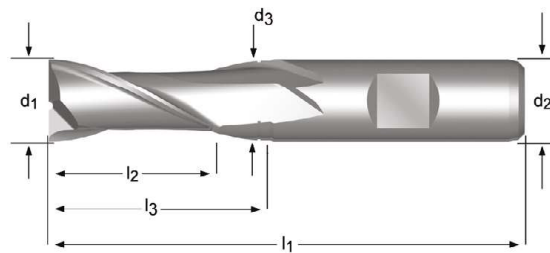
²⁾ slot not in P9 tolerance / ≠ P9 / ≠ P9 tolerância / ≠ P9 tolérance

³⁾ Available in HSS-E only / Disponible solo en HSS-E / Só disponível em HSS-E / Disponible en HSS-E seulement

C123 • Slot Drill
 • Fresas de ranurar
C139 • Fresa de Ranhurar
 • Fraises à rainurer

C123	▪	1.1	1.2	1.3	1.4	4.1	5.1	6.1	6.2	6.3						
	•	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	7.3	8.1				
C139	▪	1.1	1.2	1.3	1.4	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3
	•	1.5	1.6	2.1	2.3	4.3	5.3	6.4	7.1	7.2	7.3	7.4	8.1			

C123	HSS-E PM		N	Z 2		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		e8		DIN 844K
C139	HSS-E PM		N	Z 2		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	TiCN	e8		DIN 844K



d ₁ Ø Inch	d ₁ Ø mm	d ₂ Øh ₆ mm	l ₂ mm	l ₁ mm	z	l ₃ mm	d ₃ Ø mm	C123	C139
1/16	1.59	6	7	51	2	-	-	C1231/16 ¹⁾	
	2.00	6	7	51	2	-	-	C1232.0	C1392.0
	2.50	6	8	52	2	-	-	C1232.5	
1/8	3.00	6	8	52	2	-	-	C1233.0	C1393.0
	3.18	6	10	54	2	-	-	C1231/8 ¹⁾	
	3.50	6	10	54	2	-	-	C1233.5	
5/32	3.97	6	11	55	2	-	-	C1235/32 ¹⁾	
	4.00	6	11	55	2	-	-	C1234.0	C1394.0
	4.50	6	11	55	2	-	-	C1234.5	
3/16	4.76	6	13	57	2	-	-	C1233/16 ¹⁾	
	5.00	6	13	57	2	-	-	C1235.0	C1395.0
	5.50	6	13	57	2	-	-	C1235.5	C1395.5
1/4	6.00	6	13	57	2	-	-	C1236.0	C1396.0
	6.35	10	16	66	2	-	-	C1231/4 ¹⁾	
	6.50	10	16	66	2	-	-	C1236.5	C1396.5
5/16	7.00	10	16	66	2	-	-	C1237.0	C1397.0
	7.50	10	16	66	2	-	-	C1237.5	C1397.5
	7.94	10	19	69	2	-	-	C1235/16 ¹⁾	
3/8	8.00	10	19	69	2	-	-	C1238.0	C1398.0
	8.50	10	19	69	2	-	-	C1238.5	C1398.5
	9.00	10	19	69	2	-	-	C1239.0	C1399.0
1/2	9.50	10	19	69	2	-	-	C1239.5	C1399.5
	9.52	10	22	72	2	31.5	9.5	C1233/8 ¹⁾	
	10.00	10	22	72	2	31.5	9.5	C12310.0	C13910.0
1/2	11.00	12	22	79	2	-	-	C12311.0	C13911.0
	12.00	12	26	83	2	37.5	11.5	C12312.0	C13912.0
	12.70	12	26	83	2	37.5	11.5	C1231/2 ¹⁾	
	13.00	12	26	83	2	37.5	11.5	C12313.0	C13913.0

¹⁾ diameter tolerance -0.0005 inches / -0.0013 inches / Tolerancia diámetro -.0005 pulgadas/ -.0013 pulgadas / tolerância no diâmetro-.0005 poleg. / -.0013 poleg. / tolérance sur le diamètre -.0005 inches / -.0013 inches

d_1 Ø Inch	d_1 Ø mm	d_2 Ø _{h₆} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C123	C139
	14.00	12	26	83	2	37.5	11.5	C12314.0	C13914.0
	15.00	12	26	83	2	37.5	11.5	C12315.0	C13915.0
	16.00	16	32	92	2	43.5	15.5	C12316.0	C13916.0
	18.00	16	32	92	2	43.5	15.5	C12318.0	C13918.0
	20.00	20	38	104	2	53.5	19.5	C12320.0	C13920.0
	22.00	20	38	104	2	53.5	19.5	C12322.0	C13922.0
	25.00	25	45	121	2	64.5	24.5	C12325.0	C13925.0
	30.00	25	45	121	2	64.5	24.5	C12330.0	

¹⁾ diameter tolerance -0.0005 inches / -0.0013 inches / Tolerancia diámetro -0.0005 pulgadas / -0.0013 pulgadas / tolerância no diâmetro -0.0005 poleg. / -0.0013 poleg. / tolérance sur le diamètre -0.0005 inches / -0.0013 inches

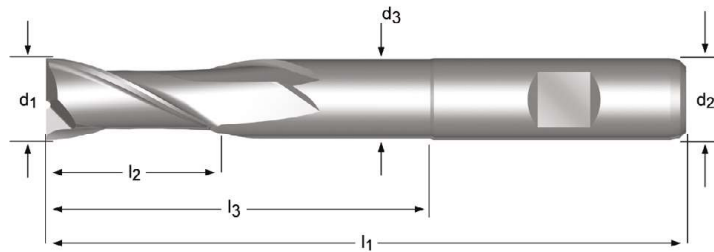
²⁾ diameter tolerance -0.0005 inches / -0.0015 inches / Tolerancia diámetro -0.0005 pulgadas / -0.0015 pulgadas / tolerância no diâmetro -0.0005 poleg. / -0.0015 poleg. / tolérance sur le diamètre -0.0005 inches / -0.0015 inches

³⁾ Available in HSS-E only / Disponible solo en HSCo / Só disponível em HSCo / Disponible en HSCo seulement

- C135**
- Slot Drill
 - Fresas de ranurar
 - Fresa de Ranhurar
 - Fraises à rainurer

C135	▪	1.1	1.2	5.1	6.1	6.2	6.3										
	•	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.1	4.2	5.2	7.1	7.2	7.3	8.1		

C135 HSS-E P9 N Z 2 λ 30° γ 12° DIN 1835B e8



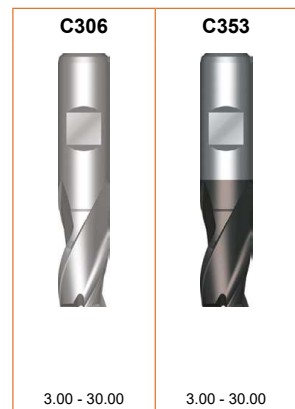
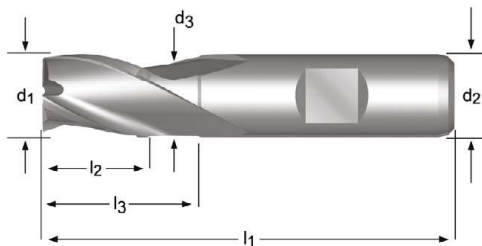
d_1 Ø mm	d_2 Ø _{h8} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C135
2.00	6	7	54	2	18.0	1.8	C1352.0
3.00	6	8	56	2	20.0	2.8	C1353.0
4.00	6	11	63	2	27.0	3.7	C1354.0
5.00	6	13	68	2	32.0	4.7	C1355.0
6.00	6	13	68	2	32.0	5.7	C1356.0
8.00	10	19	88	2	48.0	7.5	C1358.0
10.00	10	22	95	2	54.5	9.5	C13510.0
12.00	12	26	110	2	64.5	11.5	C13512.0
14.00	12	26	110	2	64.5	11.5	C13514.0
16.00	16	32	123	2	74.5	15.5	C13516.0
18.00	16	32	123	2	74.5	15.5	C13518.0
20.00	20	38	141	2	90.5	19.5	C13520.0

C306 • Slot Drill
• Fresas de ranurar

C353 • Fresa de Ranhurar
• Fraises à rainurer

C306	▪	1.2	1.3	4.1	5.1	6.1	6.2	6.3									
	•	1.1	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.2	7.3	8.1				
C353	▪	1.2	1.3	1.4	1.5	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3	
	•	1.1	1.6	2.1	2.2	2.3	4.3	5.3	6.4	7.2	7.3	7.4	8.1				

C306	HSS-E PM		N	Z 3		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		e8 h10		DIN 327D
C353	HSS-E PM		N	Z 3		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	Alcrona	e8 h10		DIN 327D



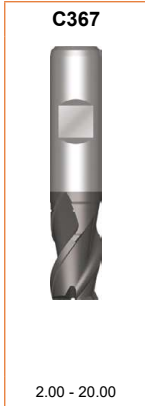
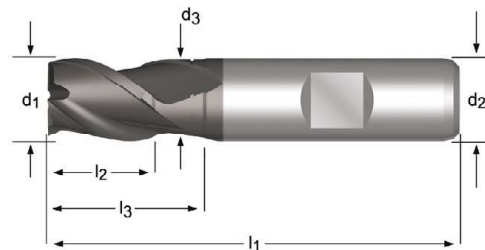
d ₁ Ø mm	d ₂ Ø _{h₆} mm	l ₂ mm	l ₁ mm	z	l ₃ mm	d ₃ Ø mm	C306	C353
3.00	6	5	49	3	-	-	C3063.0	C3533.0
3.50	6	6	50	3	-	-		C3533.5
4.00	6	7	51	3	-	-	C3064.0	C3534.0
4.50	6	7	51	3	-	-		C3534.5
4.80	6	8	52	3	-	-		C3534.8
5.00	6	8	52	3	-	-	C3065.0	C3535.0
5.50	6	8	52	3	-	-		C3535.5
6.00	6	8	52	3	-	-	C3066.0	C3536.0
6.50	10	10	60	3	-	-		C3536.5
7.00	10	10	60	3	-	-	C3067.0	C3537.0
7.50	10	10	60	3	-	-		C3537.5
7.75	10	11	61	3	-	-		C3537.75
8.00	10	11	61	3	-	-	C3068.0	C3538.0
8.50	10	11	61	3	-	-		C3538.5
9.00	10	11	61	3	-	-	C3069.0	C3539.0
9.50	10	11	61	3	-	-	C3069.5	C3539.5
10.00	10	13	63	3	22.5	9.5	C30610.0	C35310.0
11.00	12	13	70	3	-	-	C30611.0	C35311.0
12.00	12	16	73	3	27.5	11.5	C30612.0	C35312.0
13.00	12	16	73	3	27.5	11.5		C35313.0
14.00	12	16	73	3	27.5	11.5	C30614.0	C35314.0
15.00	12	16	73	3	27.5	11.5	C30615.0	C35315.0
16.00	16	19	79	3	30.5	15.5	C30616.0	C35316.0
18.00	16	19	79	3	30.5	15.5	C30618.0	C35318.0
20.00	20	22	88	3	37.5	19.5	C30620.0	C35320.0
22.00	20	22	88	3	37.5	19.5	C30622.0	C35322.0
25.00	25	26	102	3	45.5	24.5	C30625.0	C35325.0
28.00	25	26	102	3	45.5	24.5		C35328.0
30.00	25	26	102	3	45.5	24.5	C30630.0	C35330.0

C367

- Slot Drill
- Fresas de ranurar
- Fresa de Ranhurar
- Fraises à rainurer

C367	▪	1.1	1.2	2.1	2.2	2.3	2.4	6.1	7.1	
	•	1.3	1.4	4.1	5.1	6.2	6.3	7.2	7.3	8.1

C367 HSS-E PM P9 N Z 3 $\lambda 40^\circ$ $\gamma 15^\circ$ DIN 1835B Alcrona e8 DIN 327D

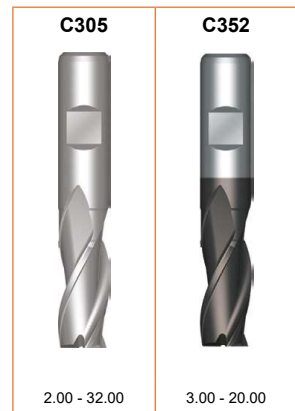
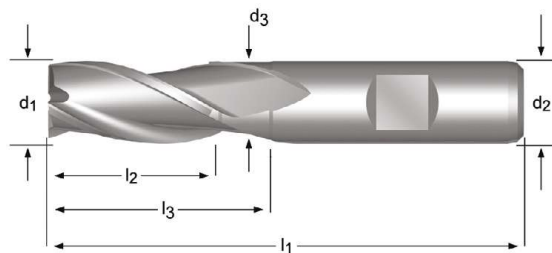


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C367
2.00	6	4	48	3	-	-	C3672.0
3.00	6	5	49	3	-	-	C3673.0
4.00	6	7	51	3	-	-	C3674.0
5.00	6	8	52	3	-	-	C3675.0
6.00	6	8	52	3	-	-	C3676.0
7.00	10	10	60	3	-	-	C3677.0
8.00	10	11	61	3	-	-	C3678.0
10.00	10	13	63	3	22.5	9.5	C36710.0
11.00	12	13	70	3	-	-	C36711.0
12.00	12	16	73	3	27.5	11.5	C36712.0
14.00	12	16	73	3	27.5	11.5	C36714.0
16.00	16	19	79	3	30.5	15.5	C36716.0
18.00	16	19	79	3	30.5	15.5	C36718.0
20.00	20	22	88	3	37.5	19.5	C36720.0

- C305** • Slot Drill
• Fresas de ranurar
C352 • Fresa de Ranhurar
• Fraises à rainurer

C305	▪	1.2	1.3	4.1	5.1	5.2	6.1	6.2	6.3												
	•	1.1	1.4	2.1	3.1	3.2	3.3	3.4	4.2	7.2	7.3	8.1									
C352	▪	1.2	1.3	1.4	1.5	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3					
	•	1.1	1.6	2.1	2.2	2.3	4.3	5.3	6.4	7.2	7.3	7.4	8.1								

C305	HSS-E PM		N	Z 3		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		e8		DIN 844K
C352	HSS-E PM		N	Z 3		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	Alcrona	e8		DIN 844K

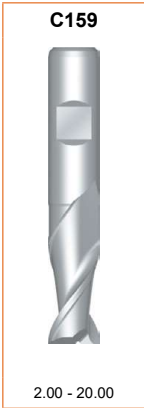
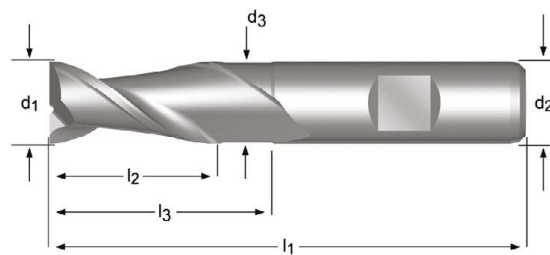


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C305	C352
2.00	6	7	51	3	-	-	C3052.0	
2.50	6	8	52	3	-	-	C3052.5	
3.00	6	8	52	3	-	-	C3053.0	C3523.0
3.50	6	10	54	3	-	-	C3053.5	
4.00	6	11	55	3	-	-	C3054.0	C3524.0
4.50	6	11	55	3	-	-	C3054.5	
5.00	6	13	57	3	-	-	C3055.0	C3525.0
5.50	6	13	57	3	-	-	C3055.5	
6.00	6	13	57	3	-	-	C3056.0	C3526.0
6.50	10	16	66	3	-	-	C3056.5	
7.00	10	16	66	3	-	-	C3057.0	
7.50	10	16	66	3	-	-	C3057.5	
8.00	10	19	69	3	-	-	C3058.0	C3528.0
8.50	10	19	69	3	-	-	C3058.5	
9.00	10	19	69	3	-	-	C3059.0	
10.00	10	22	72	3	31.5	9.5	C30510.0	C35210.0
11.00	12	22	79	3	-	-	C30511.0	
12.00	12	26	83	3	37.5	11.5	C30512.0	C35212.0
13.00	12	26	83	3	37.5	11.5	C30513.0	
14.00	12	26	83	3	37.5	11.5	C30514.0	C35214.0
15.00	12	26	83	3	37.5	11.5	C30515.0	
16.00	16	32	92	3	43.5	15.5	C30516.0	C35216.0
17.00	16	32	92	3	43.5	15.5	C30517.0	
18.00	16	32	92	3	43.5	15.5	C30518.0	C35218.0
19.00	16	32	92	3	43.5	15.5	C30519.0	
20.00	20	38	104	3	53.5	19.5	C30520.0	C35220.0
22.00	20	38	104	3	53.5	19.5	C30522.0	
25.00	25	45	121	3	-	-	C30525.0	
28.00	25	45	121	3	-	-	C30528.0	
30.00	25	45	121	3	-	-	C30530.0	
32.00	32	53	133	3	-	-	C30532.0	

- C159**
- Slot Drill
 - Fresas de ranurar
 - Fresa de Ranhurar
 - Fraises à rainurer

C159	▪	1.1	6.1	6.2	6.3	7.1	7.2	7.3	8.1	8.2
	•	1.2	1.3	2.1	2.2	4.1	5.1			

C159 HSS-E P9 W Z 2 $\lambda 40^\circ$ $\gamma 20^\circ$ DIN 1835B e8 DIN 844K

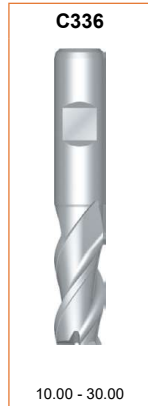
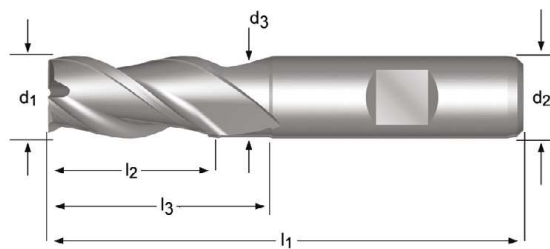


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C159
2.00	6	7	51	2	-	-	C1592.0
3.00	6	8	52	2	-	-	C1593.0
4.00	6	11	55	2	-	-	C1594.0
5.00	6	13	57	2	-	-	C1595.0
6.00	6	13	57	2	-	-	C1596.0
8.00	10	19	69	2	-	-	C1598.0
10.00	10	22	72	2	-	-	C15910.0
12.00	12	26	83	2	-	-	C15912.0
14.00	12	26	83	2	37.5	11.5	C15914.0
16.00	16	32	92	2	43.5	15.5	C15916.0
18.00	16	32	92	2	43.5	15.5	C15918.0
20.00	20	38	104	2	53.5	19.5	C15920.0

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

C336	▪	6.1	6.2	6.3	7.1	7.2	7.3	8.1	8.2
	•	1.1	1.2	1.3	2.1	2.2	4.1	5.1	

C336 HSS-E PM W Z 3 $\lambda 40^\circ$ $\gamma 25^\circ$ DIN 1835B k10 DIN 844K

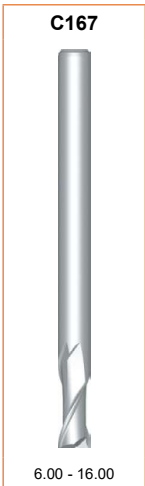
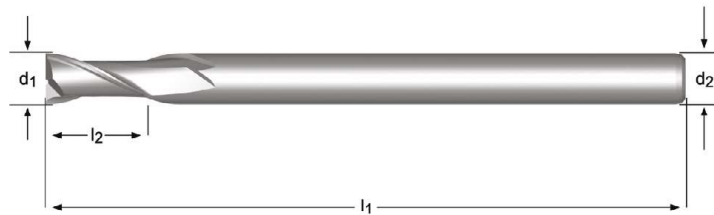


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C336
10.00	10	22	72	3	31.5	9.5	C33610.0
12.00	12	26	83	3	37.5	11.5	C33612.0
14.00	12	26	83	3	37.5	11.5	C33614.0
16.00	16	32	92	3	43.5	15.5	C33616.0
18.00	16	32	92	3	43.5	15.5	C33618.0
20.00	20	38	104	3	53.5	19.5	C33620.0
22.00	20	38	104	3	53.5	19.5	C33622.0
25.00	25	45	121	3	64.5	24.5	C33625.0
30.00	25	45	121	3	64.5	24.5	C33630.0

- C167**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

C167	▪	1.1	1.2	5.1	6.1	6.2	6.3								
	•	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.1	4.2	5.2	7.1	7.2	7.3	8.1

C167 HSS-E N Z $\lambda 30^\circ$ $\gamma 12^\circ$



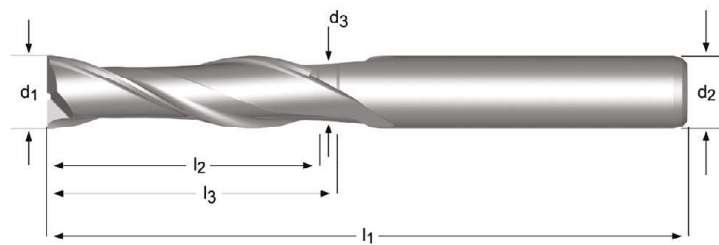
d_1 \varnothing mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	C167
6.00	6	13	180	2	C1676.0
8.00	8	19	180	2	C1678.0
10.00	10	22	200	2	C16710.0
12.00	12	26	200	2	C16712.0
16.00	16	32	200	2	C16716.0

C122

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

C122	▪	1.1	1.2	5.1	6.1	6.2	6.3											
	•	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.1	4.2	5.2	7.1	7.2	7.3	8.1			

C122 HSS-E  N  Z 2   $\lambda 30^\circ$ $\gamma 12^\circ$   e8 

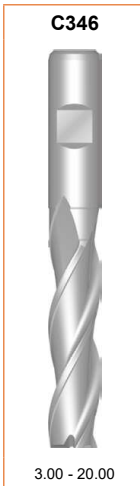
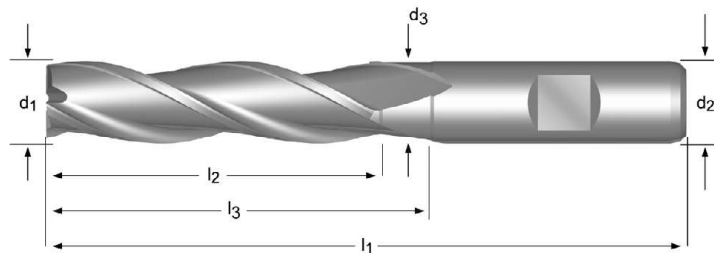


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C122
5.00	5	22	65	2	-	-	C1225.0
6.00	6	27	75	2	-	-	C1226.0
7.00	8	33	85	2	-	-	C1227.0
8.00	8	33	85	2	-	-	C1228.0
10.00	10	40	95	2	-	-	C12210.0
12.00	12	45	110	2	-	-	C12212.0
14.00	12	52	125	2	-	-	C12214.0
16.00	16	58	140	2	69.5	15.5	C12216.0
18.00	16	65	150	2	76.5	15.5	C12218.0
20.00	20	70	160	2	85.5	19.5	C12220.0
22.00	20	75	170	2	90.5	19.5	C12222.0

- C346**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

C346	▪	1.2	4.1	5.1	6.1	6.2	6.3							
	•	1.1	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	8.1

C346 HSS-E N Z 3 $\lambda 30^\circ$ $\gamma 12^\circ$

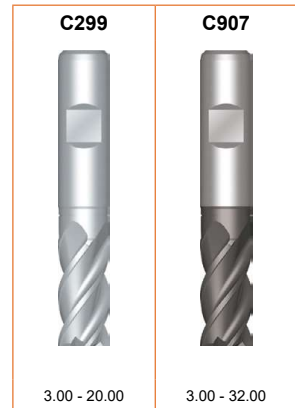
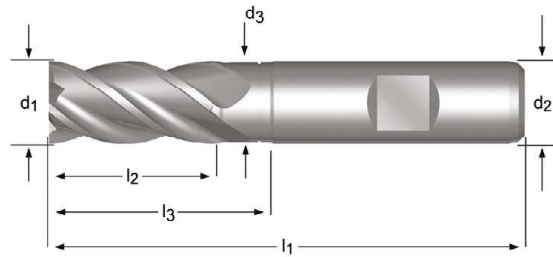


d_1 Ø mm	d_2 Ø _{h8} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C346
3.00	6	12	56	3	-	-	C3463.0
4.00	6	19	63	3	-	-	C3464.0
5.00	6	24	68	3	-	-	C3465.0
6.00	6	24	68	3	-	-	C3466.0
7.00	10	30	80	3	-	-	C3467.0
8.00	10	38	88	3	-	-	C3468.0
9.00	10	38	88	3	-	-	C3469.0
10.00	10	45	95	3	-	-	C34610.0
11.00	12	45	102	3	-	-	C34611.0
12.00	12	53	110	3	-	-	C34612.0
13.00	12	53	110	3	64.5	11.5	C34613.0
15.00	12	53	110	3	64.5	11.5	C34615.0
16.00	16	63	123	3	74.5	15.5	C34616.0
20.00	20	75	141	3	90.5	19.5	C34620.0

C299 • End Mill
• Fresas de acabado
C907 • Fresa de Acabamento
• Fraises de finition

C299	▪	1.3	1.4	1.5	2.1	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.1	5.2	5.3	6.2	7.4		
	•	1.6	2.2	4.1															
C907	▪	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.1	5.2	5.3	6.2	7.4
	•	4.1																	

C299	HSS-E PM		N	Z 3-5		λ 45° γ 12°	DIN 1835B		k10			DIN 844K		
C907	HSS-E PM		N	Z 3-6		λ 45° γ 12°	DIN 1835B		Alcrona		k10			DIN 844K

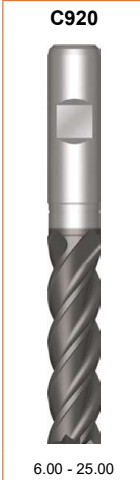
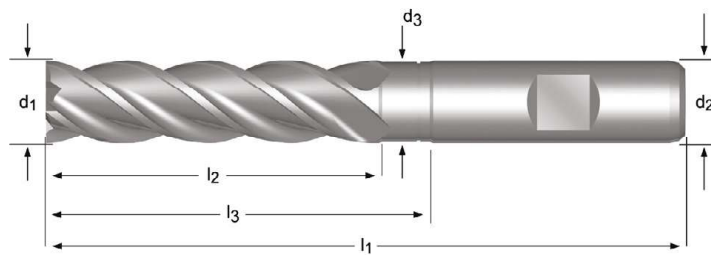


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C299	C907
3.00	6	8	52	3	-	-	C2993.0	C9073.0
4.00	6	11	55	3	-	-	C2994.0	C9074.0
5.00	6	13	57	3	-	-	C2995.0	C9075.0
6.00	6	13	57	3	-	-	C2996.0	C9076.0
8.00	10	19	69	4	-	-	C2998.0	C9078.0
10.00	10	22	72	4	31.5	9.5	C29910.0	C90710.0
12.00	12	26	83	4	37.5	11.5	C29912.0	C90712.0
14.00	12	26	83	4	37.5	11.5	C29914.0	C90714.0
16.00	16	32	92	4	43.5	15.5	C29916.0	C90716.0
18.00	16	32	92	4	43.5	15.5	C29918.0	C90718.0
20.00	20	38	104	4	53.5	19.5	C29920.0	C90720.0
22.00	20	38	104	5	53.5	19.5		C90722.0
28.00	25	45	121	6	64.5	24.5		C90728.0
30.00	25	45	121	6	64.5	24.5		C90730.0
32.00	32	53	133	6	72.5	31.5		C90732.0

- C920**
- End Mill
 - Fresas de acabado
 - Fresa de Acabamento
 - Fraises de finition

C920 ■ 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4 4.2 4.3 5.1 5.2 5.3 6.2 7.4
 • 4.1

C920 HSS-E PM N Z 3-5 λ 45° γ 12° DIN 1835B Alcrona k10 DIN 844L

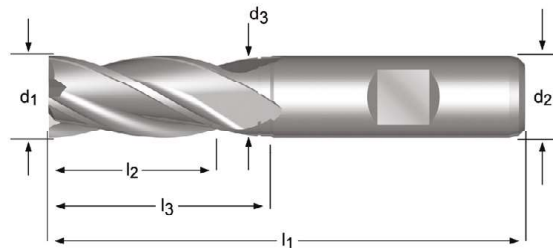


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C920
6.00	6	24	68	3	-	-	C9206.0
8.00	10	38	88	4	-	-	C9208.0
10.00	10	45	95	4	54.5	9.5	C92010.0
12.00	12	53	110	4	64.5	11.5	C92012.0
14.00	12	53	110	4	64.5	11.5	C92014.0
16.00	16	63	123	4	74.5	15.5	C92016.0
18.00	16	63	123	4	74.5	15.5	C92018.0
20.00	20	75	141	4	90.5	19.5	C92020.0
22.00	20	75	141	5	90.5	19.5	C92022.0
25.00	25	90	166	5	109.5	24.5	C92025.0

- C247** • End Mill
• Fresas de acabado
C246 • Fresa de Acabamento
• Fraises de finition

C247	▪	1.1	1.2	1.3	4.1	5.1	6.1	6.2	6.3												
	•	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	7.3	8.1								
C246	▪	1.1	1.2	1.3	1.4	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3					
	•	1.5	1.6	2.1	2.3	4.3	5.3	6.4	7.1	7.2	7.3	7.4	8.1								

C247	HSS-E PM		N	Z 4-8		λ 30° γ 12°	DIN 1835B		k10		DIN 844K
C246	HSS-E PM		N	Z 4-6		λ 30° γ 12°	DIN 1835B	TiCN	k10		DIN 844K



d ₁ Ø Inch	d ₁ Ø mm	d ₂ Ø _{h_s} mm	l ₂ mm	l ₁ mm	z	l ₃ mm	d ₃ Ø mm	C247	C246
1/8	2.00	6	7	51	4	-	-	C2472.0	C2462.0
	2.50	6	8	52	4	-	-	C2472.5	
	3.00	6	8	52	4	-	-	C2473.0	C2463.0
	3.18	6	10	54	4	-	-	C2471/8 ¹⁾	
	3.50	6	10	54	4	-	-	C2473.5	
3/16	4.00	6	11	55	4	-	-	C2474.0	C2464.0
	4.50	6	11	55	4	-	-	C2474.5	
	4.76	6	13	57	4	-	-	C2473/16 ¹⁾	
	5.00	6	13	57	4	-	-	C2475.0	C2465.0
	5.50	6	13	57	4	-	-	C2475.5	
1/4	6.00	6	13	57	4	-	-	C2476.0	C2466.0
	6.35	10	16	66	4	-	-	C2471/4 ¹⁾	
	6.50	10	16	66	4	-	-	C2476.5	
	7.00	10	16	66	4	-	-	C2477.0	C2467.0
	7.50	10	16	66	4	-	-	C2477.5	
5/16	7.94	10	19	69	4	-	-	C2475/16 ¹⁾	
	8.00	10	19	69	4	-	-	C2478.0	C2468.0
	8.50	10	19	69	4	-	-	C2478.5	
	9.00	10	19	69	4	-	-	C2479.0	
	9.50	10	19	69	4	-	-	C2479.5	
3/8	9.52	10	22	72	4	31.5	9.5	C2473/8 ¹⁾	
	10.00	10	22	72	4	31.5	9.5	C24710.0	C24610.0
	11.00	12	22	79	4	-	-	C24711.0	C24611.0
	12.00	12	26	83	4	37.5	11.5	C24712.0	C24612.0
	12.70	12	26	83	4	37.5	11.5	C2471/2 ¹⁾	
9/16	13.00	12	26	83	4	37.5	11.5	C24713.0	C24613.0
	14.00	12	26	83	4	37.5	11.5	C24714.0	C24614.0
	14.29	12	26	83	4	37.5	11.5	C2479/16 ¹⁾	
	15.00	12	26	83	4	37.5	11.5	C24715.0	C24615.0
	15.88	16	32	92	4	43.5	15.5	C2475/8 ¹⁾	

¹⁾ diameter tolerance +0.0025 inches / -0.0005 inches / Tolerancia diámetro + .0025 pulgadas/ -.0005 pulgadas / tolerância no diâmetro+.0025 poleg. / -.0005 poleg. / tolérance sur le diamètre +.0025 inches / -.0005 inches

d_1 Ø Inch	d_1 Ø mm	d_2 Øh ₆ mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C247	C246
	16.00	16	32	92	4	43.5	15.5	C24716.0	C24616.0
	17.00	16	32	92	4	43.5	15.5	C24717.0	
	18.00	16	32	92	4	43.5	15.5	C24718.0	C24618.0
3/4	19.00	16	32	92	4	43.5	15.5	C24719.0	
	19.05	20	38	104	4	53.5	18.5	C2473/4 ¹⁾	
	20.00	20	38	104	4	53.5	19.5	C24720.0	C24620.0
	21.00	20	38	104	4	53.5	19.5	C24721.0	
7/8	22.00	20	38	104	5	53.5	19.5	C24722.0	C24622.0
	22.22	20	38	104	5	53.5	19.5	C2477/8 ¹⁾	
	23.00	20	38	104	5	53.5	19.5	C24723.0	
	24.00	25	45	121	5	64.5	23.5	C24724.0	
1"	25.00	25	45	121	5	64.5	24.5	C24725.0	C24625.0
	25.40	25	45	121	5	64.5	24.5	C2471 ¹⁾	
	26.00	25	45	121	6	64.5	24.5	C24726.0	
	28.00	25	45	121	6	64.5	24.5	C24728.0	
	30.00	25	45	121	6	64.5	24.5	C24730.0	
	32.00	32	53	133	6	72.5	31.5	C24732.0	
	36.00	32	53	133	6	72.5	31.5	C24736.0 ²⁾³⁾	
	40.00	40	63	155	6	84.5	39.0	C24740.0 ²⁾³⁾	
50.00	50	75	177	8	96.5	48.0	C24750.0 ²⁾³⁾		

¹⁾ diameter tolerance +0.0025 inches / -0.0005 inches / Tolerancia diámetro + .0025 pulgadas/ -.0005 pulgadas / tolerância no diâmetro+.0025 poleg. / -.0005 poleg. / tolérance sur le diamètre +.0025 inches / -.0005 inches

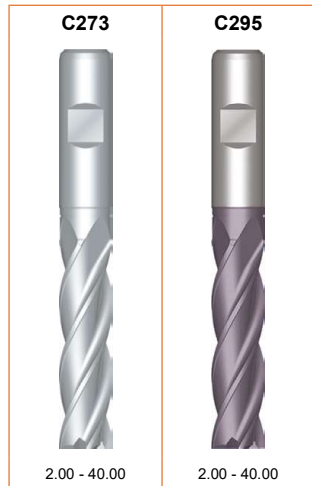
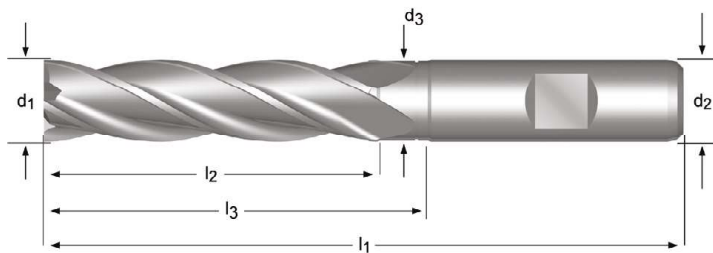
²⁾ No centre Cutting / Sin corte al centro / Sem corte central / Pas de coupe au centre

³⁾ Available in HSS-E only / Disponible solo en HSCo / Só disponível em HSCo / Disponible en HSCo seulement

C273 • End Mill
• Fresas de acabado
C295 • Fresa de Acabamento
• Fraises de finition

C273	▪	1.1	1.2	1.3	4.1	5.1	6.1	6.2	6.3											
	•	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	7.3	8.1							
C295	▪	1.1	1.2	1.3	1.4	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3				
	•	1.5	1.6	2.1	2.3	4.3	5.3	6.4	7.1	7.2	7.3	7.4	8.1							

C273	HSS-E PM		N	Z 4-6		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		k10		DIN 844L
C295	HSS-E PM		N	Z 4-6		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	TiCN	k10		DIN 844L



d ₁ Ø Inch	d ₁ Ø mm	d ₂ Ø _{h₆} mm	l ₂ mm	l ₁ mm	z	l ₃ mm	d ₃ Ø mm	C273	C295
	2.00	6	10	54	4	-	-	C2732.0	C2952.0
	2.50	6	12	56	4	-	-	C2732.5	
	3.00	6	12	56	4	-	-	C2733.0	C2953.0
1/8	3.18	6	15	59	4	-	-	C2731/8	¹⁾
	3.50	6	15	59	4	-	-	C2733.5	
	4.00	6	19	63	4	-	-	C2734.0	C2954.0
	4.50	6	19	63	4	-	-	C2734.5	
3/16	4.76	6	24	68	4	-	-	C2733/16	¹⁾
	5.00	6	24	68	4	-	-	C2735.0	C2955.0
	5.50	6	24	68	4	-	-	C2735.5	
	6.00	6	24	68	4	-	-	C2736.0	C2956.0
1/4	6.35	10	30	80	4	-	-	C2731/4	¹⁾
	7.00	10	30	80	4	-	-	C2737.0	C2957.0
	8.00	10	38	88	4	-	-	C2738.0	C2958.0
	9.00	10	38	88	4	-	-	C2739.0	C2959.0
3/8	9.52	10	45	95	4	54.5	9.5	C2733/8	¹⁾
	10.00	10	45	95	4	54.5	9.5	C27310.0	C29510.0
	11.00	12	45	102	4	-	-	C27311.0	C29511.0
	12.00	12	53	110	4	64.5	11.5	C27312.0	C29512.0
1/2	12.70	12	53	110	4	64.5	11.5	C2731/2	¹⁾
	13.00	12	53	110	4	64.5	11.5	C27313.0	
	14.00	12	53	110	4	64.5	11.5	C27314.0	
	15.00	12	53	110	4	64.5	11.5	C27315.0	C29515.0
5/8	15.88	16	63	123	4	74.5	15.5	C2735/8	¹⁾
	16.00	16	63	123	4	74.5	15.5	C27316.0	C29516.0
	18.00	16	63	123	4	74.5	15.5	C27318.0	C29518.0

¹⁾ diameter tolerance +0.0025 inches / -0.0005 inches / Tolerancia diámetro + .0025 pulgadas / -.0005 pulgadas / tolerância no diâmetro+.0025 poleg. / -.0005 poleg. / tolérance sur le diamètre +.0025 inches / -.0005 inches

d_1 Ø Inch	d_1 Ø mm	d_2 Øh ₆ mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C273	C295
3/4	19.05	20	75	141	4	90.5	18.5	C2733/4 ¹⁾	
	20.00	20	75	141	4	90.5	19.5	C27320.0	C29520.0
	22.00	20	75	141	5	90.5	19.5	C27322.0	
	25.00	25	90	166	5	109.5	24.5	C27325.0	C29525.0
1"	25.40	25	90	166	5	109.5	24.5	C2731 ¹⁾	
	28.00	25	90	166	6	109.5	24.5	C27328.0	
	30.00	25	90	166	6	109.5	24.5	C27330.0	C29530.0
	32.00	32	106	186	6	125.5	31.5	C27332.0	C29532.0
	40.00	40	125	217	6	146.5	39.0	C27340.0 ²⁾³⁾	C29540.0

¹⁾ diameter tolerance +0.0025 inches / -0.0005 inches / Tolerancia diámetro + .0025 pulgadas/ -.0005 pulgadas / tolerância no diâmetro+.0025 poleg. / -.0005 poleg. / tolérance sur le diamètre +.0025 inches / -.0005 inches

²⁾ Available in HSS-E only / Disponible solo en HSCo / Só disponível em HSCo / Disponible en HSCo seulement

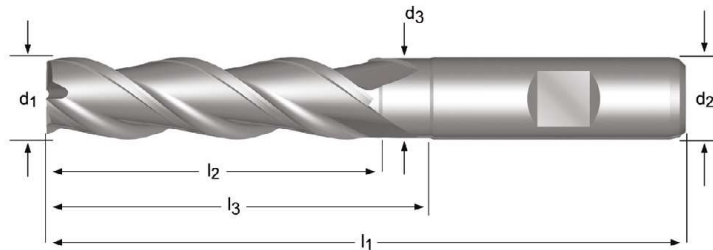
³⁾ No centre Cutting / Sin corte al centro / Sem corte central / Pas de coupe au centre

C333

- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

C333 ■ 6.1 6.2 6.3 7.1 7.2 7.3 8.1 8.2

C333 HSS-E PM W Z 3 $\lambda 40^\circ$ $\gamma 25^\circ$ DIN 1835B k10 DIN 844L



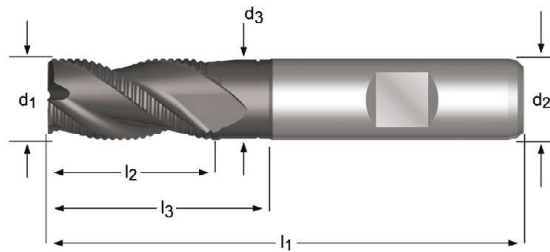
d_1 \varnothing mm	d_2 $\varnothing h_6$ mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 \varnothing mm	C333
10.00	10	45	95	3	54.5	9.5	C33310.0
12.00	12	53	110	3	64.5	11.5	C33312.0
14.00	12	53	110	3	64.5	11.5	C33314.0
16.00	16	63	123	3	74.5	15.5	C33316.0
18.00	16	63	123	3	74.5	15.5	C33318.0
20.00	20	75	141	3	90.5	19.5	C33320.0
25.00	25	90	166	3	109.5	24.5	C33325.0
30.00	25	90	166	3	109.5	24.5	C33330.0

C922

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

C922	▪	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.2	5.3	6.2	7.4
	•	1.3	4.1	5.1	6.4												

C922	HSS-E PM		HRA	Z 3-4		λ 35° γ 12°	DIN 1835B	Alcrona	k12		DIN 844K
------	-------------	--	-----	----------	--	-------------------------------	--------------	---------	-----	--	-------------



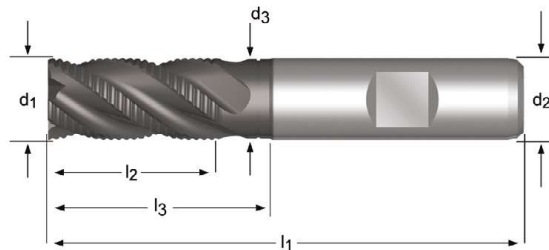
d_1 Ø mm	d_2 Ø _{h8} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C922
6.00	6	13	57	3	-	-	C9226.0
7.00	10	16	66	3	-	-	C9227.0
8.00	10	19	69	3	-	-	C9228.0
9.00	10	19	69	3	-	-	C9229.0
10.00	10	22	72	3	31.5	9.5	C92210.0
11.00	12	22	79	3	-	-	C92211.0
12.00	12	26	83	3	37.5	11.5	C92212.0
13.00	12	26	83	3	37.5	11.5	C92213.0
14.00	12	26	83	3	37.5	11.5	C92214.0
15.00	12	26	83	3	37.5	11.5	C92215.0
16.00	16	32	92	3	43.5	15.5	C92216.0
18.00	16	32	92	3	43.5	15.5	C92218.0
20.00	20	38	104	3	53.5	19.5	C92220.0
22.00	20	38	104	3	53.5	19.5	C92222.0
24.00	25	45	121	4	64.5	23.5	C92224.0
25.00	25	45	121	4	64.5	24.5	C92225.0
28.00	25	45	121	4	64.5	24.5	C92228.0
32.00	32	53	133	4	72.5	31.5	C92232.0

C428

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

C428	▪	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.2	5.3	6.2	7.4
	•	1.3	4.1	5.1	6.4												

C428 **HSS-E PM**  **HRA**  **Z 4-6**   **λ 35°** **γ 12°**  **DIN 1835B**  **Alcrona**  **k12**   **DIN 844K** 



C428



6.00 - 40.00

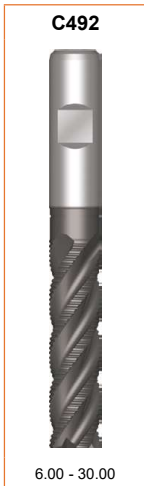
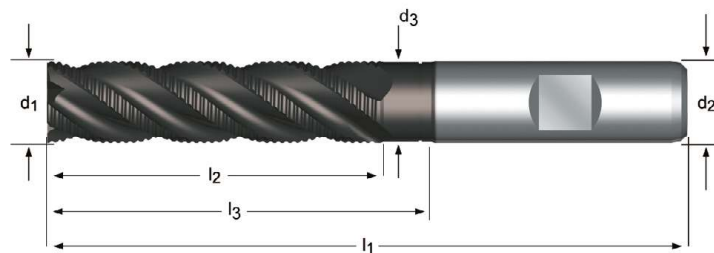
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C428
6.00	6	13	57	4	-	-	C4286.0
7.00	10	16	66	4	-	-	C4287.0
8.00	10	19	69	4	-	-	C4288.0
9.00	10	19	69	4	-	-	C4289.0
10.00	10	22	72	4	31.5	9.5	C42810.0
11.00	12	22	79	4	-	-	C42811.0
12.00	12	26	83	4	37.5	11.5	C42812.0
13.00	12	26	83	4	37.5	11.5	C42813.0
14.00	12	26	83	4	37.5	11.5	C42814.0
15.00	12	26	83	4	37.5	11.5	C42815.0
16.00	16	32	92	4	43.5	15.5	C42816.0
18.00	16	32	92	4	43.5	15.5	C42818.0
20.00	20	38	104	4	53.5	19.5	C42820.0
22.00	20	38	104	4	53.5	19.5	C42822.0
25.00	25	45	121	6	64.5	24.5	C42825.0
28.00	25	45	121	6	64.5	24.5	C42828.0
30.00	25	45	121	6	64.5	24.5	C42830.0
32.00	32	53	133	6	72.5	31.5	C42832.0
36.00	32	53	133	6	72.5	31.0	C42836.0
40.00	40	63	155	6	84.5	39.0	C42840.0

C492

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

C492	▪	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.2	5.3	6.2	7.4
	•	4.1	5.1	6.4														

C492	HSS-E PM		HRA	Z 3-6		λ 35° γ 12°	DIN 1835B	Alcrona	k12		DIN 844L
------	-------------	--	-----	----------	--	-------------------------------	--------------	---------	-----	--	-------------



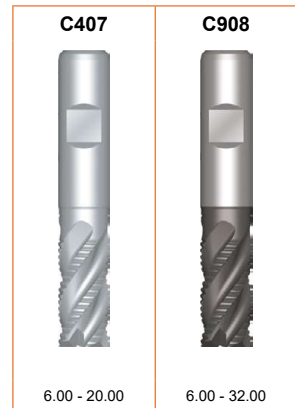
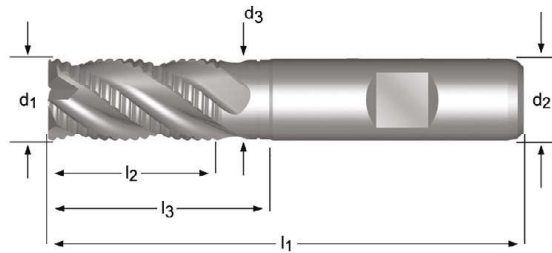
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C492
6.00	6	24	68	3	-	-	C4926.0
8.00	10	38	88	3	-	-	C4928.0
10.00	10	45	95	4	54.5	9.5	C49210.0
12.00	12	53	110	4	64.5	11.5	C49212.0
14.00	12	53	110	4	64.5	11.5	C49214.0
16.00	16	63	123	4	74.5	15.5	C49216.0
18.00	16	63	123	4	74.5	15.5	C49218.0
20.00	20	75	141	4	90.5	19.5	C49220.0
22.00	20	75	141	4	90.5	19.5	C49222.0
25.00	25	90	166	6	109.5	24.5	C49225.0
30.00	25	90	166	6	109.5	24.5	C49230.0

C407 • Roughing End Mill
• Fresas desbaste

C908 • Fresa de Desbaste
• Fraises d'ébauche

C407	▪	1.2	1.3	1.4	1.5	2.1	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.2	5.3	6.2	
	•	1.1	1.6	2.2	4.1	5.1	6.4	7.4									
C908	▪	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.2	5.3	6.2	
	•	1.6	4.1	5.1	6.4	7.4											

C407	HSS-E PM		NRA	Z 4-6		$\lambda 35^\circ$ $\gamma 12^\circ$	DIN 1835B		k12		DIN 844K
C908	HSS-E PM		NRA	Z 4-6		$\lambda 35^\circ$ $\gamma 12^\circ$	DIN 1835B	Alcrona	k12		DIN 844K



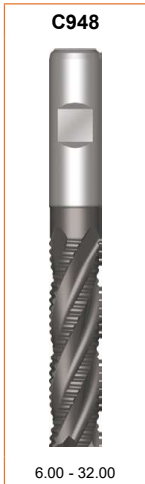
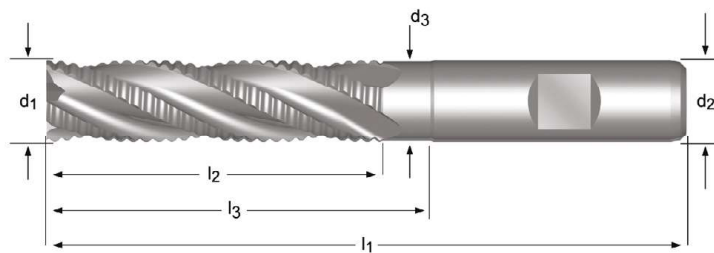
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C407	C908
6.00	6	13	57	4	-	-	C4076.0	C9086.0
7.00	10	16	66	4	-	-	C4077.0	C9087.0
8.00	10	19	69	4	-	-	C4078.0	C9088.0
9.00	10	19	69	4	-	-	C4079.0	C9089.0
10.00	10	22	72	4	31.5	9.5	C40710.0	C90810.0
11.00	12	22	79	4	-	-	C40711.0	C90811.0
12.00	12	26	83	4	37.5	11.5	C40712.0	C90812.0
13.00	12	26	83	4	37.5	11.5	C40713.0	C90813.0
14.00	12	26	83	4	37.5	11.5	C40714.0	C90814.0
15.00	12	26	83	4	37.5	11.5	C40715.0	C90815.0
16.00	16	32	92	4	43.5	15.5	C40716.0	C90816.0
18.00	16	32	92	4	43.5	15.5	C40718.0	C90818.0
20.00	20	38	104	4	53.5	19.5	C40720.0	C90820.0
22.00	20	38	104	4	53.5	19.5		C90822.0
25.00	25	45	121	6	64.5	24.5		C90825.0
30.00	25	45	121	6	64.5	24.5		C90830.0
32.00	32	53	133	6	72.5	31.5		C90832.0

C948

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

C948	▪	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.2	4.3	5.2	5.3	6.2	7.4
	•	4.1	5.1	6.4														

C948	HSS-E PM		NRA	Z 4-6		$\lambda 35^\circ$ $\gamma 12^\circ$	DIN 1835B	Alcrona	k12		DIN 844L
------	-------------	--	-----	----------	--	---	--------------	---------	-----	--	-------------



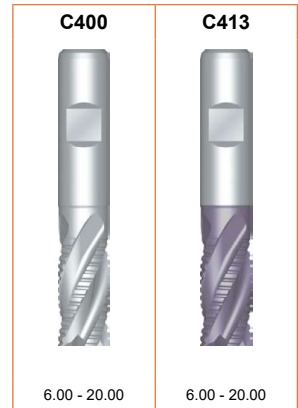
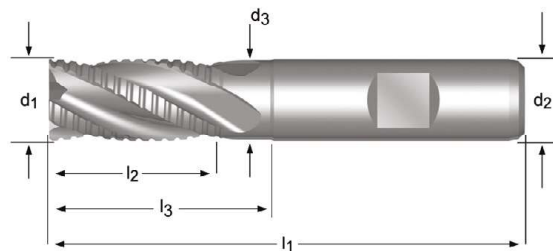
d_1 Ø mm	d_2 Ø _{h₆} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C948
6.00	6	24	68	4	-	-	C9486.0
8.00	10	38	88	4	-	-	C9488.0
10.00	10	45	95	4	54.5	9.5	C94810.0
12.00	12	53	110	4	64.5	11.5	C94812.0
14.00	12	53	110	4	64.5	11.5	C94814.0
16.00	16	63	123	4	74.5	15.5	C94816.0
18.00	16	63	123	4	74.5	15.5	C94818.0
20.00	20	75	141	4	90.5	19.5	C94820.0
25.00	25	90	166	6	109.5	24.5	C94825.0
30.00	25	90	166	6	109.5	24.5	C94830.0
32.00	32	106	186	6	125.5	31.5	C94832.0

C400 • Roughing End Mill
• Fresas desbaste

C413 • Fresa de Desbaste
• Fraises d'ébauche

C400	▪	1.2	1.3	6.2	6.3											
	•	1.1	1.4	2.1	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	7.2	7.3	8.1
C413	▪	1.2	1.3	1.4	3.1	3.2	3.3	3.4	4.2	5.2	6.2	6.3				
	•	1.1	1.5	1.6	2.1	2.3	4.1	4.3	5.1	5.3	6.1	6.4	7.2	7.3	7.4	8.1

C400	HSS-E		NF	Z 4-6		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		k12		DIN 844K
C413	HSS-E		NF	Z 4-6		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	TiCN	k12		DIN 844K



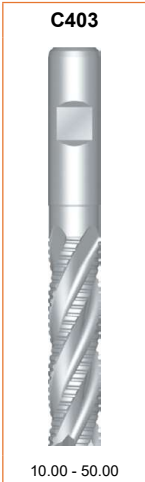
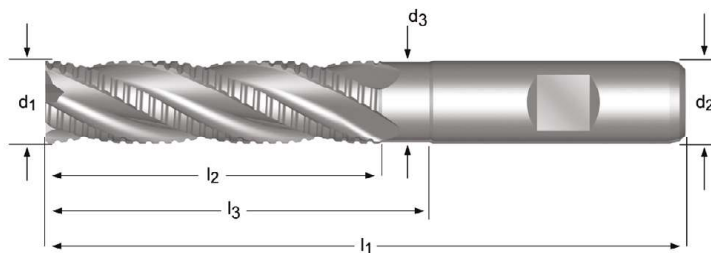
d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C400	C413
6.00	6	13	57	4	-	-	C4006.0	C4136.0
8.00	10	19	69	4	-	-	C4008.0	C4138.0
10.00	10	22	72	4	-	-	C40010.0	C41310.0
12.00	12	26	83	4	-	-	C40012.0	C41312.0
14.00	12	26	83	4	37.5	11.5	C40014.0	C41314.0
16.00	16	32	92	4	43.5	15.5	C40016.0	C41316.0
18.00	16	32	92	4	43.5	15.5	C40018.0	C41318.0
20.00	20	38	104	4	53.5	19.5	C40020.0	C41320.0

C403

- Roughing End Mill
- Fresas desbaste
- Fresa de Desbaste
- Fraises d'ébauche

C403	▪	1.2	1.3	6.2	6.3													
	•	1.1	1.4	2.1	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	7.2	7.3	8.1		

C403 HSS-E

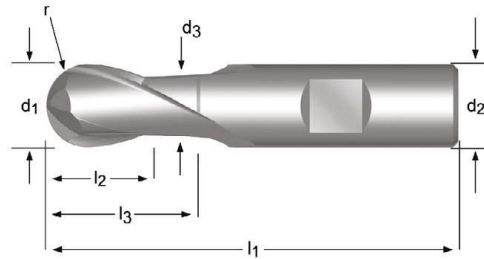


d_1 Ø mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C403
10.00	10	45	95	4	-	-	C40310.0
12.00	12	53	110	4	-	-	C40312.0
14.00	12	53	110	4	64.5	11.5	C40314.0
16.00	16	63	123	4	74.5	15.5	C40316.0
18.00	16	63	123	4	74.5	15.5	C40318.0
20.00	20	75	141	4	90.5	19.5	C40320.0
30.00	25	90	166	5	109.5	24.5	C40330.0
32.00	32	106	186	6	125.5	31.0	C40332.0
36.00	32	106	186	6	125.5	31.5	C40336.0
40.00	40	125	217	6	146.5	39.0	C40340.0
45.00	40	125	217	6	146.5	39.5	C40345.0
50.00	50	150	252	6	171.5	48.0	C40350.0

- Ball-Nosed End Mill
- Fresas con punta esferica
- Fresa Topo Esférico
- Fraises de finition bout hémisphérique

C500	▪	1.1	1.2	4.1	5.1	6.1	6.2	6.3							
	•	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	7.3	8.1	

C500 HSS-E  N  Z 2   $\lambda 30^\circ$ $\gamma 12^\circ$   e8  DIN 327D



C500



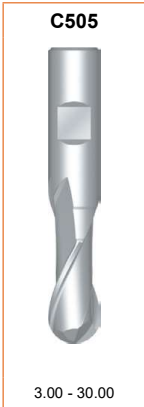
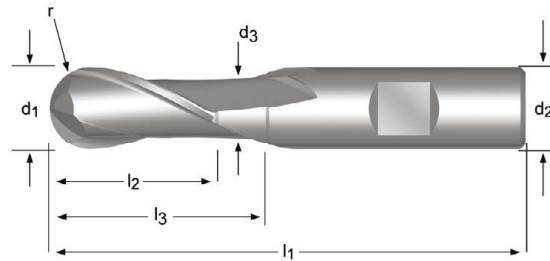
2.00 - 25.00

d_1 Ø mm	r ±0.05 mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C500
2.00	1.00	6	4	48	2	-	-	C5002.0
3.00	1.50	6	5	49	2	-	-	C5003.0
4.00	2.00	6	7	51	2	-	-	C5004.0
5.00	2.50	6	8	52	2	-	-	C5005.0
6.00	3.00	6	8	52	2	-	-	C5006.0
7.00	3.50	10	10	60	2	-	-	C5007.0
8.00	4.00	10	11	61	2	-	-	C5008.0
9.00	4.50	10	11	61	2	-	-	C5009.0
10.00	5.00	10	13	63	2	-	-	C50010.0
12.00	6.00	12	16	73	2	-	-	C50012.0
14.00	7.00	12	16	73	2	27.5	11.5	C50014.0
15.00	7.50	12	16	73	2	27.5	11.5	C50015.0
16.00	8.00	16	19	79	2	30.5	15.5	C50016.0
18.00	9.00	16	19	79	2	30.5	15.5	C50018.0
20.00	10.00	20	22	88	2	37.5	19.5	C50020.0
25.00	12.50	25	26	102	2	45.5	24.5	C50025.0

- C505**
- Ball-Nosed End Mill
 - Fresas con punta esférica
 - Fresa Topo Esférico
 - Fraises de finition bout hémisphérique

C505	▪	1.1	1.2	4.1	5.1	6.1	6.2	6.3													
	•	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.2	5.2	7.1	7.2	7.3	8.1							

C505 HSS-E N Z $\lambda 30^\circ$ $\gamma 12^\circ$



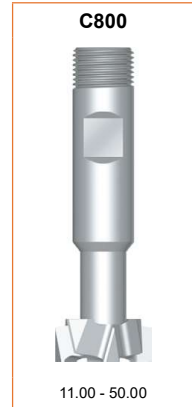
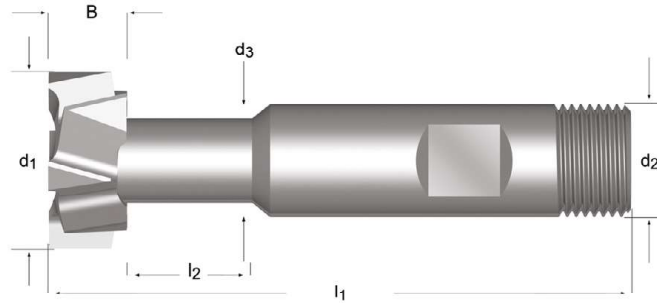
d_1 Ø mm	r ±0.05 mm	d_2 Øh ₆ mm	l_2 mm	l_1 mm	z	l_3 mm	d_3 Ø mm	C505
3.00	1.50	6	8	52	2	-	-	C5053.0
4.00	2.00	6	11	55	2	-	-	C5054.0
5.00	2.50	6	13	57	2	-	-	C5055.0
6.00	3.00	6	13	57	2	-	-	C5056.0
8.00	4.00	10	19	69	2	-	-	C5058.0
10.00	5.00	10	22	72	2	-	-	C50510.0
12.00	6.00	12	26	83	2	-	-	C50512.0
14.00	7.00	12	26	83	2	37.5	11.5	C50514.0
16.00	8.00	16	32	92	2	43.5	15.5	C50516.0
20.00	10.00	20	38	104	2	53.5	19.5	C50520.0
22.00	11.00	20	38	104	2	53.5	19.5	C50522.0
25.00	12.50	25	45	121	2	64.5	24.5	C50525.0
28.00	14.00	25	45	121	2	64.5	24.5	C50528.0
30.00	15.00	25	45	121	2	64.5	24.5	C50530.0

- T-slot Cutter
- Fresas de ranurar en "T"
- Fresa p/ Abrir Rasgos T
- Fraises pour rainures en T

C800

C800	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	10.1												

C800 HSS-E  N     



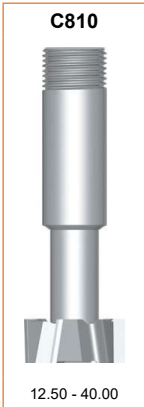
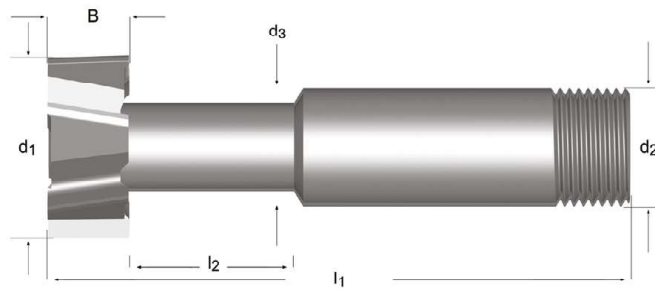
B	d ₁ ∅	T DIN650	d ₃ ∅	l ₂	l ₁	d ₂ ∅h ₆	z	C800
mm	mm		mm	mm	mm	mm		
4.0	11.00	5	4	6.5	53.5	10	6	C80011.0X5.0
6.0	12.50	6	5	9	57.0	10	6	C80012.5X6.0
8.0	16.00	8	7	12	62.0	10	6	C80016.0X8.0
8.0	18.00	10	8	15	70.0	12	6	C80018.0X10.0
9.0	21.00	12	10	18	74.0	12	8	C80021.0X12.0
11.0	25.00	14	12	20	82.0	16	8	C80025.0X14.0
14.0	32.00	18	15	26	90.0	16	8	C80032.0X18.0
18.0	40.00	22	19	27	108.0	25	8	C80040.0X22.0
22.0	50.00	28	25	34	124.0	32	8	C80050.0X28.0

C810

- T-slot Cutter
- Fresas de ranurar en "T"
- Fresa p/ Abrir Rasgos T
- Fraises pour rainures en T

C810	▪	1.1	1.2	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3	6.4	7.1	7.2	7.3	
	•	1.5	1.6	2.2	2.3	4.2	4.3	5.2	5.3	7.4	8.1	10.1								

C810 HSS N Z 6-8 $\lambda 12^\circ$ $\gamma 10^\circ$ DIN 1835D d11

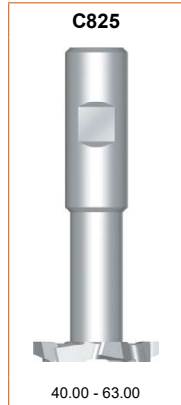
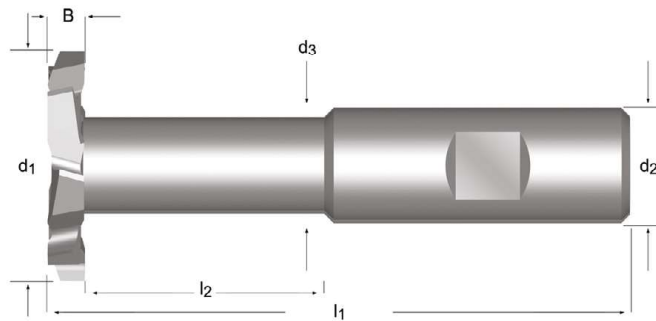


B	d ₁	T	d ₃	l ₂	l ₁	d ₂	z	C810
mm	Ø mm	DIN650	Ø mm	mm	mm	Ø0,-0.025 mm		
6.00	12.50	6.0	5.00	11	57.0	10.0	6	C8106.0
8.00	16.00	8.0	7.00	13	61.0	10.0	6	C8108.0
8.00	18.00	10.0	8.00	17	65.0	12.0	6	C81010.0
9.00	21.00	12.0	10.00	20	69.0	12.0	6	C81012.0
11.00	25.00	14.0	12.00	23	79.0	16.0	6	C81014.0
12.00	28.00	16.0	13.00	23	76.0	16.0	6	C81016.0
14.00	32.00	18.0	15.00	27	98.0	25.0	8	C81018.0
16.00	36.00	20.0	17.00	30	100.0	25.0	8	C81020.0
18.00	40.00	22.0	19.00	33	108.0	25.0	8	C81022.0

- T-slot Cutter
- Fresas de ranurar en "T"
- Fresa p/ Abrir Rasgos T
- Fraises pour rainures en T

C825	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	10.1												

C825 HSS-E  N  Z 8-12  $\lambda 15^\circ$ $\gamma 15^\circ$  js16  

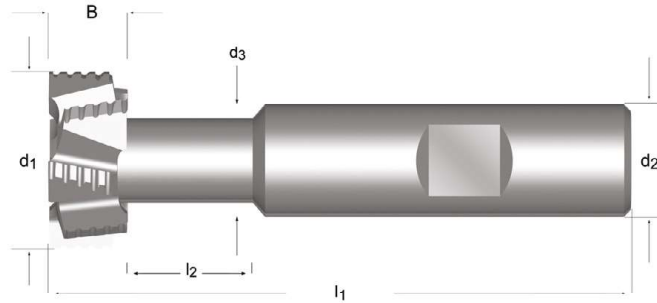


B	d ₁ Ø	Ch	d ₃ Ø	l ₂	l ₁	d ₂ Øh ₆	z	C825
mm	mm	mm	mm	mm	mm	mm		
3	40	0.15	19.2	46	100	20	8	C8253.0X40.0
4	40	0.15	19.2	45	100	20	8	C8254.0X40.0
5	40	0.15	19.2	44	100	20	8	C8255.0X40.0
6	40	0.15	19.2	43	100	20	8	C8256.0X40.0
8	40	0.15	19.2	41	100	20	8	C8258.0X40.0
10	40	0.15	19.2	39	100	20	8	C82510.0X40.0
6	63	0.15	24.2	67	130	25	12	C8256.0X63.0
8	63	0.15	24.2	65	130	25	12	C8258.0X63.0
10	63	0.15	24.2	63	130	25	12	C82510.0X63.0
12	63	0.15	24.2	61	130	25	12	C82512.0X63.0
14	63	0.15	24.2	59	130	25	12	C82514.0X63.0
16	63	0.15	24.2	57	130	25	12	C82516.0X63.0

- C801**
- T-slot Cutter
 - Fresas de ranurar en "T"
 - Fresa p/ Abrir Rasgos T
 - Fraises pour rainures en T

C801	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	10.1												

C801 HSS-E



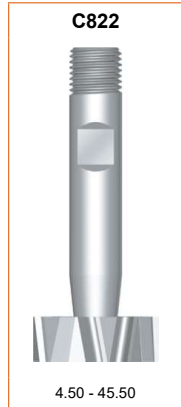
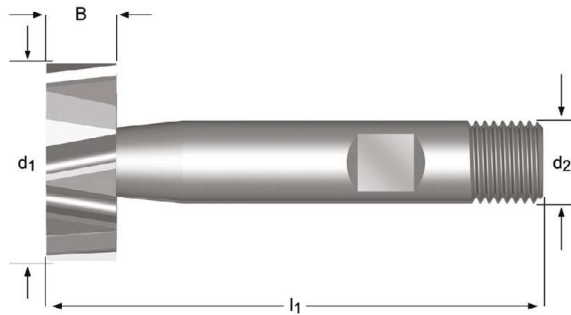
B mm	d ₁ ∅ mm	T DIN650	d ₃ ∅ mm	l ₂ mm	l ₁ mm	d ₂ ∅h ₆ mm	z	C801
8.0	16.0	8	7	10	62	10	6	C80116.0X8.0
8.0	18.0	10	8	13	70	12	6	C80118.0X10.0
9.0	21.0	12	10	16	74	12	6	C80121.0X12.0
11.0	25.0	14	12	17	82	16	8	C80125.0X14.0
14.0	32.0	18	15	22	90	16	8	C80132.0X18.0

C822

- Woodruff Cutter
- Fresas para ranurados tipo Woodruff
- Fresa p/ Chavetas Meia Lua
- Fraises Woodruff

C822	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	10.1												

C822 HSS-E  N  Z 6-12  $\lambda 10^\circ$ $\gamma 10^\circ$   



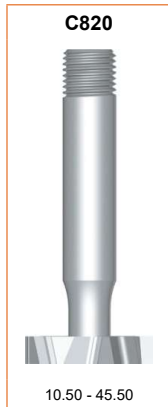
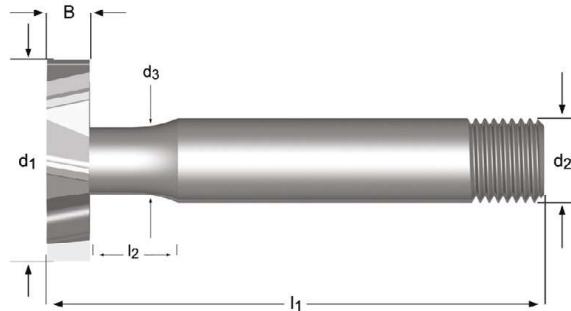
B mm	d ₁ Ø mm	l ₁ mm	d ₂ Øh ₆ mm	z	C822
1.0	4.50	50	6	6	C8224.5X1.0
1.5	7.50	50	6	6	C8227.5X1.5
2.0	7.50	50	6	6	C8227.5X2.0
2.0	10.50	50	6	8	C82210.5X2.0
2.5	10.50	50	6	8	C82210.5X2.5
3.0	10.50	50	6	8	C82210.5X3.0
3.0	13.50	56	10	8	C82213.5X3.0
4.0	13.50	56	10	8	C82213.5X4.0
3.0	16.50	56	10	8	C82216.5X3.0
4.0	16.50	56	10	8	C82216.5X4.0
5.0	16.50	56	10	8	C82216.5X5.0
3.0	19.50	63	10	10	C82219.5X3.0
4.0	19.50	63	10	10	C82219.5X4.0
5.0	19.50	63	10	10	C82219.5X5.0
5.0	22.50	63	10	10	C82222.5X5.0
6.0	22.50	63	10	10	C82222.5X6.0
8.0	22.50	63	10	10	C82222.5X8.0
6.0	25.50	63	10	12	C82225.5X6.0
6.0	28.50	63	10	12	C82228.5X6.0
8.0	28.50	63	10	12	C82228.5X8.0
10.0	28.50	71	12	12	C82228.5X10.0
8.0	32.50	71	12	12	C82232.5X8.0
10.0	32.50	71	12	12	C82232.5X10.0
10.0	45.50	71	12	12	C82245.5X10.0

C820

- Woodruff Cutter
- Fresas para ranurados tipo Woodruff
- Fresa p/ Chavetas Meia Lua
- Fraises Woodruff

C820	▪	1.1	1.2	1.3	1.4	2.1	2.2	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3	7.1	7.2	7.3	
	•	1.5	1.6	2.3	4.2	4.3	5.2	5.3	6.4	7.4	8.1	10.1								

C820 HSS N Z 6-12 λ 12° γ 10° DIN 1835D



Nr.	B Inch	B mm	d ₁ Ø Inch	d ₁ Ø mm	d ₃ Ø mm	l ₂ mm	l ₁ mm	d ₂ Ø _{0,-0.025} Inch	d ₂ Ø _{0,-0.025} mm	z	C820
		2.00		10.50	3.90	10	57.0		12.0	6	C82010.5X2.0
		2.50		10.50	3.90	10	57.0		12.0	6	C82010.5X2.5
		3.00		10.50	4.20	10	57.0		12.0	6	C82010.5X3.0
204	1/16	1.59	1/2	12.70	3.30	10	57.0	1/2	12.7	6	C820204 ⁹⁾
404	1/8	3.18	1/2	12.70	4.85	10	57.0	1/2	12.7	6	C820404 ⁹⁾
		2.00		13.50	4.00	10	57.0		12.0	6	C82013.5X2.0
		2.50		13.50	4.00	10	57.0		12.0	6	C82013.5X2.5
		3.00		13.50	5.00	10	57.0		12.0	6	C82013.5X3.0
		4.00		13.50	5.00	10	57.0		12.0	6	C82013.5X4.0
405	1/8	3.18	5/8	15.88	5.65	10	57.0	1/2	12.7	6	C820405 ⁹⁾
505	5/32	3.97	5/8	15.88	6.35	10	57.0	1/2	12.7	6	C820505 ⁹⁾
		2.50		16.50	4.00	10	57.0		12.0	6	C82016.5X2.5
		3.00		16.50	5.00	10	57.0		12.0	6	C82016.5X3.0
		4.00		16.50	5.00	10	57.0		12.0	6	C82016.5X4.0
		5.00		16.50	5.60	10	57.0		12.0	6	C82016.5X5.0
406	1/8	3.18	3/4	19.05	5.50	10	57.0	1/2	12.7	6	C820406 ⁹⁾
506	5/32	3.97	3/4	19.05	6.35	10	57.0	1/2	12.7	6	C820506 ⁹⁾
606	3/16	4.76	3/4	19.05	7.15	10	57.0	1/2	12.7	6	C820606 ⁹⁾
		3.00		19.50	5.60	10	57.0		12.0	6	C82019.5X3.0
		4.00		19.50	5.60	10	57.0		12.0	6	C82019.5X4.0
		5.00		19.50	6.00	10	57.0		12.0	6	C82019.5X5.0
507	5/32	3.97	7/8	22.23	6.35	10	63.5	1/2	12.7	8	C820507 ⁹⁾
607	3/16	4.76	7/8	22.23	7.15	10	63.5	1/2	12.7	8	C820607 ⁹⁾
807	1/4	6.35	7/8	22.23	8.75	10	63.5	1/2	12.0	8	C820807 ⁹⁾
		4.00		22.50	5.60	10	63.5		12.0	8	C82022.5X4.0
		5.00		22.50	6.00	10	63.5		12.0	8	C82022.5X5.0
		6.00		22.50	6.50	10	63.5		12.0	8	C82022.5X6.0
608	3/16	4.76	1"	25.40	7.15	10	70.0	1/2	12.7	8	C820608 ⁹⁾
808	1/4	6.35	1"	25.40	8.75	10	70.0	1/2	12.7	8	C820808 ⁹⁾
		5.00		25.50	7.50	10	70.0		12.0	8	C82025.5X5.0
		6.00		25.50	7.50	10	70.0		12.0	8	C82025.5X6.0
		8.00		25.50	8.00	10	70.0		12.0	8	C82025.5X8.0
		5.00		28.50	8.00	12	70.0		12.0	8	C82028.5X5.0
		6.00		28.50	8.50	12	70.0		12.0	8	C82028.5X6.0
		8.00		28.50	9.00	12	70.0		12.0	8	C82028.5X8.0
610	3/16	4.76	1.1/4	31.75	7.95	12	70.0	1/2	12.7	10	C820610 ⁹⁾
810	1/4	6.35	1.1/4	31.75	9.50	12	70.0	1/2	12.7	10	C820810 ⁹⁾

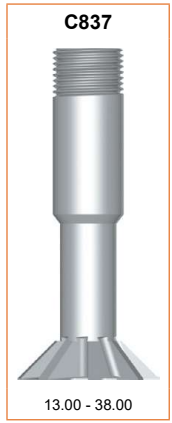
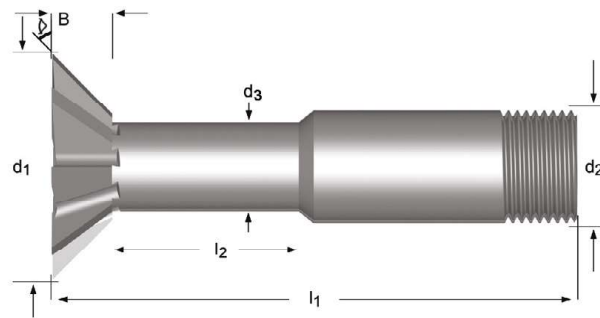
⁹⁾ Standard - BS 122/4 / Norma - BS 122/4 / Norma - BS 122/4 / Standard - BS 122/4

Nr.	B Inch	B mm	d ₁ ∅ Inch	d ₁ ∅ mm	d ₃ ∅ mm	l ₂ mm	l ₁ mm	d ₂ ∅ _{0,-0.025} Inch	d ₂ ∅ _{0,-0.025} mm	z	C820
1210	3/8	9.53	1.1/4	31.75	11.95	12	70.0	1/2	12.7	10	C8201210 ⁹⁾
		5.00		32.50	8.00	12	70.0		12.0	10	C82032.5X5.0 ⁹⁾
		6.00		32.50	8.50	12	70.0		12.0	10	C82032.5X6.0
		8.00		32.50	9.00	12	70.0		12.0	10	C82032.5X8.0
811	1/4	6.35	1.3/8	34.93	11.10	20	76.0	1/2	12.7	10	C820811 ⁹⁾
1211	3/8	9.53	1.3/8	34.93	11.95	20	76.0	1/2	12.7	10	C8201211 ⁹⁾
		6.00		35.50	9.50	20	76.0		12.0	10	C82035.5X6.0
		8.00		35.50	11.50	20	76.0		12.0	10	C82035.5X8.0
812	1/4	6.35	1.1/2	38.10	11.10	20	76.0	1/2	12.7	10	C820812 ⁹⁾
1212	3/8	9.53	1.1/2	38.10	11.95	20	76.0	1/2	12.7	10	C8201212 ⁹⁾
		8.00		38.50	11.50	20	76.0		12.0	10	C82038.5X8.0
		10.00		38.50	11.50	20	76.0		12.0	10	C82038.5X10.0
		10.00		45.50	11.50	20	76.0		12.0	12	C82045.5X10.0

- C837**
- Dovetail Cutter
 - Fresas de cola de milano
 - Fresa Rabo de Andorinha
 - Fraises coniques

C837	▪	1.1	1.2	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3	7.1	7.2	7.3	
	•	1.5	1.6	2.2	2.3	4.2	4.3	5.2	5.3	6.4	7.4	8.1							

C837 HSS N Z 6-8 $\lambda 0^\circ$ $\gamma 0^\circ$



	B	d ₁	d ₁	d ₃	l ₂	l ₁	d ₂	d ₂	z	C837
	mm	Ø	Ø	Ø	mm	mm	Ø, -0.025	Ø, -0.025		
		Inch	mm	mm			Inch	mm		
45°	3.0		13.00	4.75	16.5	63.5		12.00	6	C83713.0
45°	4.0	5/8	15.88	6.35	17.5	66.5	1/2	12.70	6	C8375/8 ⁹⁾
45°	4.0		16.00	6.35	17.5	66.5		12.00	6	C83716.0
45°	5.5		19.00	6.35	16.0	66.5		12.00	6	C83719.0
45°	5.5	3/4	19.05	6.35	16.0	66.5	1/2	12.70	6	C8373/4 ⁹⁾
45°	6.5		22.00	7.15	16.0	68.5		12.00	6	C83722.0
45°	6.5	7/8	22.23	7.15	16.0	68.5	1/2	12.70	6	C8377/8 ⁹⁾
45°	7.5		25.00	7.95	16.5	70.0		12.00	6	C83725.0
45°	8.0	1"	25.40	7.95	16.0	70.0	1/2	12.70	6	C8371
45°	8.5		28.00	9.55	17.0	71.5		16.00	6	C83728.0
45°	10.5		38.00	12.70	16.0	78.5		25.00	8	C83738.0

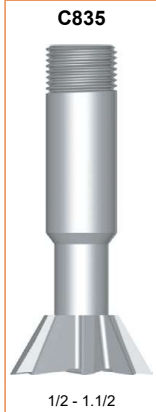
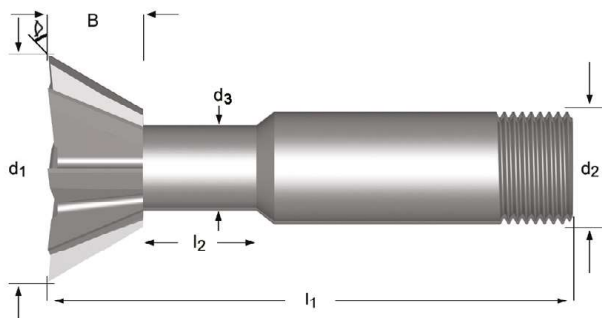
⁹⁾ Standard - BS 122/4 / Norma - BS 122/4 / Norma - BS 122/4 / Standard - BS 122/4

C835

- Dovetail Cutter
- Fresas de cola de milano
- Fresa Rabo de Andorinha
- Fraises coniques

C835	▪	1.1	1.2	1.3	1.4	2.1	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3	7.1	7.2	7.3
	•	1.5	1.6	2.2	2.3	4.2	4.3	5.2	5.3	6.4	7.4	8.1						

C835 HSS N Z 6-8 $\lambda 0^\circ$ $\gamma 0^\circ$ DIN 1835D 

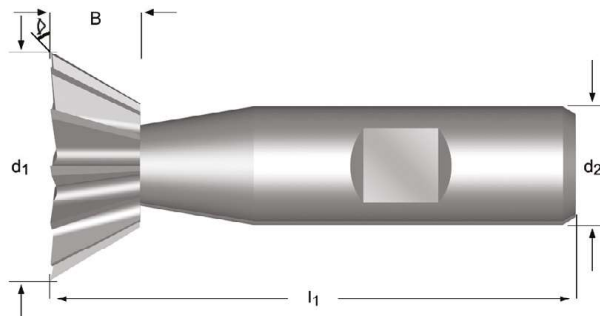


\angle	B	d ₁	d ₁	d ₃	l ₂	l ₁	d ₂	d ₂	z	C835
	mm	Ø Inch	Ø mm	Ø mm	mm	mm	Ø0,-0.025 Inch	Ø0,-0.025 mm		
60°	4.0	1/2	12.70	7.15	16.5	63.5	1/2	12.70	6	C8351/2 ⁹⁾
60°	4.0		13.00	7.15	16.5	63.5		12.00	6	C83513.0
60°	5.5	5/8	15.88	7.55	18.0	66.5	1/2	12.70	6	C8355/8 ⁹⁾
60°	5.5		16.00	7.55	18.0	66.5		12.00	6	C83516.0
60°	7.0		19.00	8.35	17.5	67.5		12.00	6	C83519.0
60°	7.0	3/4	19.05	8.35	17.5	67.5	1/2	12.70	6	C8353/4 ⁹⁾
60°	9.5		22.00	8.75	15.0	67.5		12.00	6	C83522.0
60°	9.5	7/8	22.23	8.75	15.0	67.5	1/2	12.70	6	C8357/8 ⁹⁾
60°	12.0		25.00	8.75	15.0	70.0		12.00	6	C83525.0
60°	12.0	1"	25.40	8.75	15.0	70.0	1/2	12.70	6	C8351 ⁹⁾
60°	12.5		28.00	11.10	15.5	73.0		16.00	6	C83528.0
60°	12.5	1.1/8	28.58	11.10	15.5	73.0	5/8	15.88	6	C8351.1/8 ⁹⁾
60°	13.5		32.00	12.70	16.0	74.5		16.00	8	C83532.0
60°	13.5	1.1/4	31.75	12.70	16.0	74.5	5/8	15.88	8	C8351.1/4 ⁹⁾
60°	14.5	1.3/8	34.93	12.70	16.0	82.5	1"	25.40	8	C8351.3/8 ⁹⁾
60°	14.5		35.00	12.70	16.0	82.5		25.00	8	C83535.0
60°	16.0		38.00	17.45	16.0	84.0		25.00	8	C83538.0
60°	16.0	1.1/2	38.10	17.45	16.0	84.0	1"	25.40	8	C8351.1/2 ⁹⁾

- C830**
- Dovetail Cutter
 - Fresas de cola de milano
 - Fresa Rabo de Andorinha
 - Fraises coniques

C830	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
		6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	10.1												

C830 HSS-E N Z 10-12 $\lambda 0^\circ$ $\gamma 0^\circ$



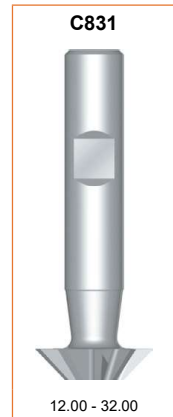
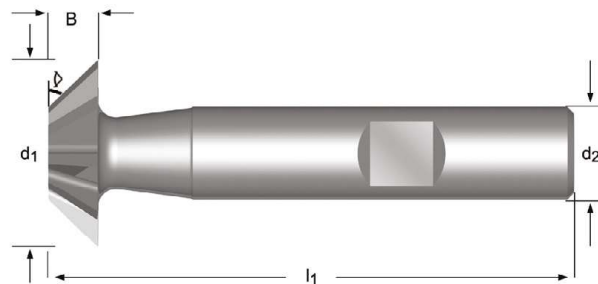
	B mm	d ₁ Ø mm	l ₁ mm	d ₂ Øh ₆ mm	z	C830
45°	3.5	12.0	54	10	10	C83012.0X45
45°	4.0	16.0	60	12	10	C83016.0X45
45°	5.0	20.0	63	12	10	C83020.0X45
45°	6.3	25.0	67	12	10	C83025.0X45
45°	8.0	32.0	71	16	12	C83032.0X45
60°	5.0	12.0	54	10	10	C83012.0X60
60°	6.3	16.0	60	12	10	C83016.0X60
60°	8.0	20.0	63	12	10	C83020.0X60
60°	10.0	25.0	67	12	10	C83025.0X60
60°	12.5	32.0	71	16	12	C83032.0X60


- Inverse Dovetail Cutters
- Fresa para cola de milano invertida
- Fresa Cauda de Andorinha Invertida
- Fraises coniques cône direct

C831

C831	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	10.1												

C831 HSS-E  N  Z 10-12  $\lambda 0^\circ$ $\gamma 0^\circ$    



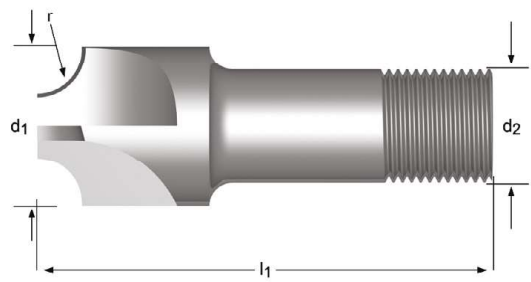
	B mm	d ₁ Ø mm	l ₁ mm	d ₂ Ø _{h_s} mm	z	C831
45°	3.5	12.0	54	10	10	C83112.0X45
45°	4.0	16.0	60	12	10	C83116.0X45
45°	5.0	20.0	63	12	10	C83120.0X45
45°	6.3	25.0	67	12	10	C83125.0X45
45°	8.0	32.0	71	16	12	C83132.0X45
60°	5.0	12.0	54	10	10	C83112.0X60
60°	6.3	16.0	60	12	10	C83116.0X60
60°	8.0	20.0	63	12	10	C83120.0X60
60°	10.0	25.0	67	12	10	C83125.0X60
60°	12.5	32.0	71	16	12	C83132.0X60

C710

- Corner Rounding Cutter
- Fresas frontales de perfil cóncavo
- Fresa p/ Arredondar Arestas
- Fraises concaves

C710	▪	1.1	1.2	1.3	1.4	2.1	2.2	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3	7.1	7.2	7.3
	•	1.5	1.6	2.3	4.3	5.3	6.4	7.4	10.1												

C710	HSS		N	Z 4		$\lambda 0^\circ$ $\gamma 0^\circ$							BS 122/4
------	-----	--	---	--------	--	---------------------------------------	--	--	--	--	--	--	-------------



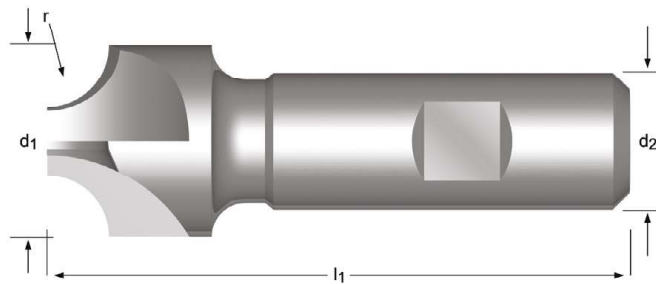
r Inch	d ₁ Ø Inch	d ₂ Øh ₈ Inch	d ₂ Ø mm	l ₁ mm	z	C710
1/16	3/8	3/8	9.53	60.5	4	C7101/16
1/8	1/2	1/2	12.70	60.5	4	C7101/8
5/32	9/16	1/2	12.70	60.5	4	C7105/32
3/16	5/8	5/8	15.88	60.5	4	C7103/16
1/4	7/8	5/8	15.88	63.5	4	C7101/4
3/8	1.1/16	1"	25.40	76.0	4	C7103/8
1/2	1.3/8	1"	25.40	82.5	4	C7101/2

- Corner Rounding Cutter
- Fresas frontales de perfil cóncavo
- Fresa p/ Arredondar Arestas
- Fraises concaves

C700

C700	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	
	6.2	6.3	6.4	7.1	7.2	7.3	7.4	10.1													

C700 HSS-E  N  Z 4-6   $\lambda 0^\circ$ $\gamma 0^\circ$     

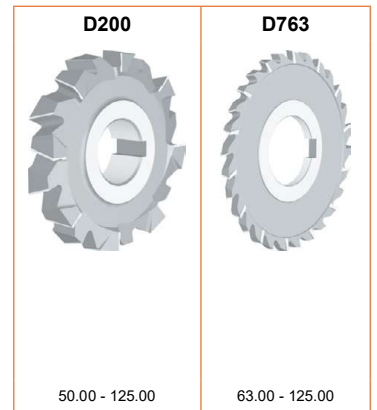
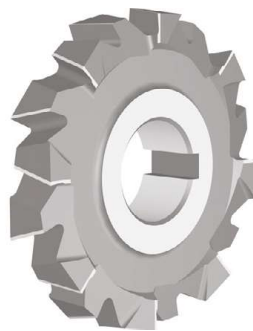
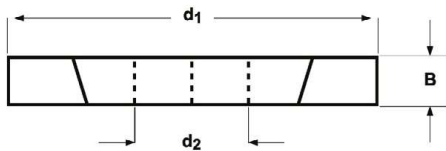


r mm	d ₁ Ø mm	d ₂ Øh ₆ mm	l ₁ mm	z	C700
1.00	10	10	60	4	C7001.0
1.50	10	10	60	4	C7001.5
2.00	10	10	60	4	C7002.0
2.50	10	10	60	4	C7002.5
3.00	12	12	60	4	C7003.0
3.50	12	12	60	4	C7003.5
4.00	15	12	60	4	C7004.0
5.00	18	16	70	4	C7005.0
6.00	21	16	70	4	C7006.0
7.00	24	16	70	4	C7007.0
8.00	24	16	70	4	C7008.0
9.00	28	20	85	4	C7009.0
10.00	28	20	85	4	C70010.0
12.00	35	20	100	4	C70012.0
12.50	35	20	100	4	C70012.5
14.00	42	25	100	4	C70014.0
15.00	48	25	105	5	C70015.0
16.00	48	25	105	5	C70016.0
20.00	60	32	115	6	C70020.0

- D200** • Side and Face Milling Cutter
 • Fresa para ranurar
- D763** • Fresa de Facejamento Lateral
 • Fraise 3 tailles

D200; D763	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2
	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1								

D200	HSS-E			Z 16-30		$\lambda 15^\circ$ $\gamma 10^\circ$			js16		DIN 885A
D763	HSS-E			Z 28-44		$\lambda 15^\circ$ $\gamma 10^\circ$			js16		DIN 885A



d ₁ Ø mm	B mm	d ₂ Ø mm	z	D200	D763
50.00	4.0	16	16	D20050.0X4.0	
50.00	5.0	16	16	D20050.0X5.0	
63.00	1.6	22	32		D76363.0X1.6
63.00	2.0	22	32		D76363.0X2.0
63.00	2.5	22	32		D76363.0X2.5
63.00	3.0	22	28		D76363.0X3.0
63.00	3.5	22	28		D76363.0X3.5
63.00	6.0	22	18	D20063.0X6.0	
63.00	8.0	22	18	D20063.0X8.0	
80.00	10.0	27	18	D20080.0X10.0	
80.00	2.0	27	36		D76380.0X2.0
80.00	2.5	27	36		D76380.0X2.5
80.00	3.0	27	32		D76380.0X3.0
80.00	3.5	27	32		D76380.0X3.5
80.00	6.0	27	20	D20080.0X6.0	
80.00	8.0	27	20	D20080.0X8.0	
100.00	10.0	32	22	D200100.0X10.0	
100.00	12.0	32	20	D200100.0X12.0	
100.00	14.0	32	20	D200100.0X14.0	
100.00	16.0	32	20	D200100.0X16.0	
100.00	2.0	32	44		D763100.0X2.0
100.00	3.0	32	40		D763100.0X3.0
100.00	8.0	32	22	D200100.0X8.0	
125.00	10.0	32	24	D200125.0X10.0	
125.00	12.0	32	22	D200125.0X12.0	
125.00	2.0	32	44		D763125.0X2.0
125.00	3.0	32	44		D763125.0X3.0

- Metal slitting saw Coarse
- Sierras de ranurar o tronzar paso grueso
- Serras Circulares p/ Abertura de Rasgos
- Fraises scies

D745

D745 ■ 1.1 1.2 1.3 1.4 3.1 3.2 3.3 6.1 6.2 6.3 7.1 7.2 7.3 8.1
 • 2.1 2.2

D745

HSS



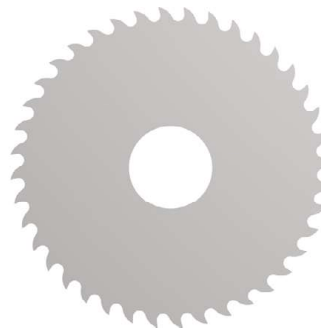
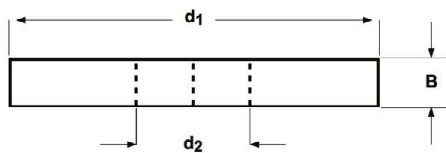
Z
28-100



$\gamma 15^\circ$



DIN
1838



d_1 Ø mm	B mm	d_2 Ø mm	z	D745
50.00	0.5	13	48	D74550.0X.5
50.00	0.6	13	48	D74550.0X.6
50.00	0.8	13	40	D74550.0X.8
50.00	1.0	13	40	D74550.0X1.0
50.00	1.2	13	40	D74550.0X1.2
50.00	1.5	13	32	D74550.0X1.5
50.00	1.6	13	32	D74550.0X1.6
50.00	2.0	13	32	D74550.0X2.0
63.00	0.5	16	64	D74563.0X.5
63.00	0.6	16	48	D74563.0X.6
63.00	0.8	16	48	D74563.0X.8
63.00	1.0	16	48	D74563.0X1.0
63.00	1.2	16	40	D74563.0X1.2
63.00	1.5	16	40	D74563.0X1.5
63.00	1.6	16	40	D74563.0X1.6
63.00	2.0	16	40	D74563.0X2.0
80.00	1.0	22	48	D74580.0X1.0
80.00	1.2	22	48	D74580.0X1.2
80.00	1.5	22	48	D74580.0X1.5
80.00	1.6	22	48	D74580.0X1.6
80.00	2.0	22	40	D74580.0X2.0
80.00	2.5	22	40	D74580.0X2.5
80.00	3.0	22	40	D74580.0X3.0
100.00	1.0	22	64	D745100.0X1.0
100.00	1.2	22	64	D745100.0X1.2
100.00	1.5	22	48	D745100.0X1.5
100.00	1.6	22	48	D745100.0X1.6
100.00	2.0	22	48	D745100.0X2.0
100.00	2.5	22	48	D745100.0X2.5
100.00	3.0	22	40	D745100.0X3.0
100.00	4.0	22	40	D745100.0X4.0
125.00	1.0	22	80	D745125.0X1.0
125.00	1.2	22	64	D745125.0X1.2
125.00	1.5	22	64	D745125.0X1.5
125.00	1.6	22	64	D745125.0X1.6
125.00	2.0	22	64	D745125.0X2.0
125.00	2.5	22	48	D745125.0X2.5
125.00	3.0	22	48	D745125.0X3.0
125.00	4.0	22	48	D745125.0X4.0

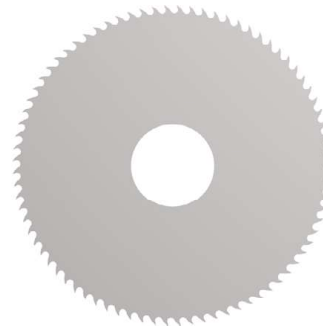
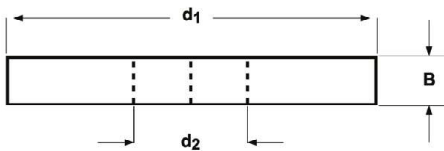
d_1 Ø mm	B mm	d_2 Ø mm	z	D745
160.00	1.6	32	80	D745160.0X1.6
160.00	2.0	32	64	D745160.0X2.0
160.00	2.5	32	64	D745160.0X2.5
160.00	3.0	32	64	D745160.0X3.0
160.00	4.0	32	48	D745160.0X4.0
200.00	1.6	32	80	D745200.0X1.6
200.00	2.0	32	80	D745200.0X2.0
200.00	2.5	32	80	D745200.0X2.5
200.00	3.0	32	64	D745200.0X3.0
200.00	4.0	32	64	D745200.0X4.0
250.00	2.0	32	100	D745250.0X2.0
250.00	2.5	32	80	D745250.0X2.5
250.00	3.0	32	80	D745250.0X3.0

- Metal slitting saw Fine
- Sierras de ranurar o tronzar paso fino
- Serras Circulares p/ Abertura de Rasgos
- Fraises scies

D747

D747 ■ 1.1 1.2 1.3 1.4 3.1 3.2 3.3 6.1 6.2 6.3 7.1 7.2 7.3 8.1
 • 2.1 2.2

D747



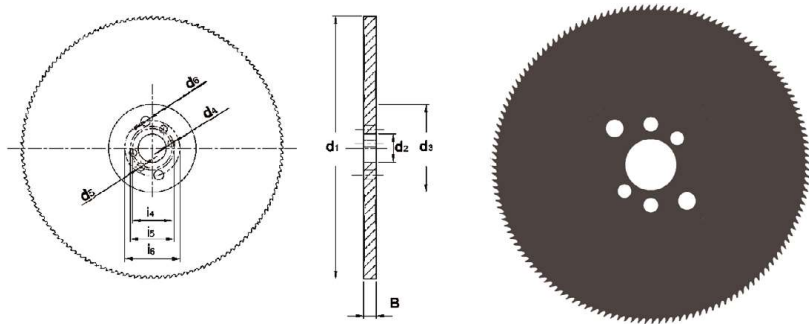
d_1 Ø mm	B mm	d_2 Ø mm	z	D747
32.00	0.3	8	80	D74732.0X.3
32.00	0.4	8	80	D74732.0X.4
32.00	0.5	8	80	D74732.0X.5
32.00	0.6	8	64	D74732.0X.6
32.00	0.8	8	64	D74732.0X.8
32.00	1.0	8	64	D74732.0X1.0
32.00	1.2	8	48	D74732.0X1.2
32.00	1.5	8	48	D74732.0X1.5
32.00	1.6	8	48	D74732.0X1.6
32.00	2.0	8	48	D74732.0X2.0
40.00	0.3	10	100	D74740.0X.3
40.00	0.4	10	100	D74740.0X.4
40.00	0.5	10	80	D74740.0X.5
40.00	0.6	10	80	D74740.0X.6
40.00	0.8	10	80	D74740.0X.8
40.00	1.0	10	64	D74740.0X1.0
40.00	1.2	10	64	D74740.0X1.2
40.00	1.5	10	64	D74740.0X1.5
40.00	1.6	10	64	D74740.0X1.6
40.00	2.0	10	48	D74740.0X2.0
50.00	0.3	13	128	D74750.0X.3
50.00	0.4	13	100	D74750.0X.4
50.00	0.5	13	100	D74750.0X.5
50.00	0.6	13	100	D74750.0X.6
50.00	0.8	13	80	D74750.0X.8
50.00	1.0	13	80	D74750.0X1.0
50.00	1.2	13	80	D74750.0X1.2
50.00	1.5	13	64	D74750.0X1.5
50.00	1.6	13	64	D74750.0X1.6
50.00	2.0	13	64	D74750.0X2.0
50.00	2.5	13	64	D74750.0X2.5
50.00	3.0	13	48	D74750.0X3.0
63.00	0.5	16	128	D74763.0X.5
63.00	0.6	16	100	D74763.0X.6
63.00	0.8	16	100	D74763.0X.8
63.00	1.0	16	100	D74763.0X1.0
63.00	1.2	16	80	D74763.0X1.2

d_1 Ø mm	B mm	d_2 Ø mm	z	D747
63.00	1.5	16	80	D74763.0X1.5
63.00	1.6	16	80	D74763.0X1.6
63.00	2.0	16	80	D74763.0X2.0
63.00	2.5	16	64	D74763.0X2.5
63.00	3.0	16	64	D74763.0X3.0
63.00	4.0	16	64	D74763.0X4.0
80.00	0.5	22	128	D74780.0X.5
80.00	0.6	22	128	D74780.0X.6
80.00	0.8	22	128	D74780.0X.8
80.00	1.0	22	100	D74780.0X1.0
80.00	1.2	22	100	D74780.0X1.2
80.00	1.5	22	100	D74780.0X1.5
80.00	1.6	22	100	D74780.0X1.6
80.00	2.0	22	80	D74780.0X2.0
80.00	2.5	22	80	D74780.0X2.5
80.00	3.0	22	80	D74780.0X3.0
80.00	4.0	22	64	D74780.0X4.0
100.00	0.5	22	160	D747100.0X.5
100.00	0.6	22	160	D747100.0X.6
100.00	0.8	22	128	D747100.0X.8
100.00	1.0	22	128	D747100.0X1.0
100.00	1.2	22	128	D747100.0X1.2
100.00	1.5	22	100	D747100.0X1.5
100.00	1.6	22	100	D747100.0X1.6
100.00	2.0	22	100	D747100.0X2.0
100.00	2.5	22	100	D747100.0X2.5
100.00	3.0	22	80	D747100.0X3.0
100.00	4.0	22	80	D747100.0X4.0
125.00	1.0	22	160	D747125.0X1.0
125.00	1.2	22	128	D747125.0X1.2
125.00	1.5	22	128	D747125.0X1.5
125.00	1.6	22	128	D747125.0X1.6
125.00	2.0	22	128	D747125.0X2.0
125.00	2.5	22	100	D747125.0X2.5
125.00	3.0	22	100	D747125.0X3.0
125.00	4.0	22	100	D747125.0X4.0
160.00	1.0	32	160	D747160.0X1.0
160.00	1.2	32	160	D747160.0X1.2
160.00	1.5	32	160	D747160.0X1.5
160.00	1.6	32	160	D747160.0X1.6
160.00	2.0	32	128	D747160.0X2.0
160.00	2.5	32	128	D747160.0X2.5
160.00	3.0	32	128	D747160.0X3.0
160.00	4.0	32	100	D747160.0X4.0
160.00	5.0	32	100	D747160.0X5.0
200.00	1.0	32	200	D747200.0X1.0
200.00	1.2	32	200	D747200.0X1.2
200.00	2.0	32	160	D747200.0X2.0
200.00	3.0	32	128	D747200.0X3.0

- D752** • Metal slitting saw Coarse
 • Sierras de ranurar o tronzar paso grueso
- D753** • Serras Circulares p/ Abertura de Rasgos
 • Fraises scies

D752; D753	■	1.1	1.2	1.3	1.4	3.1	3.2	3.3	6.1	6.2	6.3	7.1	7.2	7.3	8.1	
	•	2.1	2.2													

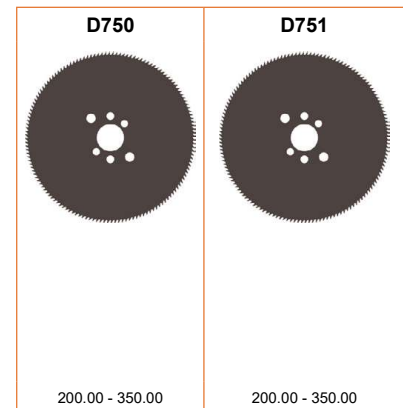
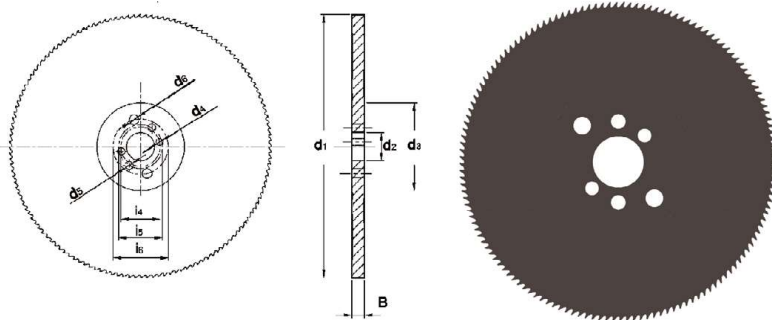
D752	HSS			Z 80-180		$\gamma 18^\circ$					
D753	HSS			Z 100-140		$\gamma 18^\circ$					



d_1 Ø mm	B mm	d_2 Ø mm	z	P mm	d_3 Ø mm	d_4 Ø mm	i_4 mm	d_5 Ø mm	i_5 mm	d_6 Ø mm	i_6 mm	D752	D753
250	2.0	32	100	8	100	8	45	9	50	11	63		D753250.0X2.0
250	2.0	32	128	6	100	8	45	9	50	11	63	D752250.0X2.0X128	
275	2.5	32	110	8	100	8	45	9	50	11	63	D752275.0X2.5X110	
300	2.5	32	120	8	100	8	45	9	50	11	63		D753300.0X2.5
300	2.5	32	160	6	100	8	45	9	50	11	63	D752300.0X2.5X160	
315	2.5	32	120	8	100	8	45	9	50	11	63		D753315.0X2.5
315	2.5	32	160	6	100	8	45	9	50	11	63	D752315.0X2.5X160	
350	2.5	32	140	8	120	8	45	9	50	11	63		D753350.0X2.5
350	2.5	32	180	6	120	8	45	9	50	11	63	D752350.0X2.5X180	

- D750** • Metal slitting saw Coarse
 • Sierras de ranurar o tronzar paso grueso
- D751** • Serras Circulares p/ Abertura de Rasgos
 • Fraises scies

D750; D751	▪	1.1	1.2	1.3	1.4	3.1	3.2	3.3	6.1	6.2	6.3	7.1	7.2	7.3	8.1	
	•	2.1	2.2													

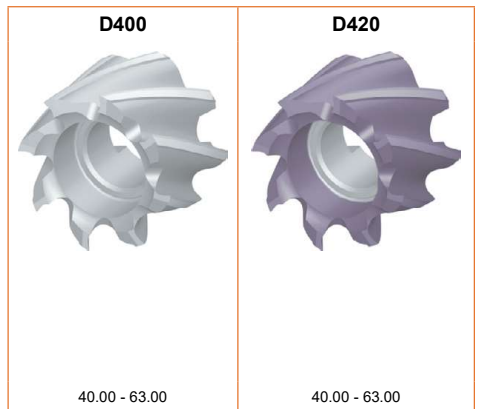
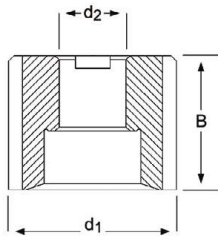


d ₁ Ø mm	B mm	d ₂ Ø mm	z	P mm	d ₃ Ø mm	d ₄ Ø mm	i ₄ mm	d ₅ Ø mm	i ₅ mm	d ₆ Ø mm	i ₆ mm	D750	D751
200	1.8	32	130	5	100	8	45	9	50	11	63	D750200.0X1.8	
200	1.8	32	160	4	100	8	45	9	50	11	63		D751200.0X1.8X160
200	1.8	32	200	3	100	8	45	9	50	11	63		D751200.0X1.8X200
225	2.0	32	140	5	100	8	45	9	50	11	63	D750225.0X2.0	
225	2.0	32	180	4	100	8	45	9	50	11	63		D751225.0X2.0X180
225	2.0	32	220	3	100	8	45	9	50	11	63		D751225.0X2.0X220
250	2.0	32	160	5	100	8	45	9	50	11	63	D750250.0X2.0	
250	2.0	32	200	4	100	8	45	9	50	11	63		D751250.0X2.0X200
250	2.0	32	250	3	100	8	45	9	50	11	63		D751250.0X2.0X250
275	2.5	32	180	5	100	8	45	9	50	11	63	D750275.0X2.5	
275	2.5	32	220	4	100	8	45	9	50	11	63		D751275.0X2.5X220
275	2.5	32	280	3	100	8	45	9	50	11	63		D751275.0X2.5X280
300	2.5	32	180	5	100	8	45	9	50	11	63	D750300.0X2.5	
300	2.5	32	220	4	100	8	45	9	50	11	63		D751300.0X2.5X220
300	2.5	32	300	3	100	8	45	9	50	11	63		D751300.0X2.5X300
315	2.5	32	200	5	100	8	45	9	50	11	63	D750315.0X2.5	
315	2.5	32	240	4	100	8	45	9	50	11	63		D751315.0X2.5X240
315	2.5	32	320	3	100	8	45	9	50	11	63		D751315.0X2.5X320
350	2.5	32	220	5	120	8	45	9	59	11	63	D750350.0X2.5	
350	2.5	32	280	4	120	8	45	9	50	11	63		D751350.0X2.5X280
350	2.5	32	350	3	120	8	45	9	50	11	63		D751350.0X2.5X350

- D400** • Shell End Mill
• Fresas frontales con agujero
- D420** • Fresas de Acabamento Tipo Tacho
• Fraises 2 tailles finition

D400	▪	1.1	1.2	1.3	1.4	2.1	2.3	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3	7.2	7.3			
	•	1.5	1.6	2.2	4.2	4.3	5.2	5.3	6.4	7.1	7.4	8.1	8.2	8.3	10.1						
D420	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1
		6.2	6.3	6.4	7.2	7.3	7.4	8.1	10.1												
	•	7.1	8.2	8.3																	

D400	HSS-E		N	Z 8-12		$\lambda 30^\circ$ $\gamma 12^\circ$			js16		DIN 1880
D420	HSS-E		N	Z 8-12		$\lambda 30^\circ$ $\gamma 12^\circ$		js16		DIN 1880	

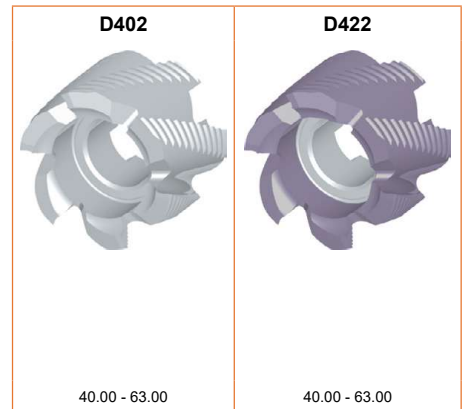
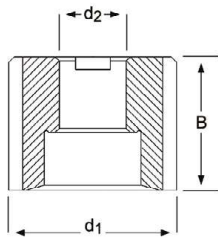


d_1 Ø mm	B mm	d_2 Ø mm	z	D400	D420
40.00	32	16	8	D40040.0	D42040.0
50.00	36	22	8	D40050.0	D42050.0
63.00	40	27	8	D40063.0	D42063.0

- D402** • Roughing Shell End Mill
• Fresas frontales con agujero de desbaste
- D422** • Fresa de Desbaste Tipo Tacho
• Fraises 2 tailles finition

D402	▪	1.1	1.2	1.3	1.4	2.1	2.3	3.1	3.2	3.3	3.4	4.1	5.1	6.1	6.2	6.3	7.2	7.3			
	•	1.5	1.6	2.2	4.2	4.3	5.2	5.3	6.4	7.1	7.4	8.1	8.2	8.3	10.1						
D422	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1
	▪	6.2	6.3	6.4	7.2	7.3	7.4	8.1	10.1												
	•	7.1	8.2	8.3																	

D402	HSS-E		NR	Z 6-10		$\lambda 30^\circ$ $\gamma 12^\circ$		js16		DIN 1880
D422	HSS-E		NR	Z 6-10		$\lambda 30^\circ$ $\gamma 12^\circ$	TiCN	js16		DIN 1880



d_1 Ø mm	B mm	d_2 Ø mm	z	D402	D422
40.00	32	16	6	D40240.0	D42240.0
50.00	36	22	6	D40250.0	D42250.0
63.00	40	27	8	D40263.0	D42263.0

