

<b>C110</b>	443	<b>C831</b>	482	<b>S525</b>	417	<b>S813HA</b>	394
<b>C122</b>	454	<b>C835</b>	480	<b>S526</b>	418	<b>S813HB</b>	394
<b>C123</b>	445	<b>C837</b>	479	<b>S527</b>	419	<b>S814HA</b>	408
<b>C126</b>	443	<b>C907</b>	456	<b>S529</b>	433	<b>S814HB</b>	408
<b>C135</b>	447	<b>C908</b>	466	<b>S531</b>	434	<b>S822</b>	392
<b>C139</b>	445	<b>C920</b>	457	<b>S533</b>	435	<b>S823</b>	395
<b>C159</b>	451	<b>C922</b>	463	<b>S534</b>	437	<b>S902</b>	397
<b>C167</b>	453	<b>C948</b>	467	<b>S535</b>	438	<b>S903</b>	399
<b>C246</b>	458	<b>D200</b>	485	<b>S536</b>	429	<b>S904</b>	412
<b>C247</b>	458	<b>D400</b>	492	<b>S610</b>	404	<b>S922</b>	397
<b>C273</b>	460	<b>D402</b>	493	<b>S611</b>	405	<b>S933</b>	399
<b>C295</b>	460	<b>D420</b>	492	<b>S612</b>	410	<b>S944</b>	412
<b>C299</b>	456	<b>D422</b>	493	<b>S629</b>	440	<b>S991</b>	442
<b>C305</b>	450	<b>D745</b>	486	<b>S637</b>	402		
<b>C306</b>	448	<b>D747</b>	488	<b>S638</b>	403		
<b>C333</b>	462	<b>D750</b>	491	<b>S710</b>	396		
<b>C336</b>	452	<b>D751</b>	491	<b>S713</b>	398		
<b>C346</b>	455	<b>D752</b>	490	<b>S714</b>	400		
<b>C352</b>	450	<b>D753</b>	490	<b>S715</b>	401		
<b>C353</b>	448	<b>D763</b>	485	<b>S716</b>	409		
<b>C367</b>	449	<b>S216</b>	411	<b>S717</b>	413		
<b>C400</b>	468	<b>S217</b>	413	<b>S718</b>	414		
<b>C403</b>	469	<b>S218</b>	414				

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<b>C407</b>	466	<b>S219</b>	407	<b>S739</b>	441
<b>C413</b>	468	<b>S225</b>	417	<b>S740</b>	441
<b>C428</b>	464	<b>S226</b>	418	<b>S761</b>	415
<b>C492</b>	465	<b>S227</b>	419	<b>S763</b>	425
<b>C500</b>	470	<b>S229</b>	430	<b>S765</b>	420
<b>C505</b>	471	<b>S231</b>	431	<b>S766</b>	416
<b>C700</b>	484	<b>S233</b>	432	<b>S767</b>	428
<b>C710</b>	483	<b>S260</b>	415	<b>S802HA</b>	390
<b>C800</b>	472	<b>S262</b>	426	<b>S802HB</b>	390
<b>C801</b>	475	<b>S264</b>	421	<b>S803HA</b>	393
<b>C810</b>	473	<b>S501</b>	436	<b>S803HB</b>	393
<b>C820</b>	477	<b>S511</b>	439	<b>S804HA</b>	406
<b>C822</b>	476	<b>S521</b>	423	<b>S804HB</b>	406
<b>C825</b>	474	<b>S523</b>	424	<b>S812HA</b>	391
<b>C830</b>	481	<b>S524</b>	422	<b>S812HB</b>	391

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	Ángulo de la hélice/ Ángulo 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
■ Excellent for Application	Excelente para la Aplicación	Excelente para a Aplicação	Excellent pour les applications
● Good for Application	Bueno para la Aplicación	Bom para a Aplicação	Acceptable pour les applications
Example 10 = Peripheral speed in metres/minute +/- 10%	Ejemplo 10 = Velocidad Periférica en metros/ minuto +/- 10%	Exemplo 10 = velocidade periférica em metros / minuto + / - 10%	Exemple 10 = Vitesse périphérique en mètres/ minute +/- 10%
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 + Martensílico	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)	Cermetales (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 <sub>2</sub>	Z <sub>2</sub>	Z <sub>2</sub>	Z <sub>2</sub>	Z <sub>2</sub>	Z <sub>3</sub>	Z <sub>3</sub>	Z <sub>3</sub>	Z <sub>3</sub>	Z <sub>2</sub>	Z <sub>2</sub>	Z <sub>2</sub>	Z <sub>3</sub>	Z <sub>3</sub>	Z <sub>3</sub>		
	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 28° γ 9°	λ 40° γ 10°	λ 30° γ 12°	λ 30° γ 12°	λ 40° γ 10°	λ 30° γ 12°		
	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		
	Alcrona	Alcrona	Alcrona	Alcrona	Alcrona	Alcrona	Alcrona	Alcrona	Alcrona	Alcrona	AlCrN	TiAlN	AlCrN	TiAlN	TiAlN		
											h9	h10	h10	h9	h10		
	DIN 6527K	DIN 6527K	DIN 6527L	DIN 6527L	DIN 6527L	DIN 6527K	DIN 6527K	DIN 6527L	DIN 6527L	DIN 6527L	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	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	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	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 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HB
	AlCrN	AlCrN	Hi	Hi	Hi	Hi	Alcrona	Alcrona	AlTiN	Alcrona	Alcrona	AlCrN	Diamond	AlTiN		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		■90C		●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			■70B		
2.4							●75A	●75A	■50B					■50B		
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					■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					■50B	●25A	●35A
6.1	●200E	●125E	■350E	■400E	■350E	■280E	●320C	●320C		●255C	●255C				■110C	■155C
6.2	●190E	●115E	■300E	■345E	■300E	■240E	■320C	■320C		■255C	■255C				■110C	■155C
6.3	●175E	●110E	■250E	■290E	■250E	■200E	■320C	■320C		■255C	■255C				■110C	■155C
6.4	●160E	●100E	■200E	■230E	■200E	■160E	■40B	■40B		■32C	■32C				●15B	●20B
7.1	●200E	●125E	■600E	■690E	■600E	■480E	●800C	●800C		●640C	●640C				●275C	●390C
7.2	●190E	●115E	■500E	■575E	■500E	■400E	●800C	●800C		●640C	●640C				●275C	●390C
7.3	●175E	●110E	■400E	■460E	■400E	■320E	●480C	●480C		●380C	●380C				●165C	●235C
7.4	●160E	●100E	■350E	■400E	■350E	■280E	●240B	●240B		●190B	●190B					
8.1			■800E	■980E	■800E	■640E	●320C	●320C		●255C	●255C				●110C	●155C
8.2			■800E	■980E	■800E	■640E	●320C	●320C		●255C	●255C				●110C	●155C
8.3															●55B	●80B
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 <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>6-8</sub>	Z <sub>6-8</sub>	Z <sub>6-8</sub>	Z <sub>6-8</sub>	Z <sub>6-8</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>	Z <sub>4</sub>		
	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 3^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 3^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 4^\circ$	$\lambda \neq$ $\gamma 10^\circ$	$\lambda 50^\circ$ $\gamma 3^\circ$	$\lambda 50^\circ$ $\gamma 26^\circ$	$\lambda 50^\circ$ $\gamma 3^\circ$	$\lambda 50^\circ$ $\gamma 26^\circ$	$\lambda 50^\circ$ $\gamma 3^\circ$	$\lambda 50^\circ$ $\gamma 26^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 4^\circ$	$\lambda 40^\circ$ $\gamma 6^\circ$	$\lambda 45^\circ$ $\gamma 10^\circ$	
	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	AlTiN	AiCn	AlTiN	AiCn	AiCn	TiSiN	AlTiN	TiSiN	AlTiN	TiSiN	AlTiN	TiSiN	AiCn	AiCn	TiSiN	TiSiN	
	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	
	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	
	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					■140D				P 1
1.2	■110C		■70C		■140D		■140D		■140D					■140D				P 1
1.3	■100C		■65C		■130D		■130D		■130D					■130D				P 2
1.4	■100C		■65C		■130D		■130D		■130D					■130D				P 3
1.5	■95C		■60C		■120D		■120D		■120D					■120D				P 4
1.6		■72C		■45C		■110D		■90C		■72C		■45C			■110D			H 1
1.7					■85B			■70A		■56A		■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	HM	
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	W	N	N	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 4	Z 4	Z 4	Z 2	Z 2	Z 2	Z 2	
	$\lambda 40^\circ$ $\gamma -6^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 4^\circ$	$\lambda \neq 40^\circ$ $\gamma 10^\circ$	$\lambda 25^\circ$ $\gamma 0^\circ$	$\lambda 30^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma 3^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma 10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma -10^\circ$	$\lambda 30^\circ$ $\gamma 10^\circ$	$\lambda 30^\circ$ $\gamma 15^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	$\lambda 40^\circ$ $\gamma 10^\circ$	
	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	DIN 6535HA	
	TiSiN	AlCrN	AlCrN	TiSiN	TiSiN	TiSiN	TiSiN	TiSiN	TiSiN	TiSiN	TiSiN	X-CEED	TiSiN	TiSiN	X-CEED	Hi	AlTiN	AlTiN	
	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	
	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	
	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			■153B		■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				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



S991  
Set

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	N	W	W	
Z 2	Z 2	Z 2	Z 2	Z 2	Z 3	Z 3	Z 3	Z 3	Z 3	Z 3	Z 2	Z 3	
$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 40^\circ$ $\gamma 15^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 40^\circ$ $\gamma 20^\circ$	$\lambda 40^\circ$ $\gamma 25^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$
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	e8	k10	js14

<b>C110</b>	<b>C126</b>	<b>C123</b>	<b>C139</b>	<b>C135</b>	<b>C306</b>	<b>C353</b>	<b>C367</b>	<b>C305</b>	<b>C352</b>	<b>C159</b>	<b>C336</b>	<b>C167</b>
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	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	●24D	■35D			●25D	S 2	
4.3		●15D		●15D			●20D		●15D	●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	●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	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	
				Alcrona	Alcrona		TiCN		TiCN		Alcrona	Alcrona	Alcrona	
	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	
	<b>C122</b>	<b>C346</b>	<b>C299</b>	<b>C907</b>	<b>C920</b>	<b>C247</b>	<b>C246</b>	<b>C273</b>	<b>C295</b>	<b>C333</b>	<b>C922</b>	<b>C428</b>	<b>C492</b>	
	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	
<b>AMG</b>	<b>454</b>	<b>455</b>	<b>456</b>	<b>456</b>	<b>457</b>	<b>458</b>	<b>458</b>	<b>460</b>	<b>460</b>	<b>462</b>	<b>463</b>	<b>464</b>	<b>465</b>	<b>ISO</b>
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				■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	■57V	■85V	■35V	●25V	■35V	●20V	■30V		■35J	■37J	■34J	S 2
4.3			■10V	■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		■10J	■11J	■10J	S 3
6.1	■112C	■70C				■80U	■170U	■70U	■155U	■90C				N 3
6.2	■112C	■70C	■100U	■190U	■170U	■80U	■170U	■70U	■155U	■90C	■190I	■190I	■170I	N 4
6.3	■112C	■70C				■80U	■170U	■70U	■155U	■90C				N 3
6.4							●25U		●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		■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	
	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 35^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 15^\circ$ $\gamma 10^\circ$	$\lambda 12^\circ$ $\gamma 10^\circ$	$\lambda 15^\circ$ $\gamma 15^\circ$	
	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835 B	DIN 1835D	DIN 1835B	
	k12	k12	k12	k12	k12	k12	e8	e8	d11	d11	js16	
	DIN 844K	DIN 844K	DIN 844L	DIN 844K	DIN 844K	DIN 844L	DIN 327D	DIN 844K	DIN 851	DORMER	DORMER	
	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	●40I	■25I			■20N	●10N	■15N	P 4
1.6	●10I	●24I	■21I	●20I	●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	
	DIN 1835B	DIN 1835 D	DIN 1835D	DIN 1835D	DIN 1835D	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	DIN 1835B	
	DIN 851	DIN 850	DORMER	DORMER	DORMER	DIN 1833C	DIN 1833D	BS 122/4	DORMER	DIN 885A	
	<b>C801</b>	<b>C822</b>	<b>C820</b>	<b>C837</b>	<b>C835</b>	<b>C830</b>	<b>C831</b>	<b>C710</b>	<b>C700</b>	<b>D200</b>	
	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	■40P	■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	■25O	■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	●5O	■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	Z 8-12	N
	$\lambda 15^\circ$ $\gamma 10^\circ$	$\gamma 15^\circ$	$\gamma 5^\circ$	$\gamma 18^\circ$	$\gamma 18^\circ$	$\gamma 18^\circ$	$\gamma 18^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	
	js16			ST	ST	ST	ST	js16	
	DIN 885A	DIN 1838	DIN 1837	DORMER	DORMER	DORMER	DORMER	DIN 1880	
	<b>D763</b>	<b>D745</b>	<b>D747</b>	<b>D752</b>	<b>D753</b>	<b>D750</b>	<b>D751</b>	<b>D400</b>	
	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

	<b>HSS-E</b>	<b>HSS-E</b>	<b>HSS-E</b>
	<b>N</b>	<b>NR</b>	<b>NR</b>
	<b>Z</b> 8-12	<b>Z</b> 6-10	<b>Z</b> 6-10
	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$	$\lambda 30^\circ$ $\gamma 12^\circ$
	<b>js16</b>	<b>js16</b>	<b>js16</b>
	<b>DIN 1880</b>	<b>DIN 1880</b>	<b>DIN 1880</b>
	<b>D420</b>	<b>D402</b>	<b>D422</b>
	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


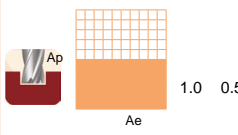
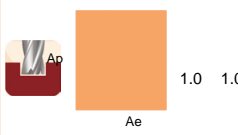
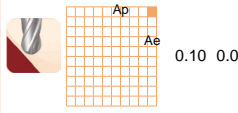
**HM**

Z	Z	Z	Z	Z	Ae	Ap	fz	∅ [mm]	fz [mm/Z] ± 25 %				
1	2	3	4	>4	(x ∅)	(x ∅)							
					0.05	1.5		∅	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
					0.08	1.5		∅	1 2 3 4 5 6 8 10 12 14 16 18 20				
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	0.129
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
					0.15	1.5		∅	1 2 3 4 5 6 8 10 12 14 16 18 20				
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	0.095
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
					0.30	1.5		∅	1 2 3 4 5 6 8 10 12 14 16 18 20				
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	0.070
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
					0.60	1.5		∅	1 2 3 4 5 6 8 10 12 14 16 18 20				
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	0.053
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

Z	Z	Z	Z	Z	A <sub>e</sub> (x Ø)	A <sub>p</sub> (x Ø)	 fz	Ø [mm]	fz [mm/Z] ± 25 %													
1	2	3	4	>4				Ø	1	2	3	4	5	6	8	10	12	14	16	18	20	
■	■	■							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
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HSS HSS-E HSS-E PM

Z 2	Z 3	Z 4	Z >4	Ø	Ae (x Ø)	Ap (x Ø)		Ø [mm] fz [mm/Z] ± 25 %																								
								1	2	3	4	5	6	8	10	12	14	16	18	20	22	25	28	30	32	36	40	50				
■	●		Ap Ae	1.0 - 0.2 - 0.5	A	0.004	0.008	0.013	0.017	0.024	0.029	0.043	0.060	0.072	0.084	0.096	0.097	0.096	0.099	0.105	0.109	0.108	0.106	0.108	0.108	0.105						
					B	0.004	0.007	0.012	0.015	0.022	0.026	0.039	0.054	0.065	0.076	0.086	0.087	0.086	0.089	0.095	0.098	0.097	0.095	0.097	0.097	0.095	0.097	0.097	0.095			
					C	0.003	0.006	0.011	0.014	0.019	0.023	0.035	0.049	0.058	0.068	0.078	0.079	0.078	0.080	0.085	0.088	0.087	0.086	0.087	0.087	0.086	0.087	0.087	0.085	0.087	0.087	0.085
					D	0.004	0.007	0.011	0.014	0.020	0.024	0.037	0.051	0.061	0.071	0.081	0.082	0.081	0.084	0.089	0.099	0.091	0.097	0.091	0.101	0.097	0.091	0.101	0.101	0.091	0.101	0.101
					E	0.007	0.012	0.018	0.024	0.035	0.042	0.063	0.087	0.105	0.122	0.140	0.141	0.140	0.144	0.153	0.171	0.157	0.168	0.157	0.175	0.168	0.157	0.175	0.175	0.157	0.175	0.175
					F	0.007	0.009	0.013	0.018	0.021	0.025	0.033	0.041	0.050	0.055	0.064	0.072	0.079	0.079	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
■	■		Ap Ae	0.05 1.0 - 0.15 2.0	G					0.026	0.034	0.036	0.043	0.050	0.057	0.064	0.071	0.071	0.054	0.053	0.054	0.053	0.056	0.057	0.060	0.056	0.057	0.060				
					H					0.023	0.031	0.032	0.039	0.045	0.051	0.058	0.064	0.064	0.049	0.048	0.049	0.048	0.048	0.048	0.050	0.051	0.054	0.050	0.051	0.054		
					I					0.021	0.028	0.029	0.035	0.041	0.046	0.052	0.058	0.058	0.044	0.043	0.044	0.043	0.043	0.043	0.045	0.046	0.049	0.045	0.046	0.049		
					J					0.024	0.031	0.033	0.039	0.046	0.052	0.059	0.065	0.065	0.049	0.049	0.049	0.049	0.049	0.049	0.051	0.052	0.055	0.051	0.052	0.055		
					K					0.035	0.047	0.065	0.079	0.092	0.105	0.088	0.098	0.097	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110
					L					0.010	0.013	0.017	0.020	0.025	0.028	0.030	0.032	0.033	0.034	0.036	0.038	0.039	0.040	0.042	0.042	0.040	0.042	0.042	0.040	0.042	0.042	
■	■	●		Ap Ae	0.15 1.0 - 0.30 1.5	M	0.008	0.012	0.018	0.023	0.031	0.041	0.057	0.069	0.080	0.091	0.103	0.114	0.090	0.103	0.085	0.091	0.097	0.110	0.107	0.086	0.110	0.107	0.086			
						N	0.007	0.011	0.016	0.021	0.028	0.037	0.051	0.062	0.072	0.082	0.093	0.103	0.081	0.093	0.077	0.082	0.087	0.099	0.096	0.077	0.099	0.096	0.077			
						O	0.006	0.010	0.015	0.019	0.025	0.033	0.046	0.056	0.065	0.074	0.083	0.092	0.073	0.083	0.069	0.074	0.079	0.089	0.087	0.070	0.089	0.087	0.070			
						P	0.007	0.010	0.016	0.020	0.027	0.035	0.049	0.059	0.069	0.079	0.088	0.098	0.078	0.088	0.073	0.079	0.084	0.094	0.092	0.074	0.094	0.092	0.074			
						Q	0.009	0.014	0.021	0.026	0.036	0.048	0.066	0.079	0.092	0.106	0.089	0.099	0.098	0.111	0.111	0.119	0.127	0.143	0.139	0.148	0.143	0.139	0.148			
						R	0.012	0.016	0.020	0.025	0.029	0.038	0.047	0.056	0.065	0.073	0.083	0.092	0.092	0.092	0.092	0.092	0.092	0.104	0.104	0.108	0.108	0.108	0.108			
■		Ap Ae	0.3 0.5 - 0.8 1.5	S	0.010	0.015	0.023	0.029	0.039	0.051	0.071	0.086	0.100	0.114	0.129	0.143	0.113	0.129	0.107	0.114	0.122	0.137	0.133	0.107	0.137	0.133	0.107					
				T	0.009	0.014	0.021	0.026	0.035	0.046	0.064	0.077	0.090	0.103	0.116	0.129	0.102	0.116	0.096	0.103	0.110	0.123	0.120	0.096	0.123	0.120	0.096					
				U	0.008	0.012	0.019	0.023	0.032	0.041	0.058	0.070	0.081	0.092	0.104	0.116	0.092	0.104	0.087	0.092	0.099	0.111	0.108	0.087	0.111	0.108	0.087					
				V	0.009	0.013	0.020	0.025	0.033	0.044	0.061	0.074	0.086	0.098	0.110	0.123	0.097	0.110	0.092	0.098	0.105	0.118	0.115	0.092	0.118	0.115	0.092					
				X	0.012	0.017	0.026	0.033	0.045	0.059	0.082	0.099	0.115	0.132	0.111	0.124	0.122	0.139	0.139	0.148	0.158	0.178	0.173	0.186	0.178	0.173	0.186					
				Y	0.015	0.020	0.025	0.031	0.036	0.047	0.059	0.070	0.081	0.092	0.104	0.115	0.115	0.115	0.115	0.115	0.115	0.130	0.130	0.136	0.136	0.136	0.136					

■ Excellent  
Excelente  
Excelente  
Excellent

● Good  
Bueno  
Bon  
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
<b>C800</b> <b>C801</b> <b>C810</b> <b>C820</b> <b>C822</b> <b>C825</b>		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
<b>C830</b> <b>C835</b> <b>C837</b> <b>C831</b>		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
<b>C700</b> <b>C710</b>		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
<b>D745</b> <b>D747</b> <b>D750</b> <b>D751</b> <b>D752</b> <b>D753</b>		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

Ø	fz	Ø [mm] fz [mm/Z] ± 25 %															
		10	12	16	20	25	32	38	50	63	80	100	125	160	200	300	350
<b>D200</b> <b>D763</b>		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										
<b>D402</b> <b>D422</b>		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											
<b>D400</b> <b>D420</b>		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											

 <b>D750</b> <b>D751</b> <b>D752</b> <b>D753</b>	<b>Tooth Pitch Choice</b> <b>Elección De Paso De Dientes</b> <b>Escolha do Passo do Dente</b> <b>Choix du pas ( nombre de dents )</b>									
	 <b>t (mm)</b>						 <b>Ø (mm)</b>			
	<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	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

	<b>Hollow tube</b> <b>Tubo Hueco</b> <b>Tubo</b> <b>Tube creux</b>		<b>Solid section</b> <b>Barra Maciza</b> <b>Varão Maciço</b> <b>Tube plein</b>
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## S802HA

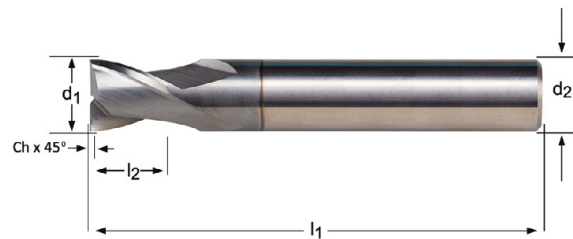
- Slot Drill
- Fresas de ranurar

## 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								

<b>S802HA</b>	HM		N	Z 2		$\lambda$ 28° $\gamma$ 9°	DIN 6535HA				DIN 6527K
<b>S802HB</b>	HM		N	Z 2		$\lambda$ 28° $\gamma$ 9°	DIN 6535HB				DIN 6527K

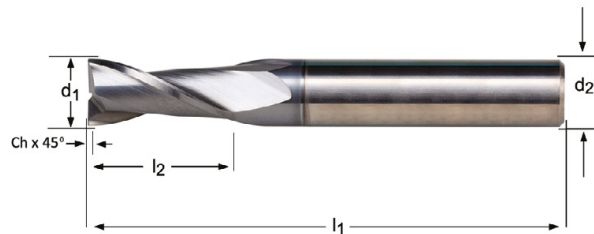


$d_1$ Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	S802HA	S802HB
1.00	-	3	3	38	2	S802HA1.0	
1.50	-	3	3	38	2	S802HA1.5	
2.00	-	6	3	50	2	S802HA2.0	S802HB2.0
2.50	0.08	6	3	50	2	S802HA2.5	S802HB2.5
3.00	0.08	6	4	50	2	S802HA3.0	S802HB3.0
3.50	0.08	6	4	50	2	S802HA3.5	S802HB3.5
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	S802HB8.0 <sup>1)</sup>
9.00	0.20	10	10	66	2	S802HA9.0	S802HB9.0 <sup>1)</sup>
10.00	0.20	10	11	66	2	S802HA10.0	S802HB10.0 <sup>1)</sup>
12.00	0.20	12	12	73	2	S802HA12.0	S802HB12.0 <sup>1)</sup>
14.00	0.20	14	14	75	2	S802HA14.0	S802HB14.0 <sup>1)</sup>
16.00	0.20	16	16	82	2	S802HA16.0	S802HB16.0 <sup>1)</sup>
18.00	0.20	18	18	84	2	S802HA18.0	S802HB18.0 <sup>1)</sup>
20.00	0.30	20	20	92	2	S802HA20.0	S802HB20.0 <sup>1)</sup>

**S812HA** • Slot Drill  
**S812HB** • 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							

<b>S812HA</b>	HM		N	Z 2		$\lambda$ 28° $\gamma$ 9°	DIN 6535HA			DIN 6527L
<b>S812HB</b>	HM		N	Z 2		$\lambda$ 28° $\gamma$ 9°	DIN 6535HB			DIN 6527L



d <sub>1</sub> Ø mm	Ch ±0.03x45° mm	d <sub>2</sub> Øh <sub>8</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> 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 <sup>1)</sup>
9.00	0.20	10	16	72	2	S812HA9.0	S812HB9.0 <sup>1)</sup>
10.00	0.20	10	19	72	2	S812HA10.0	S812HB10.0 <sup>1)</sup>
12.00	0.20	12	22	83	2	S812HA12.0	S812HB12.0 <sup>1)</sup>
14.00	0.20	14	22	83	2	S812HA14.0	S812HB14.0 <sup>1)</sup>
16.00	0.20	16	26	92	2	S812HA16.0	S812HB16.0 <sup>1)</sup>
18.00	0.20	18	26	92	2	S812HA18.0	S812HB18.0 <sup>1)</sup>
20.00	0.30	20	32	104	2	S812HA20.0	S812HB20.0 <sup>1)</sup>



<sup>1)</sup> Ch ±0.05x45° mm

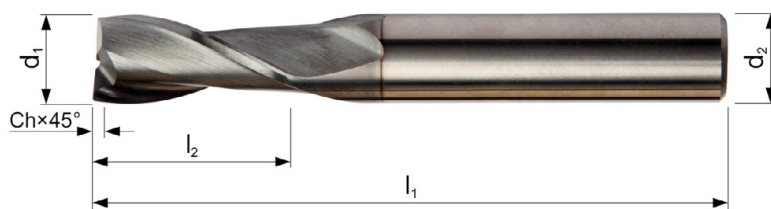


## S822

- 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** **P9** **N** **Z 2**   $\lambda 28^\circ$   $\gamma 9^\circ$  **DIN 6535HA** **Alcrona** 



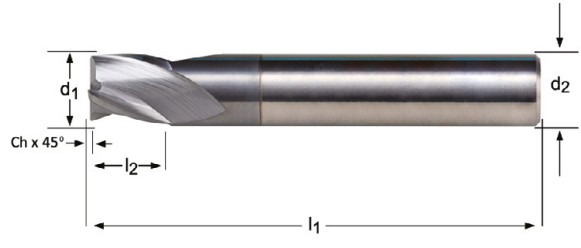
$d_1$ $\varnothing$ mm	Ch $\pm 0.03 \times 45^\circ$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	z	S822
2.00	-	6	8	57	2	S8222.0
2.50	0.08	6	12	57	2	S8222.5
3.00	0.08	6	12	57	2	S8223.0
4.00	0.13	6	14	57	2	S8224.0
5.00	0.13	6	16	57	2	S8225.0
6.00	0.13	6	19	57	2	S8226.0
7.00	0.13	8	19	63	2	S8227.0
8.00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

<sup>1)</sup> Ch  $\pm 0.05 \times 45^\circ$  mm  
392

**S803HA** • Slot Drill  
**S803HB** • 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								

<b>S803HA</b>	HM		N	Z 3		$\lambda$ 28° $\gamma$ 9°	DIN 6535HA	Alcrona			DIN 6527K
<b>S803HB</b>	HM		N	Z 3		$\lambda$ 28° $\gamma$ 9°	DIN 6535HB	Alcrona			DIN 6527K



d <sub>1</sub> Ø mm	Ch ±0.03x45° mm	d <sub>2</sub> Ø <sub>h6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> 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	<sup>1)</sup> S803HB8.0
9.00	0.20	10	10	66	3	S803HA9.0	<sup>1)</sup> S803HB9.0
9.70	0.20	10	11	66	3		<sup>1)</sup> S803HB9.7
10.00	0.20	10	11	66	3	S803HA10.0	<sup>1)</sup> S803HB10.0
11.70	0.20	12	12	73	3		<sup>1)</sup> S803HB11.7
12.00	0.20	12	12	73	3	S803HA12.0	<sup>1)</sup> S803HB12.0
14.00	0.20	14	14	75	3	S803HA14.0	<sup>1)</sup> S803HB14.0
16.00	0.20	16	16	82	3	S803HA16.0	<sup>1)</sup> S803HB16.0
18.00	0.20	18	18	84	3	S803HA18.0	<sup>1)</sup> S803HB18.0
20.00	0.30	20	20	92	3	S803HA20.0	<sup>1)</sup> S803HB20.0

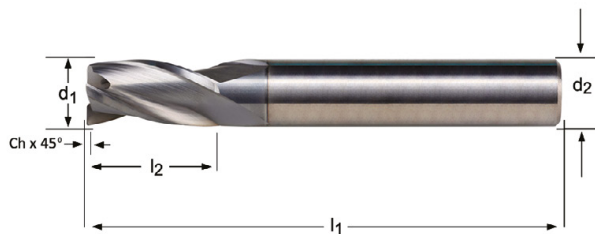
<sup>1)</sup> Ch ±0.05x45° mm

## S813HA S813HB

- Slot Drill
- Fresas de ranurar
- 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° $\gamma$ 9°	DIN 6535HA	Alcrona		DIN 6527L
S813HB	HM		N	Z 3		$\lambda$ 28° $\gamma$ 9°	DIN 6535HB	Alcrona		DIN 6527L



$d_1$ $\emptyset$ mm	Ch $\pm 0.03 \times 45^\circ$ mm	$d_2$ $\emptyset h_6$ mm	$l_2$ mm	$l_1$ mm	z	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 <sup>1)</sup>
9.00	0.20	10	16	72	3	S813HA9.0	S813HB9.0 <sup>1)</sup>
10.00	0.20	10	19	72	3	S813HA10.0	S813HB10.0 <sup>1)</sup>
12.00	0.20	12	22	83	3	S813HA12.0	S813HB12.0 <sup>1)</sup>
14.00	0.20	14	22	83	3	S813HA14.0	S813HB14.0 <sup>1)</sup>
16.00	0.20	16	26	92	3	S813HA16.0	S813HB16.0 <sup>1)</sup>
18.00	0.20	18	26	92	3	S813HA18.0	S813HB18.0 <sup>1)</sup>
20.00	0.30	20	32	104	3	S813HA20.0	S813HB20.0 <sup>1)</sup>

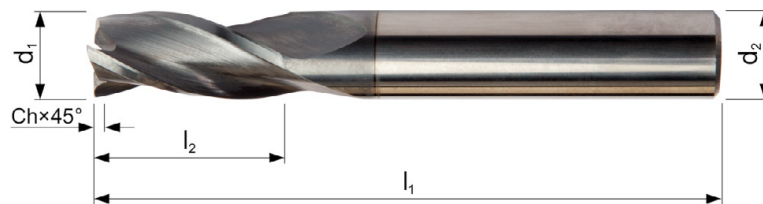
<sup>1)</sup> Ch  $\pm 0.05 \times 45^\circ$  mm

# 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	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S823</b>
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 <sup>1)</sup>
9.00	0.20	10	21	72	3	S8239.0 <sup>1)</sup>
10.00	0.20	10	22	72	3	S82310.0 <sup>1)</sup>
12.00	0.20	12	25	83	3	S82312.0 <sup>1)</sup>
14.00	0.20	14	30	83	3	S82314.0 <sup>1)</sup>
16.00	0.20	16	32	92	3	S82316.0 <sup>1)</sup>
18.00	0.20	18	32	92	3	S82318.0 <sup>1)</sup>
20.00	0.30	20	38	104	3	S82320.0 <sup>1)</sup>

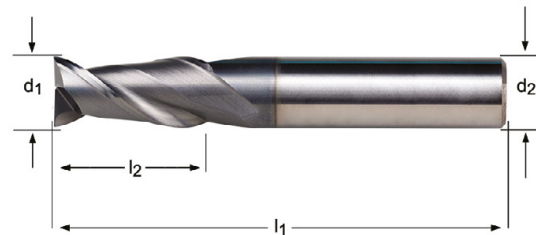
<sup>1)</sup> Ch  $\pm 0.05 \times 45^\circ$  mm

## 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**  **λ 40°**  
**γ 10°** **DIN 6535HA**  **AlCrN** **h9**  **DORMER**



S710



1.00 - 20.00

$d_1$ Ø mm	$d_2$ Ø mm	$l_2$ mm	$l_1$ mm	<b>z</b>	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

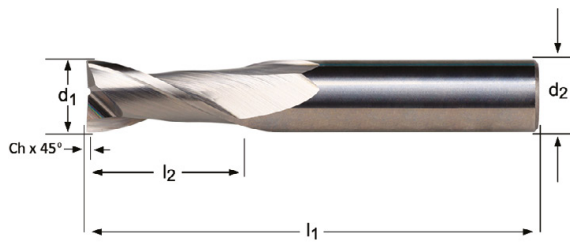


**S902** • End Mill  
• Fresas de acabado

**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		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 6535HA		h10				
S922	HM		N	Z 2		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 6535HB	TiAIN	h10				437



d <sub>1</sub> Ø mm	Ch ±0.03x45° mm	d <sub>2</sub> Øh <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	S902	S922
2.00	0.08	3	6	38	2	S9022.0	S9222.0 <sup>2)</sup>
2.50	0.08	3	9	38	2	S9022.5	S9222.5 <sup>2)</sup>
3.00	0.08	3	12	38	2	S9023.0	S9223.0 <sup>2)</sup>
4.00	0.08	4	14	50	2	S9024.0	S9224.0 <sup>2)</sup>
5.00	0.13	5	16	50	2	S9025.0	S9225.0 <sup>2)</sup>
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 <sup>1)</sup>	S92212.0 <sup>1)</sup>
14.00	0.20	14	30	83	2	S90214.0 <sup>1)</sup>	S92214.0 <sup>1)</sup>
16.00	0.20	16	32	92	2	S90216.0 <sup>1)</sup>	S92216.0 <sup>1)</sup>
18.00	0.20	18	32	92	2	S90218.0 <sup>1)</sup>	S92218.0 <sup>1)</sup>
20.00	0.30	20	38	104	2	S90220.0 <sup>1)</sup>	S92220.0 <sup>1)</sup>

<sup>1)</sup> Ch ±0.05x45° mm

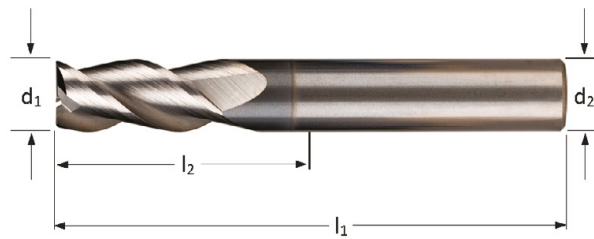
<sup>2)</sup> Cylindrical shank / Mango cilíndrico / Haste cilíndrica / queue cylindrique

## 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**  **λ 40°**  
**γ 10°** **DIN 6535HA**  **AlCrN** **h9**  **DORMER**



S713



1.50 - 20.00

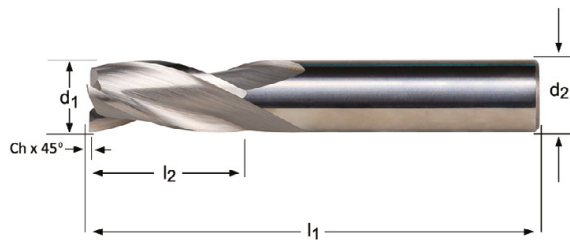
$d_1$ ∅ mm	$d_2$ ∅ $h_6$ mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S713</b>
1.50	4	4.5	40	3	S7131.5
2.00	4	6.5	40	3	S7132.0
3.00	3	9	40	3	S7133.0
4.00	4	12	50	3	S7134.0
5.00	5	15	50	3	S7135.0
6.00	6	16	50	3	S7136.0
8.00	8	20	64	3	S7138.0
10.00	10	22	70	3	S71310.0
12.00	12	25	75	3	S71312.0
14.00	14	32	90	3	S71314.0
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		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 6535HA		h10		DORMER	
S933	HM		N	Z 3		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 6535HB	TiAlN	h10		DORMER	S991 437



$d_1$ $\varnothing$ mm	Ch $\pm 0.03 \times 45^\circ$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	z	S903	S933
2.00	0.08	3	6	38	3	S9032.0	S9332.0 <sup>2)</sup>
2.50	0.08	3	9	38	3	S9032.5	S9332.5 <sup>2)</sup>
3.00	0.08	3	12	38	3	S9033.0	S9333.0 <sup>2)</sup>
4.00	0.08	4	14	50	3	S9034.0	S9334.0 <sup>2)</sup>
5.00	0.13	5	16	50	3	S9035.0	S9335.0 <sup>2)</sup>
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	S93310.0 <sup>1)</sup>
12.00	0.20	12	25	73	3	S90312.0	S93312.0 <sup>1)</sup>
14.00	0.20	14	30	83	3	S90314.0	S93314.0 <sup>1)</sup>
16.00	0.20	16	32	92	3	S90316.0	S93316.0 <sup>1)</sup>
18.00	0.20	18	32	92	3	S90318.0	S93318.0 <sup>1)</sup>
20.00	0.30	20	38	104	3	S90320.0	S93320.0 <sup>1)</sup>







<sup>1)</sup> Ch  $\pm 0.05 \times 45^\circ$  mm

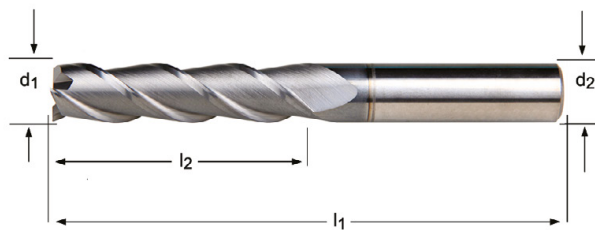
<sup>2)</sup> Cylindrical shank / Mango cilíndrico / Haste cilíndrica / queue cylindrique

## 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**    $\lambda 40^\circ$   $\gamma 10^\circ$    **h9**  **DORMER**



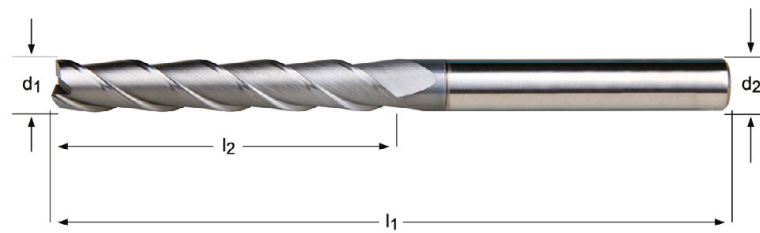
$d_1$ $\varnothing$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S714</b>
3.00	3	19	60	3	S7143.0
4.00	4	19	60	3	S7144.0
5.00	5	19	60	3	S7145.0
6.00	6	31	75	3	S7146.0
8.00	8	31	75	3	S7148.0
10.00	10	31	75	3	S71410.0
12.00	12	50	100	3	S71412.0
14.00	14	57	125	3	S71414.0
16.00	16	57	125	3	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**



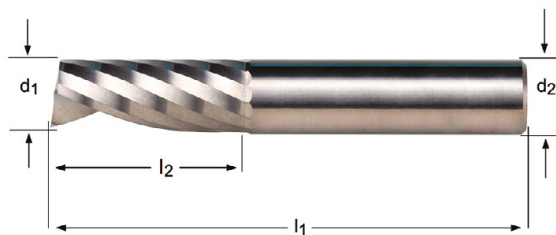
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S715</b>
3.00	3	25	100	3	S7153.0
4.00	4	31	100	3	S7154.0
5.00	5	31	100	3	S7155.0
6.00	6	38	100	3	S7156.0
8.00	8	41	100	3	S7158.0
10.00	10	57	125	3	S71510.0
12.00	12	75	150	3	S71512.0
14.00	14	75	150	3	S71514.0
16.00	16	75	150	3	S71516.0
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 <sub>h<sub>6</sub></sub> mm	$l_2$ mm	$l_1$ mm	<b>z</b>	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**

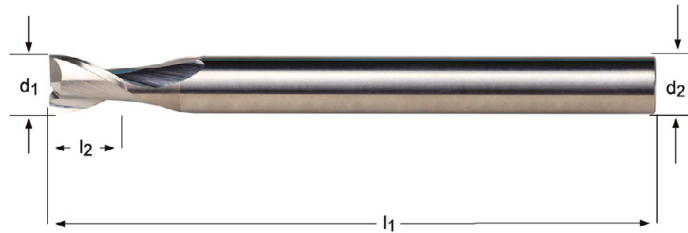
- End Mill
- Fresas de acabado
- Fresa de Acabamento
- Fraises de finition

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
- Hi
- h9
- 
- DORMER

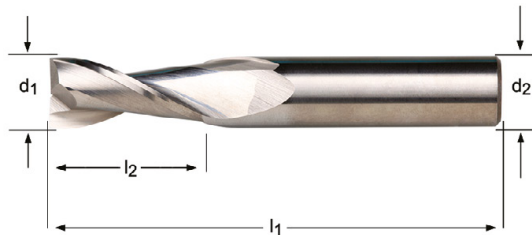


$d_1$ $\varnothing$ mm	r $\pm 0.02$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	z	S638
6.20	0.10	6	8	100	2	S6386.2
8.20	0.10	8	10	100	2	S6388.2
10.30	0.10	10	14	125	2	S63810.3
12.30	0.10	12	16	125	2	S63812.3
16.30	0.10	16	20	125	2	S63816.3
20.30	0.10	20	25	125	2	S63820.3

## 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



$d_1$ Ø mm	r ±0.02 mm	$d_2$ Ø <sub>h6</sub> 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

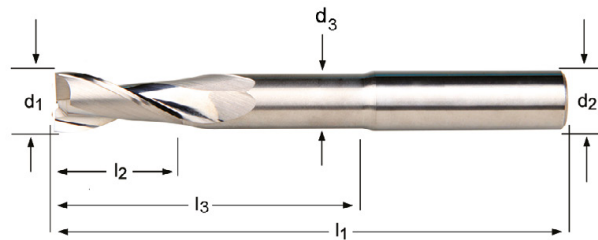


# S611

- 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** **λ 30°** **γ 20°** **DIN 6535HA** **Hi** **h9**

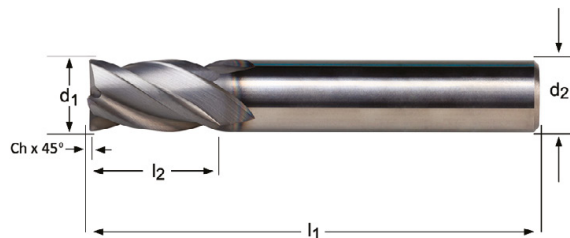


$d_1$ ∅ mm	$r$ ±0.02 mm	$d_2$ ∅ $h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ ∅ mm	S611
6.00	0.10	6	16	80	2	40.0	5.5	S6116.0
8.00	0.10	8	20	80	2	40.0	7.4	S6118.0
10.00	0.10	10	22	100	2	60.0	9.2	S61110.0
12.00	0.10	12	25	100	2	60.0	11.0	S61112.0
14.00	0.10	14	32	125	2	75.0	13.0	S61114.0
16.00	0.10	16	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		

<b>S804HA</b>	HM		N	Z 4		$\lambda$ 34° $\gamma$ 9°	DIN 6535HA		h10		DIN 6527K
<b>S804HB</b>	HM		N	Z 4		$\lambda$ 34° $\gamma$ 9°	DIN 6535HB		h10		DIN 6527K



d <sub>1</sub> ∅ mm	Ch ±0.03x45° mm	d <sub>2</sub> ∅h <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> 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	<sup>1)</sup> S804HB10.0
12.00	0.20	12	16	73	4	S804HA12.0	<sup>1)</sup> S804HB12.0
16.00	0.20	16	22	82	4	S804HA16.0	<sup>1)</sup> S804HB16.0
20.00	0.30	20	26	92	4	S804HA20.0	<sup>1)</sup> S804HB20.0
25.00	0.30	25	32	121	4	S804HA25.0	<sup>1)</sup> S804HB25.0

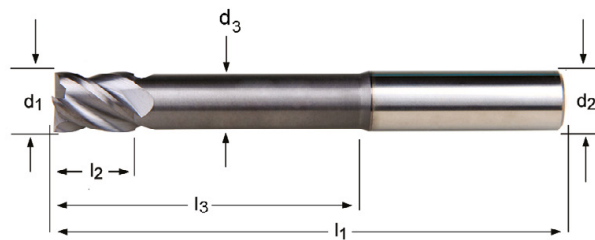
<sup>1)</sup> Ch ±0.05x45° mm  
406

# 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** **DORMER**



$d_1$ $\varnothing$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ $\varnothing$ 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

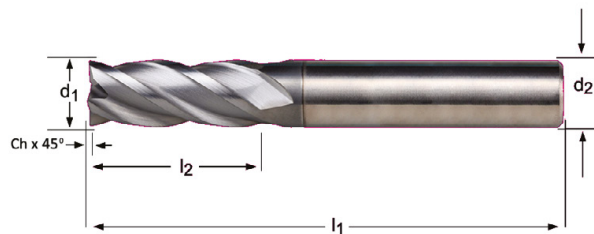
- End Mill
- Fresas de acabado

## 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° $\gamma$ 9°	DIN 6535HA		h10		DIN 6527L
S814HB	HM		N	Z 4		$\lambda$ 34° $\gamma$ 9°	DIN 6535HB		h10		DIN 6527L



d <sub>1</sub> ∅ mm	Ch ±0.03x45° mm	d <sub>2</sub> ∅h <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> 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	S814HB10.0 <sup>1)</sup>
12.00	0.20	12	26	83	4	S814HA12.0	S814HB12.0 <sup>1)</sup>
16.00	0.20	16	32	92	4	S814HA16.0	S814HB16.0 <sup>1)</sup>
20.00	0.30	20	38	104	4	S814HA20.0	S814HB20.0 <sup>1)</sup>
25.00	0.30	25	45	121	4	S814HA25.0	S814HB25.0 <sup>1)</sup>

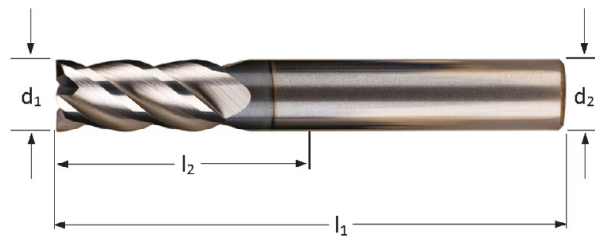
<sup>1)</sup> Ch ±0.05x45° mm  
408

# 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** **λ 40°**  
**γ 10°** **h9**

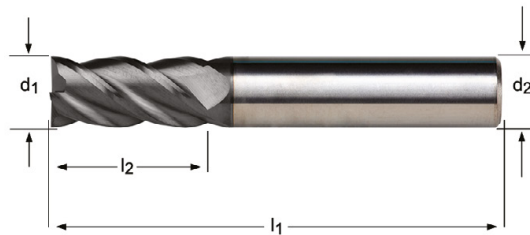


$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S716</b>
2.00	4	6.5	40	4	S7162.0
3.00	3	9	40	4	S7163.0
4.00	4	12	50	4	S7164.0
5.00	5	15	50	4	S7165.0
6.00	6	16	50	4	S7166.0
8.00	8	20	64	4	S7168.0
10.00	10	22	70	4	S71610.0
12.00	12	25	75	4	S71612.0
14.00	14	32	90	4	S71614.0
16.00	16	32	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



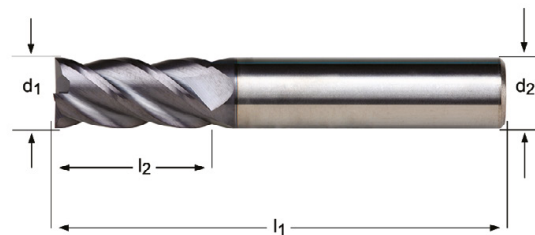
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	S612
1.00	3	3	50	4	S6121.0
1.50	3	4.5	50	4	S6121.5
2.00	3	6.5	50	4	S6122.0
2.50	3	6.5	50	4	S6122.5
3.00	3	9	50	4	S6123.0
4.00	4	12	50	4	S6124.0
5.00	5	15	50	4	S6125.0
6.00	6	20	60	4	S6126.0
8.00	8	20	64	4	S6128.0
10.00	10	22	70	4	S61210.0
12.00	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** **λ 40°** **γ 3°** **DIN 6535HA** **AITIN** **h9** **DORMER**



$d_1$ Ø mm	$d_2$ Ø <sub>h<sub>6</sub></sub> mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S216</b>
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

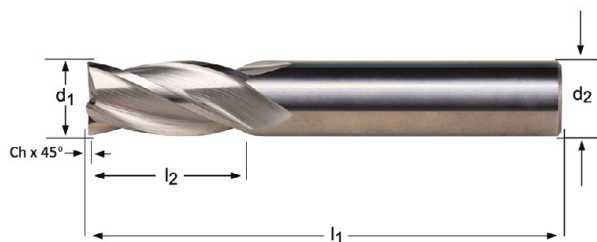
- End Mill
- Fresas de acabado

## 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		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 6535HA		h12			
S944	HM		N	Z 4		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 6535HB	TiAIN	h12			



d <sub>1</sub> Ø mm	Ch ±0.03x45° mm	d <sub>2</sub> Øh <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	S904	S944
2.00	0.08	3	6	38	4	S9042.0	S9442.0 <sup>2)</sup>
2.50	0.08	3	9	38	4	S9042.5	S9442.5 <sup>2)</sup>
3.00	0.08	3	12	38	4	S9043.0	S9443.0 <sup>2)</sup>
4.00	0.08	4	14	50	4	S9044.0	S9444.0 <sup>2)</sup>
5.00	0.13	5	16	50	4	S9045.0	S9445.0 <sup>2)</sup>
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	S94410.0 <sup>1)</sup>
12.00	0.20	12	25	73	4	S90412.0	S94412.0 <sup>1)</sup>
14.00	0.20	14	30	83	4	S90414.0	S94414.0 <sup>1)</sup>
16.00	0.20	16	32	92	4	S90416.0	S94416.0 <sup>1)</sup>
18.00	0.20	18	32	92	4	S90418.0	S94418.0 <sup>1)</sup>
20.00	0.30	20	38	104	4	S90420.0	S94420.0 <sup>1)</sup>

<sup>1)</sup> Ch ±0.05x45° mm

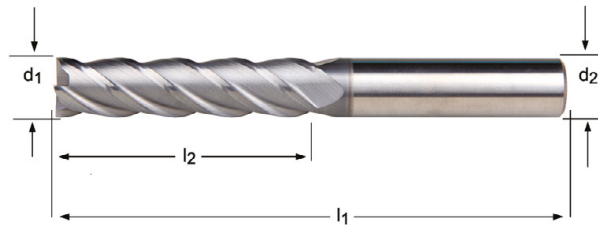
<sup>2)</sup> Cylindrical shank / Mango cilíndrico / Haste cilíndrica / queue cylindrique



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

<b>S717</b>	▪	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					
<b>S217</b>	▪	1.6	2.3	2.4	4.3	5.3								









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

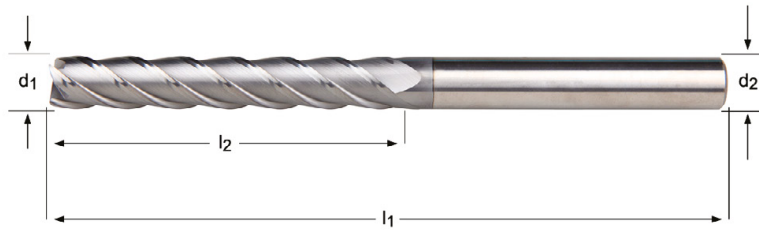


$d_1$ $\varnothing$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	z	S717	S217
3.00	3	19	60	4	S7173.0	S2173.0XD3
3.00	6	19	75	4		S2173.0XD6
4.00	4	19	60	4	S7174.0	S2174.0XD4
4.00	6	19	75	4		S2174.0XD6
5.00	5	19	60	4	S7175.0	S2175.0
6.00	6	31	75	4	S7176.0	S2176.0
8.00	8	31	75	4	S7178.0	S2178.0
10.00	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	AlCrN	h9		
S218	HM		N	Z 4		$\lambda 40^\circ$ $\gamma 3^\circ$	DIN 6535HA	AlTiN	h9		



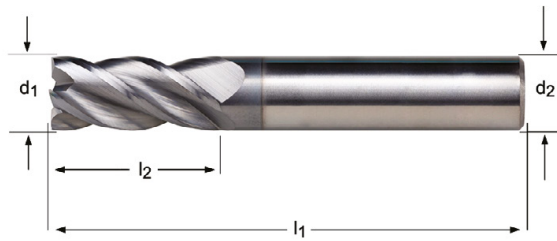
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	S718	S218
3.00	3	25	100	4	S7183.0	S2183.0
4.00	4	31	100	4	S7184.0	S2184.0
5.00	5	31	100	4	S7185.0	S2185.0
6.00	6	38	100	4	S7186.0	S2186.0
8.00	8	41	100	4	S7188.0	S2188.0
10.00	10	57	125	4	S71810.0	S21810.0
12.00	12	75	150	4	S71812.0	S21812.0
14.00	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							

<b>S761</b>	<b>HM</b>		<b>N</b>	<b>Z 4</b>		$\lambda 40^\circ$ $\gamma 10^\circ$	DIN 6535HA		<b>h9</b>		
<b>S260</b>	<b>HM</b>		<b>N</b>	<b>Z 4</b>		$\lambda 40^\circ$ $\gamma 4^\circ$	DIN 6535HA		<b>h9</b>		



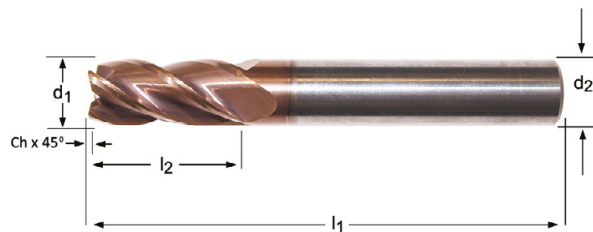
$d_1$ $\varnothing$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S761</b>	<b>S260</b>
3.00	6	9	57	4	S7613.0	S2603.0
4.00	6	12	57	4	S7614.0	S2604.0
5.00	6	13	57	4	S7615.0	S2605.0
6.00	6	13	57	4	S7616.0	S2606.0
8.00	8	20	64	4	S7618.0	S2608.0
10.00	10	22	72	4	S76110.0	S26010.0
12.00	12	26	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		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**    **DIN 6535HA**  **h9** 



S766



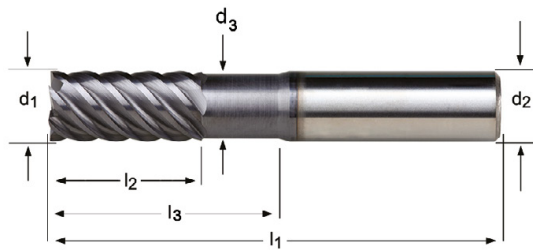
4.00 - 20.00

$d_1$ Ø mm	Ch ±0.02x45° mm	$d_2$ Ø <sub>h6</sub> 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		

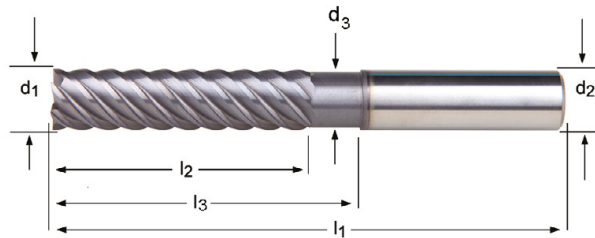


$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	S225	S525
3.00	6	8	50	6	20.0	2.8	S2253.0	S5253.0
4.00	6	11	50	6	20.0	3.7	S2254.0	S5254.0
6.00	6	15	50	6	20.0	5.5	S2256.0	S5256.0
8.00	8	20	64	6	30.0	7.4	S2258.0	S5258.0
10.00	10	22	70	6	32.0	9.2	S22510.0	S52510.0
12.00	12	25	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

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



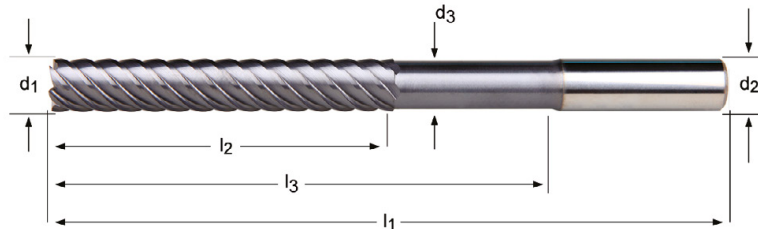
$d_1$ Ø mm	$d_2$ Ø <sub>h9</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	<b>S226</b>	<b>S526</b>
3.00	6	19	75	6	30.0	2.8	S2263.0	S5263.0
4.00	6	19	75	6	32.0	3.7	S2264.0	S5264.0
6.00	6	31	75	6	40.0	5.5	S2266.0	S5266.0
8.00	8	31	75	6	40.0	7.4	S2268.0	S5268.0
10.00	10	45	100	6	60.0	9.2	S22610.0	S52610.0
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		










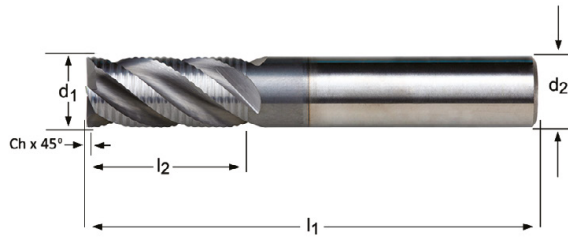
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	S227	S527
3.00	6	25	100	6	60.0	2.8		S5273.0
4.00	6	31	100	6	60.0	3.7		S5274.0
6.00	6	38	100	6	60.0	5.5	S2276.0	S5276.0
8.00	8	41	100	6	60.0	7.4	S2278.0	S5278.0
10.00	10	57	125	6	85.0	9.2	S22710.0	S52710.0
12.00	12	75	150	6	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**  **Z 4**   **λ 40°**  
**γ 10°**  **AlCrN**  



S765



6.00 - 20.00

$d_1$ Ø mm	Ch ±0.02x45° mm	$d_2$ Ø $h_6$ mm	$l_2$ mm	$l_1$ mm	<b>z</b>	<b>S765</b>
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

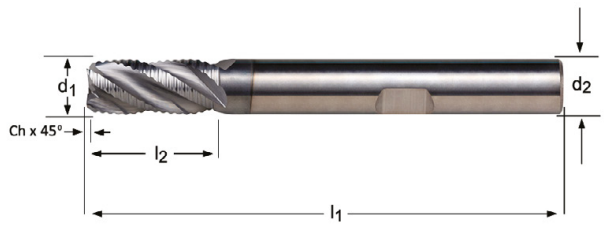


# S264

- 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**  $\lambda 40^\circ$   $\gamma 4^\circ$  **DIN 6535HB** **AICrN** **h9** **DORMER**









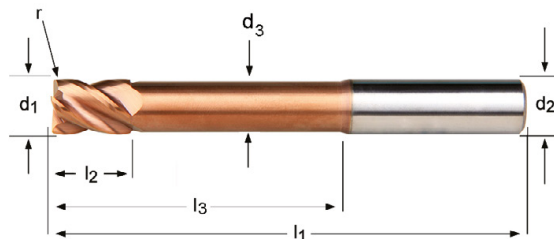
$d_1$ $\varnothing$ mm	Ch $\pm 0.02 \times 45^\circ$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	S264
6.00	0.10	6	13	57	4	S2646.0
8.00	0.20	8	20	64	4	S2648.0
10.00	0.20	10	22	72	4	S26410.0
12.00	0.20	12	26	83	4	S26412.0
14.00	0.30	14	26	83	4	S26414.0
16.00	0.30	16	32	92	4	S26416.0
18.00	0.30	18	32	92	4	S26418.0
20.00	0.40	20	38	104	4	S26420.0

## S524

- 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**



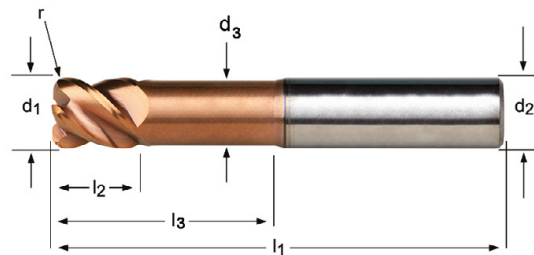
$d_1$ ∅ mm	$r$ ±0.01 mm	$d_2$ ∅ $h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ ∅ mm	S524
3.00	0.30	6	5	75	4	30.0	2.8	S5243.0XR0.3
4.00	0.30	6	8	75	4	32.0	3.7	S5244.0XR0.3
4.00	0.50	6	8	75	4	32.0	3.7	S5244.0XR0.5
5.00	0.30	6	9	75	4	32.0	4.6	S5245.0XR0.3
5.00	0.50	6	9	75	4	32.0	4.6	S5245.0XR0.5
6.00	0.30	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




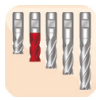


S521 **HM** **N** **Z 4**  **$\lambda 45^\circ$**   **$\gamma -10^\circ$**  **DIN 6535HA** **TISIN** **h9** **DORMER**

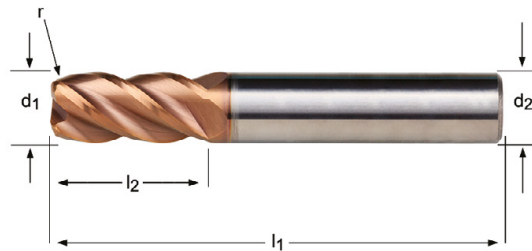


$d_1$ $\varnothing$ mm	$r$ $\pm 0.01$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ $\varnothing$ mm	S521
3.00	0.30	6	4	60	4	14.0	2.8	S5213.0XR0.3
4.00	0.30	6	5	60	4	16.0	3.7	S5214.0XR0.3
4.00	0.50	6	5	60	4	16.0	3.7	S5214.0XR0.5
5.00	0.30	6	6	60	4	18.0	4.6	S5215.0XR0.3
5.00	0.50	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

S523 **HM**  **N**  **Z 4**   $\lambda 40^\circ$   $\gamma -6^\circ$   **DIN 6535HA**  **TISIN**  **h9**  **DORMER**

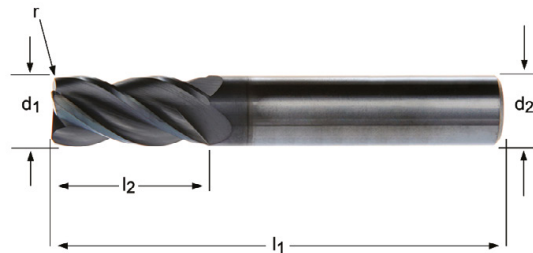


$d_1$ $\varnothing$ mm	r $\pm 0.01$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	z	S523
1.50	0.20	6	4.5	50	4	S5231.5XR0.2
2.00	0.20	6	6.5	50	4	S5232.0XR0.2
3.00	0.20	3	9	50	4	S5233.0XR0.2XD3
3.00	0.30	3	9	50	4	S5233.0XR0.3XD3
3.00	0.20	6	9	50	4	S5233.0XR0.2XD6
3.00	0.30	6	9	50	4	S5233.0XR0.3XD6
3.00	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

- S763**
- 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** **h9**

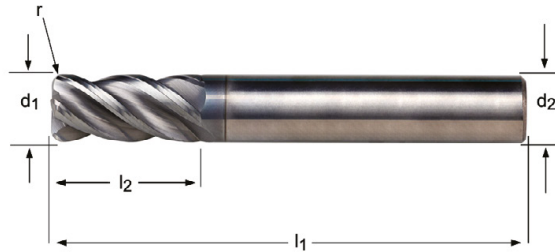


$d_1$ Ø mm	$r$ ±0.01 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	S763
3.00	0.30	3	9	40	4	S7633.0XR0.3
4.00	0.30	4	12	50	4	S7634.0XR0.3
4.00	0.50	4	12	50	4	S7634.0XR0.5
5.00	0.30	5	15	50	4	S7635.0XR0.3
5.00	0.50	5	15	50	4	S7635.0XR0.5
6.00	0.50	6	16	50	4	S7636.0XR0.5
6.00	1.00	6	16	50	4	S7636.0XR1.0
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**



$d_1$ $\varnothing$ mm	$r$ $\pm 0.01$ mm	$d_2$ $\varnothing h_6$ 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

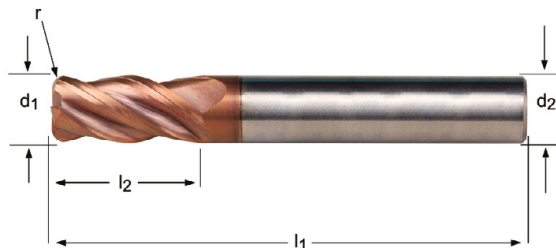
$d_1$ Ø mm	r ±0.01 mm	$d_2$ Ø <sub>h<sub>6</sub></sub> mm	$l_2$ mm	$l_1$ mm	z	S262
18.00	1.00	18	38	92	4	S26218.0XR1.0
18.00	2.00	18	38	92	4	S26218.0XR2.0
18.00	3.00	18	38	92	4	S26218.0XR3.0
20.00	0.30	20	38	104	4	S26220.0XR0.3
20.00	0.50	20	38	104	4	S26220.0XR0.5
20.00	1.00	20	38	104	4	S26220.0XR1.0
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



## S767

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

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



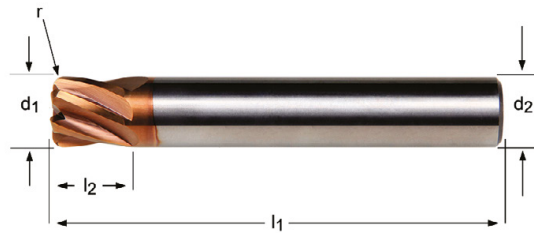
$d_1$ Ø mm	$r$ ±0.01 mm	$d_2$ Ø $h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	S767
4.00	0.30	6	11	57	4	S7674.0XR0.3
4.00	0.50	6	11	57	4	S7674.0XR0.5
5.00	0.30	6	13	57	4	S7675.0XR0.3
5.00	0.50	6	13	57	4	S7675.0XR0.5
6.00	0.30	6	13	57	4	S7676.0XR0.3
6.00	0.50	6	13	57	4	S7676.0XR0.5
6.00	1.00	6	13	57	4	S7676.0XR1.0
8.00	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**

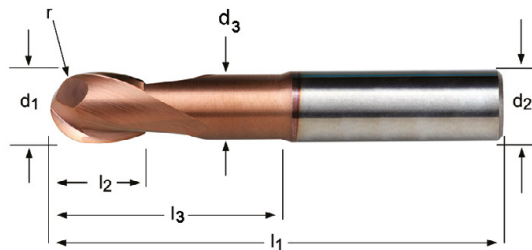


$d_1$ $\varnothing$ mm	$r$ $\pm 0.01$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	S536
6.00	1.00	6	6	60	4	S5366.0XR1.0
8.00	2.00	8	8	64	6	S5368.0XR2.0
10.00	2.00	10	10	75	6	S53610.0XR2.0
12.00	2.00	12	12	75	6	S53612.0XR2.0

- S229**
- Ball-Nosed End Mill
  - Fresas con punta esférica
  - 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**  **h9**  **DORMER**



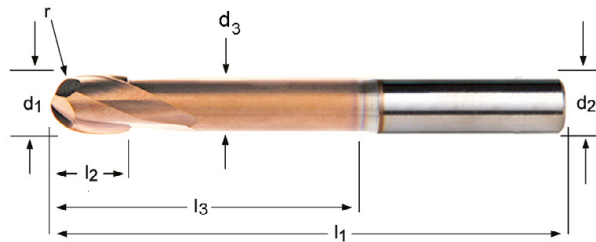
$d_1$ Ø mm	r +0/-0.02 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	S229
1.50	0.75	4	3	50	2	6.0	1.4	S2291.5XD4
2.00	1.00	3	4	50	2	8.0	1.9	S2292.0XD3
2.00	1.00	4	4	50	2	8.0	1.9	S2292.0XD4
3.00	1.50	3	5	50	2	14.0	2.8	S2293.0XD3
3.00	1.50	6	5	50	2	14.0	2.8	S2293.0XD6
4.00	2.00	4	8	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**  **$\lambda 30^\circ$**   **$\gamma 3^\circ$**  **DIN 6535HA** **TISIN** **h9** **DORMER**

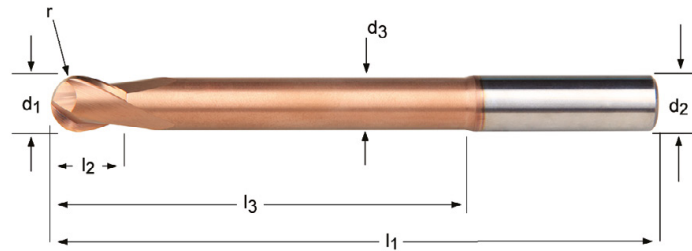


$d_1$ Ø mm	r +0/-0.02 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	S231
1.50	0.75	4	3	75	2	10.0	1.4	S2311.5XD4
2.00	1.00	3	4	60	2	14.0	1.9	S2312.0XD3
2.00	1.00	4	4	75	2	14.0	1.9	S2312.0XD4
3.00	1.50	3	5	60	2	21.0	2.8	S2313.0XD3
3.00	1.50	6	5	75	2	21.0	2.8	S2313.0XD6
4.00	2.00	4	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 esférica
  - 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**

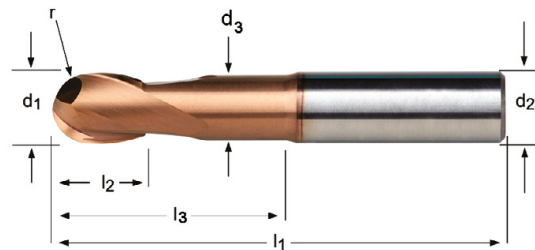


$d_1$ Ø mm	$r$ +0/-0.02 mm	$d_2$ Ø $h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	S233
2.00	1.00	3	4	100	2	20.0	1.9	S2332.0XD3
2.00	1.00	4	4	100	2	20.0	1.9	S2332.0XD4
3.00	1.50	3	5	100	2	30.0	2.8	S2333.0XD3
3.00	1.50	6	5	100	2	30.0	2.8	S2333.0XD6
4.00	2.00	4	8	100	2	40.0	3.7	S2334.0XD4
4.00	2.00	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 esférica
  - 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**

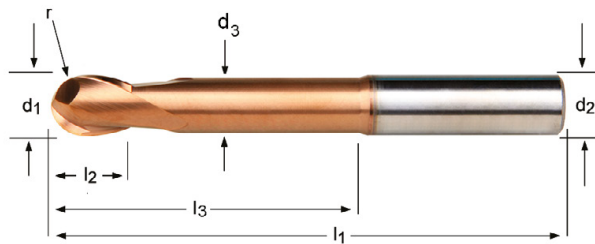


$d_1$ $\varnothing$ mm	$r$ +0/-0.02 mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ $\varnothing$ mm	S529
1.50	0.75	6	3	50	2	6.0	1.4	S5291.5
2.00	1.00	4	4	50	2	8.0	1.9	S5292.0XD4
2.00	1.00	6	4	50	2	8.0	1.9	S5292.0XD6
3.00	1.50	3	5	50	2	14.0	2.8	S5293.0XD3
3.00	1.50	6	5	50	2	14.0	2.8	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 esférica
- Fresa Topo Esférico
- Fraises de finition bout hémisphérique

S531 ■ 1.7 1.8

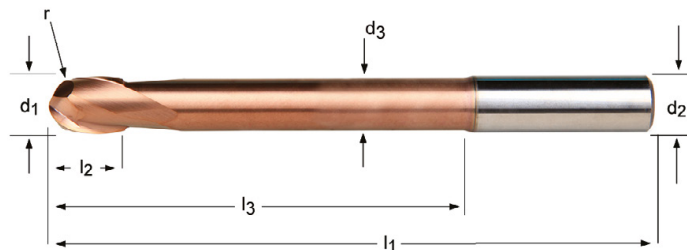


$d_1$ Ø mm	$r$ +0/-0.02 mm	$d_2$ Ø $h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	S531
1.50	0.75	6	3	75	2	10.0	1.4	S5311.5
2.00	1.00	4	4	75	2	14.0	1.9	S5312.0XD4
2.00	1.00	6	4	75	2	14.0	1.9	S5312.0XD6
3.00	1.50	3	5	60	2	21.0	2.8	S5313.0XD3
3.00	1.50	6	5	75	2	21.0	2.8	S5313.0XD6
4.00	2.00	4	8	60	2	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**  **$\lambda 30^\circ$**   
 **$\gamma -10^\circ$**  **TISIN** **h9**



$d_1$ 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	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



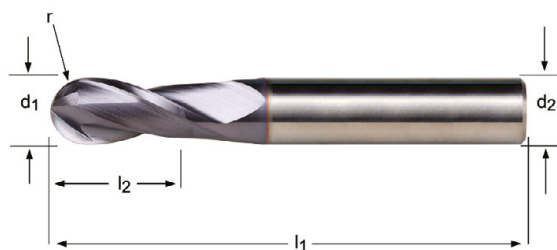
## S501

- 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		$\lambda 30^\circ$ $\gamma 10^\circ$	DIN 6535HA	X-CEED	h9		DORMER
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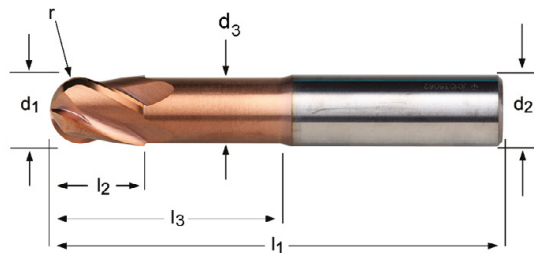


$d_1$ Ø mm	r ±0.01 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	S501
1.00	0.50	3	3	38	2	S5011.0
1.50	0.75	3	3	38	2	S5011.5
2.00	1.00	3	6	38	2	S5012.0
2.50	1.25	3	7	38	2	S5012.5
3.00	1.50	3	7	38	2	S5013.0
4.00	2.00	6	8	57	2	S5014.0
5.00	2.50	6	10	57	2	S5015.0
6.00	3.00	6	10	57	2	S5016.0
7.00	3.50	8	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

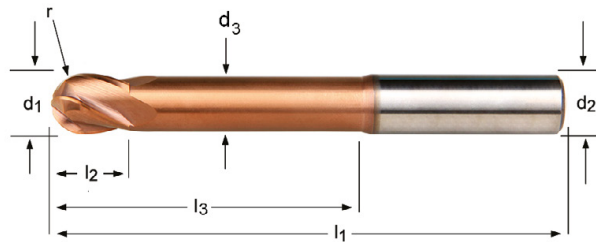
S534 **HM** **N** **Z 4**  $\lambda 30^\circ$   $\gamma -10^\circ$  **DIN 6535HA** **TISIN** **h9**



$d_1$ Ø mm	r +0/-0.02 mm	$d_2$ Ø <sub>h6</sub> 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

- S535**
- Ball-Nosed End Mill
  - Fresas con punta esférica
  - Fresa Topo Esférico
  - Fraises de finition bout hémisphérique

S535 ■ 1.7 1.8



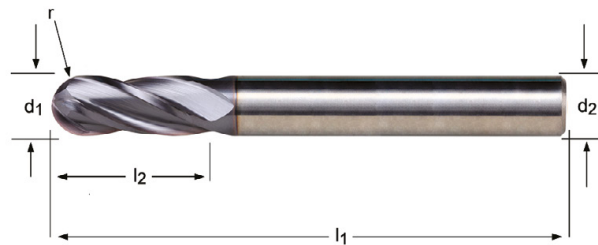
$d_1$ Ø mm	r +0/-0.02 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	S535
3.00	1.50	6	5	75	4	21.0	2.8	S5353.0
4.00	2.00	6	8	75	4	28.0	3.7	S5354.0
5.00	2.50	6	9	75	4	32.0	4.6	S5355.0
6.00	3.00	6	10	75	4	40.0	5.5	S5356.0
8.00	4.00	8	12	75	4	40.0	7.4	S5358.0
10.00	5.00	10	14	75	4	40.0	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 esférica
- 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° $\gamma$ 10°	DIN 6535HA	X-CEED	h9	
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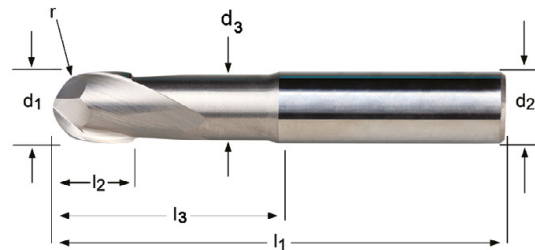


$d_1$ Ø mm	r ±0.01 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	S511
3.00	1.50	6	8	80	4	S5113.0
4.00	2.00	6	11	80	4	S5114.0
5.00	2.50	6	13	80	4	S5115.0
6.00	3.00	6	13	80	4	S5116.0
7.00	3.50	8	16	100	4	S5117.0
8.00	4.00	8	19	100	4	S5118.0
9.00	4.50	10	19	100	4	S5119.0
10.00	5.00	10	22	100	4	S51110.0
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 esférica
  - 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°** **DIN 6535HA**  **Hi** **h9**  **DORMER**



S629



3.00 - 20.00

$d_1$ ∅ mm	$r$ +0/-0.02 mm	$d_2$ ∅ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ ∅ 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

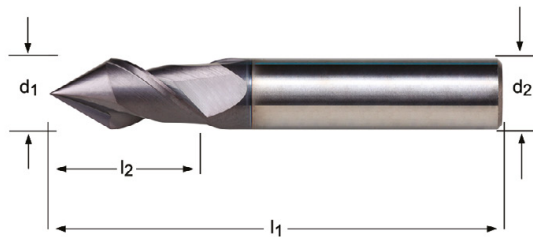
- Chamfering End Mill - 60°
- Fresas de achaflanar - 60°
- Fresa de Chanfrar - 60°
- Fraise à chanfreiner 60°

## 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 <sub>h6</sub> 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

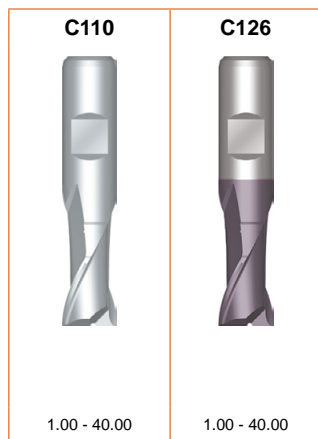
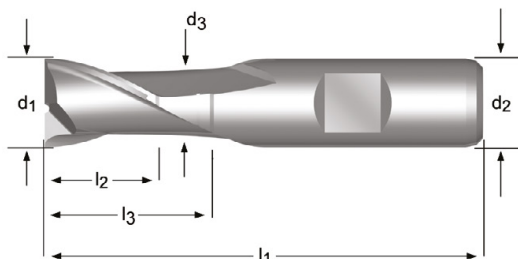


Nr.	A	B	C	S991
922	S922	6	Ø 3.00 mm, 4.00 mm, 5.00 mm, 6.00 mm, 8.00 mm, 10.00 mm	S991SET922
933	S933	6	Ø 3.00 mm, 4.00 mm, 5.00 mm, 6.00 mm, 8.00 mm, 10.00 mm	S991SET933
944	S944	6	Ø 3.00 mm, 4.00 mm, 5.00 mm, 6.00 mm, 8.00 mm, 10.00 mm	S991SET944

**C110** • Slot Drill  
**C126** • Fresas de ranurar  
 • 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 <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>2</sub> Ø <sub>h6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> Ø mm	C110	C126
	1.00	6	2.5	47	2	-	-	C1101.0	C1261.0
	1.50	6	3	47	2	-	-	C1101.5	C1261.5
1/16	1.59	6	3	47	2	-	-	C1101/16	
	1.80	6	4	48	2	-	-	C1101.8	
	2.00	6	4	48	2	-	-	C1102.0	C1262.0
3/32	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	
	3.00	6	5	49	2	-	-	C1103.0	C1263.0
1/8	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	
	4.00	6	7	51	2	-	-	C1104.0	C1264.0
	4.50	6	7	51	2	-	-	C1104.5	C1264.5
3/16	4.76	6	8	52	2	-	-	C1103/16	
	4.80	6	8	52	2	-	-	C1104.8	<sup>1)2)</sup>
	5.00	6	8	52	2	-	-	C1105.0	C1265.0
	5.50	6	8	52	2	-	-	C1105.5	C1265.5
	5.75	6	8	52	2	-	-	C1105.75	<sup>1)2)</sup>
	6.00	6	8	52	2	-	-	C1106.0	C1266.0
1/4	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
	7.75	10	11	61	2	-	-	C1107.75	<sup>1)2)</sup>
5/16	7.94	10	11	61	2	-	-	C1105/16	
	8.00	10	11	61	2	-	-	C1108.0	C1268.0

<sup>1)</sup> diameter tolerance h10 / Tolerancia diámetro h10 / tolerância no diâmetro h10 / tolérance sur le diamètre h10  
<sup>2)</sup> slot not in P9 tolerance / ≠ P9 / ≠ P9 tolerância / ≠ P9 tolérance



$d_1$ Ø Inch	$d_1$ Ø mm	$d_2$ Ø <sub>h<sub>6</sub></sub> 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
	9.50	10	11	61	2	-	-	C1109.5	C1269.5
3/8	9.52	10	13	63	2	22.5	9.5	C1103/8	
	10.00	10	13	63	2	22.5	9.5	C11010.0	C12610.0
13/32	10.32	12	13	70	2	-	-	C11013/32	
	10.50	12	13	70	2	-	-	C11010.5	C12610.5
	11.00	12	13	70	2	-	-	C11011.0	C12611.0
7/16	11.11	12	13	70	2	-	-	C1107/16	
	11.50	12	13	70	2	-	-	C11011.5	C12611.5
	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
1/2	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
	22.00	20	22	88	2	37.5	19.5	C11022.0	C12622.0
7/8	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
	25.00	25	26	102	2	45.5	24.5	C11025.0	C12625.0
1"	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	<sup>1)3)</sup>
	36.00	32	32	112	2	51.5	31.5	C11036.0	<sup>1)3)</sup>
	40.00	40	38	130	2	59.5	39.0	C11040.0	<sup>1)3)</sup>

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

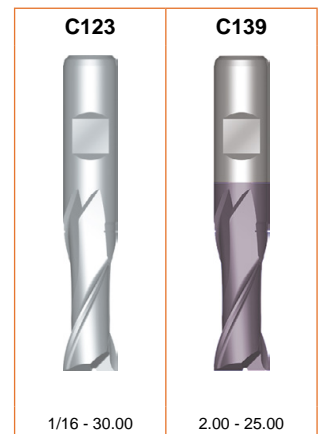
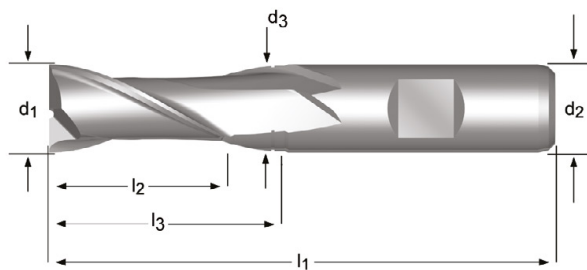
<sup>2)</sup> slot not in P9 tolerance / ≠ P9 / ≠ P9 tolerância / ≠ P9 tolérance

<sup>3)</sup> Available in HSS-E only / Disponible solo en HSCo / Só disponível em HSCo / Disponible en HSCo 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 <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>2</sub> Ø <sub>h<sub>6</sub></sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> Ø mm	C123	C139
1/16	1.59	6	7	51	2	-	-	C1231/16	<sup>1)</sup>
	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	<sup>1)</sup>
5/32	3.50	6	10	54	2	-	-	C1233.5	
	3.97	6	11	55	2	-	-	C1235/32	<sup>1)</sup>
3/16	4.00	6	11	55	2	-	-	C1234.0	C1394.0
	4.50	6	11	55	2	-	-	C1234.5	
	4.76	6	13	57	2	-	-	C1233/16	<sup>1)</sup>
1/4	5.00	6	13	57	2	-	-	C1235.0	C1395.0
	5.50	6	13	57	2	-	-	C1235.5	C1395.5
	6.00	6	13	57	2	-	-	C1236.0	C1396.0
	6.35	10	16	66	2	-	-	C1231/4	<sup>1)</sup>
5/16	6.50	10	16	66	2	-	-	C1236.5	C1396.5
	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	<sup>1)</sup>
	8.00	10	19	69	2	-	-	C1238.0	C1398.0
3/8	8.50	10	19	69	2	-	-	C1238.5	C1398.5
	9.00	10	19	69	2	-	-	C1239.0	C1399.0
	9.50	10	19	69	2	-	-	C1239.5	C1399.5
	9.52	10	22	72	2	31.5	9.5	C1233/8	<sup>1)</sup>
	10.00	10	22	72	2	31.5	9.5	C12310.0	C13910.0
	11.00	12	22	79	2	-	-	C12311.0	C13911.0
1/2	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	<sup>1)</sup>
	13.00	12	26	83	2	37.5	11.5	C12313.0	C13913.0

<sup>1)</sup> 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 <sub>h<sub>6</sub></sub> 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	

<sup>1)</sup> 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

<sup>2)</sup> diameter tolerance -0.0005 inches / -0.0015 inches / Tolerancia diámetro -.0005 pulgadas / -.0015 pulgadas / tolerância no diâmetro-.0005 poleg. / -.0015 poleg. / tolérance sur le diamètre -.0005 inches / -.0015 inches

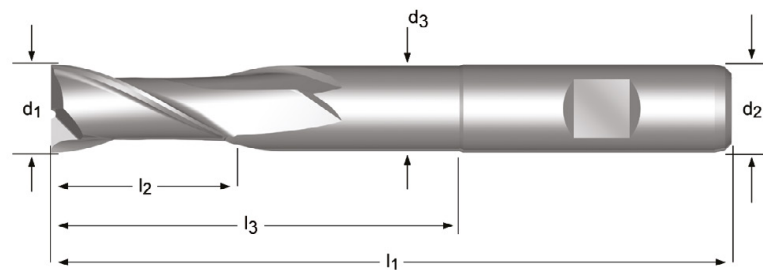
<sup>3)</sup> Available in HSS-E only / Disponible solo en HSCo / Só disponível em HSCo / Disponible en HSCo seulement

# 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 DORMER

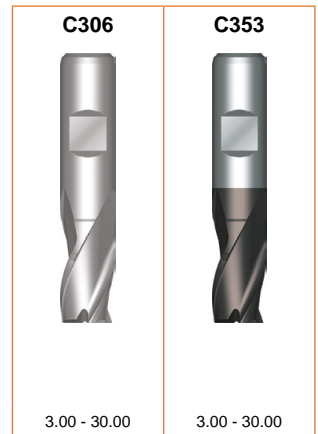
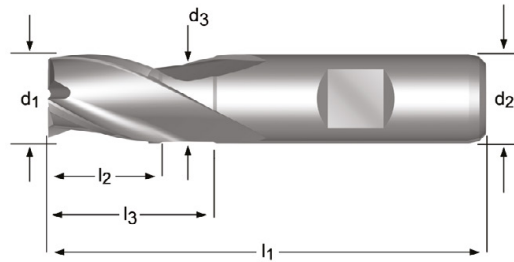


$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C135
2.00	6	7	54	2	18.0	1.8	C1352.0
3.00	6	8	56	2	20.0	2.8	C1353.0
4.00	6	11	63	2	27.0	3.7	C1354.0
5.00	6	13	68	2	32.0	4.7	C1355.0
6.00	6	13	68	2	32.0	5.7	C1356.0
8.00	10	19	88	2	48.0	7.5	C1358.0
10.00	10	22	95	2	54.5	9.5	C13510.0
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

<b>C306</b>	▪	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					
<b>C353</b>	▪	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					

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



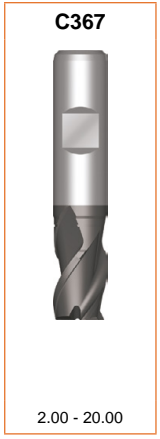
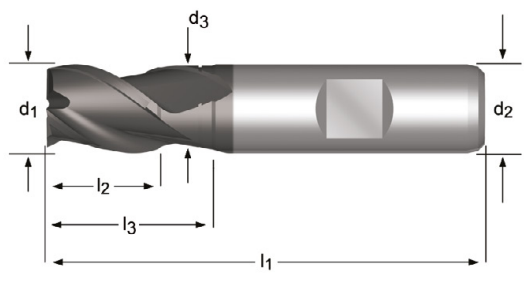
$d_1$ ø mm	$d_2$ ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ ø mm	<b>C306</b>	<b>C353</b>
3.00	6	5	49	3	-	-	C3063.0	C3533.0
3.50	6	6	50	3	-	-	-	C3533.5
4.00	6	7	51	3	-	-	C3064.0	C3534.0
4.50	6	7	51	3	-	-	-	C3534.5
4.80	6	8	52	3	-	-	-	C3534.8
5.00	6	8	52	3	-	-	C3065.0	C3535.0
5.50	6	8	52	3	-	-	-	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** **λ 40°** **γ 15°** **DIN 1835B** **Alcrona** **e8** **DIN 327D**



$d_1$ Ø mm	$d_2$ Ø mm	$l_2$ mm	$l_1$ mm	<b>z</b>	$l_3$ mm	$d_3$ Ø mm	<b>C367</b>
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

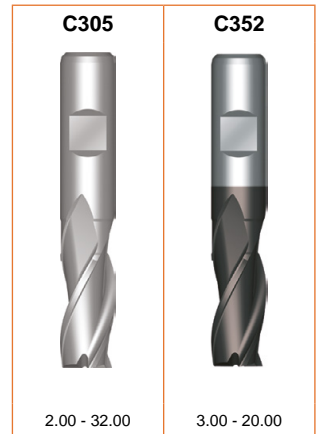
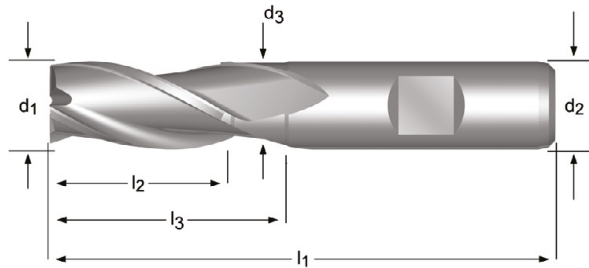
## C352 • Fresas de ranurar

## C352 • Fresa de Ranhurar

## C352 • 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



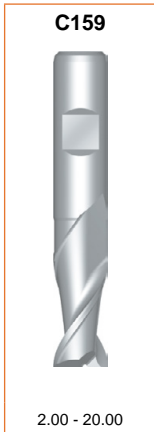
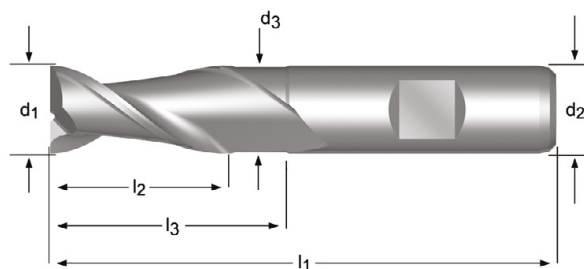
d <sub>1</sub> Ø mm	d <sub>2</sub> Øh <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> Ø mm	C305	C352
2.00	6	7	51	3	-	-	C3052.0	
2.50	6	8	52	3	-	-	C3052.5	
3.00	6	8	52	3	-	-	C3053.0	C3523.0
3.50	6	10	54	3	-	-	C3053.5	
4.00	6	11	55	3	-	-	C3054.0	C3524.0
4.50	6	11	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



$d_1$ $\varnothing$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ $\varnothing$ 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

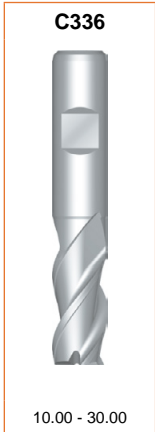
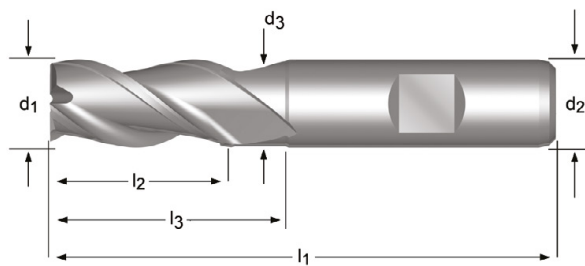


## C336

- 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



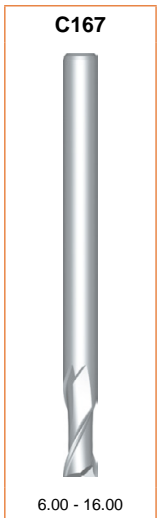
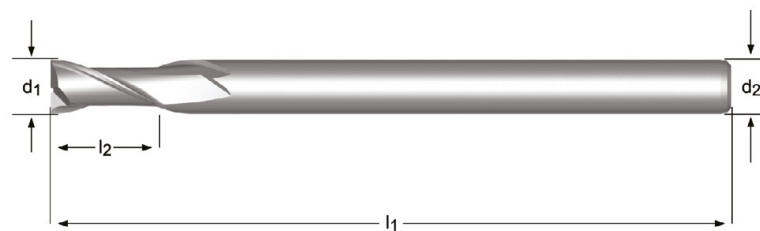
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C336
10.00	10	22	72	3	31.5	9.5	C33610.0
12.00	12	26	83	3	37.5	11.5	C33612.0
14.00	12	26	83	3	37.5	11.5	C33614.0
16.00	16	32	92	3	43.5	15.5	C33616.0
18.00	16	32	92	3	43.5	15.5	C33618.0
20.00	20	38	104	3	53.5	19.5	C33620.0
22.00	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 2  $\lambda 30^\circ$   $\gamma 12^\circ$  js14



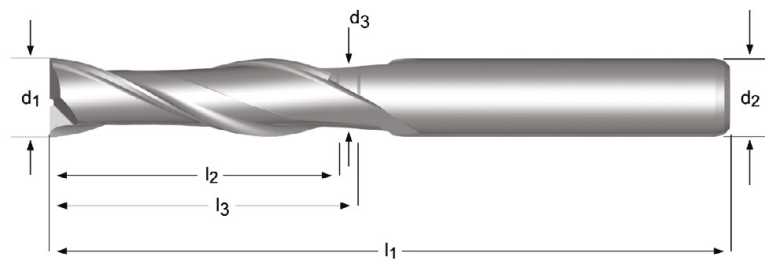
$d_1$ $\varnothing$ mm	$d_2$ $\varnothing h_6$ mm	$l_2$ mm	$l_1$ mm	z	C167
6.00	6	13	180	2	C1676.0
8.00	8	19	180	2	C1678.0
10.00	10	22	200	2	C16710.0
12.00	12	26	200	2	C16712.0
16.00	16	32	200	2	C16716.0

## 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 λ 30° γ 12° DIN 1835A e8 DORMER



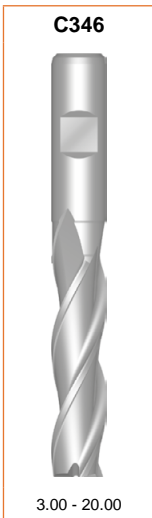
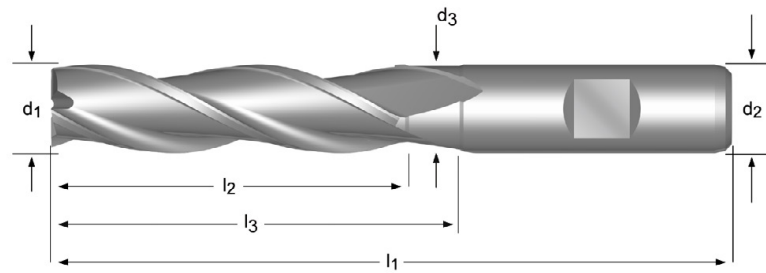
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C122
5.00	5	22	65	2	-	-	C1225.0
6.00	6	27	75	2	-	-	C1226.0
7.00	8	33	85	2	-	-	C1227.0
8.00	8	33	85	2	-	-	C1228.0
10.00	10	40	95	2	-	-	C12210.0
12.00	12	45	110	2	-	-	C12212.0
14.00	12	52	125	2	-	-	C12214.0
16.00	16	58	140	2	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  $\lambda 30^\circ$   $\gamma 12^\circ$  DIN 1835B e8 DIN 844L

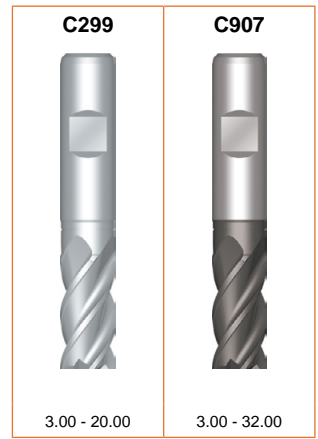
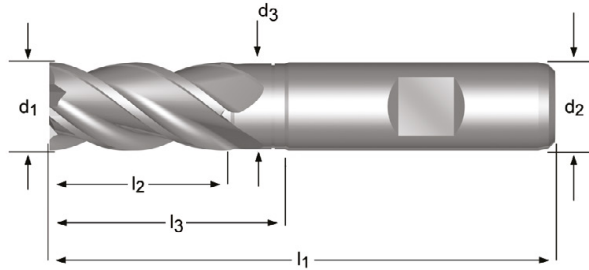


$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C346
3.00	6	12	56	3	-	-	C3463.0
4.00	6	19	63	3	-	-	C3464.0
5.00	6	24	68	3	-	-	C3465.0
6.00	6	24	68	3	-	-	C3466.0
7.00	10	30	80	3	-	-	C3467.0
8.00	10	38	88	3	-	-	C3468.0
9.00	10	38	88	3	-	-	C3469.0
10.00	10	45	95	3	-	-	C34610.0
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

<b>C299</b>	▪	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															
<b>C907</b>	▪	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																	

<b>C299</b>	HSS-E PM		N	Z 3-5		$\lambda 45^\circ$ $\gamma 12^\circ$	DIN 1835B		k10		DIN 844K
<b>C907</b>	HSS-E PM		N	Z 3-6		$\lambda 45^\circ$ $\gamma 12^\circ$	DIN 1835B	Alcra	k10		DIN 844K



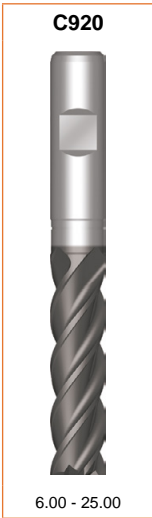
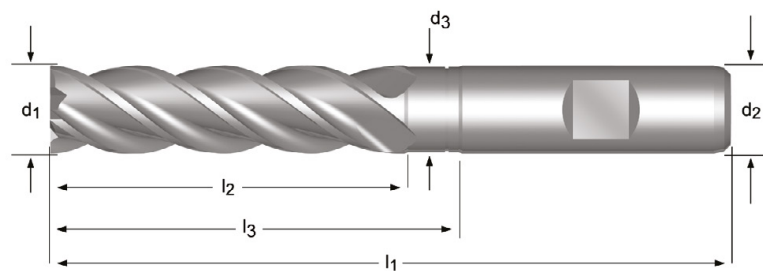
d <sub>1</sub> ∅ mm	d <sub>2</sub> ∅h <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> ∅ mm	C299	C907
3.00	6	8	52	3	-	-	C2993.0	C9073.0
4.00	6	11	55	3	-	-	C2994.0	C9074.0
5.00	6	13	57	3	-	-	C2995.0	C9075.0
6.00	6	13	57	3	-	-	C2996.0	C9076.0
8.00	10	19	69	4	-	-	C2998.0	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  $\lambda 45^\circ$   $\gamma 12^\circ$  DIN 1835B Alcrona k10 DIN 844L

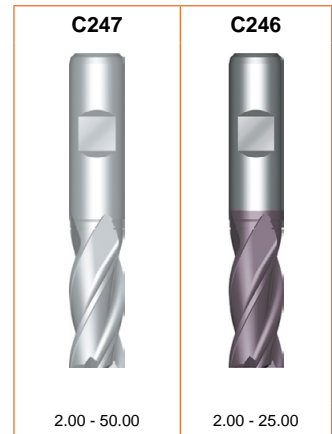
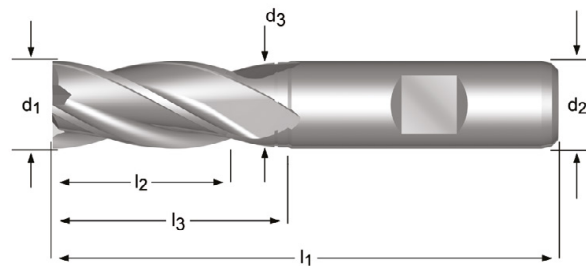


$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C920
6.00	6	24	68	3	-	-	C9206.0
8.00	10	38	88	4	-	-	C9208.0
10.00	10	45	95	4	54.5	9.5	C92010.0
12.00	12	53	110	4	64.5	11.5	C92012.0
14.00	12	53	110	4	64.5	11.5	C92014.0
16.00	16	63	123	4	74.5	15.5	C92016.0
18.00	16	63	123	4	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

<b>C247</b>	▪	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			
<b>C246</b>	▪	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			

<b>C247</b>	HSS-E PM		N	Z 4-8		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B		k10		DIN 844K
<b>C246</b>	HSS-E PM		N	Z 4-6		$\lambda 30^\circ$ $\gamma 12^\circ$	DIN 1835B	TiCN	k10		DIN 844K



$d_1$ Ø Inch	$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	<b>C247</b>	<b>C246</b>
	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
1/8	3.18	6	10	54	4	-	-	C2471/8 <sup>1)</sup>	
	3.50	6	10	54	4	-	-	C2473.5	
	4.00	6	11	55	4	-	-	C2474.0	C2464.0
	4.50	6	11	55	4	-	-	C2474.5	
3/16	4.76	6	13	57	4	-	-	C2473/16 <sup>1)</sup>	
	5.00	6	13	57	4	-	-	C2475.0	C2465.0
	5.50	6	13	57	4	-	-	C2475.5	
	6.00	6	13	57	4	-	-	C2476.0	C2466.0
1/4	6.35	10	16	66	4	-	-	C2471/4 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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
1/2	12.70	12	26	83	4	37.5	11.5	C2471/2 <sup>1)</sup>	
	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
9/16	14.29	12	26	83	4	37.5	11.5	C2479/16 <sup>1)</sup>	
	15.00	12	26	83	4	37.5	11.5	C24715.0	C24615.0
5/8	15.88	16	32	92	4	43.5	15.5	C2475/8 <sup>1)</sup>	

<sup>1)</sup> 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 <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>2</sub> Øh <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> 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
	19.00	16	32	92	4	43.5	15.5	C24719.0	
3/4	19.05	20	38	104	4	53.5	18.5	C2473/4 <sup>1)</sup>	
	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	
	22.00	20	38	104	5	53.5	19.5	C24722.0	C24622.0
7/8	22.22	20	38	104	5	53.5	19.5	C2477/8 <sup>1)</sup>	
	23.00	20	38	104	5	53.5	19.5	C24723.0	
	24.00	25	45	121	5	64.5	23.5	C24724.0	
	25.00	25	45	121	5	64.5	24.5	C24725.0	C24625.0
1"	25.40	25	45	121	5	64.5	24.5	C2471 <sup>1)</sup>	
	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 <sup>2)3)</sup>	
	40.00	40	63	155	6	84.5	39.0	C24740.0 <sup>2)3)</sup>	
	50.00	50	75	177	8	96.5	48.0	C24750.0 <sup>2)3)</sup>	

<sup>1)</sup> 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

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

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



## C273

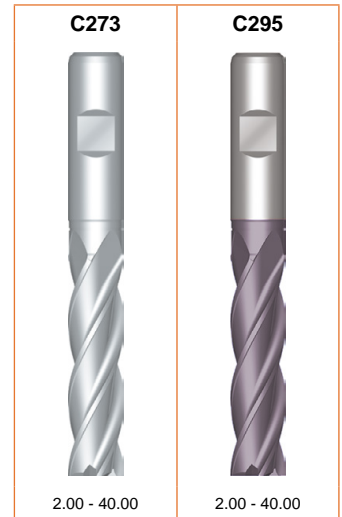
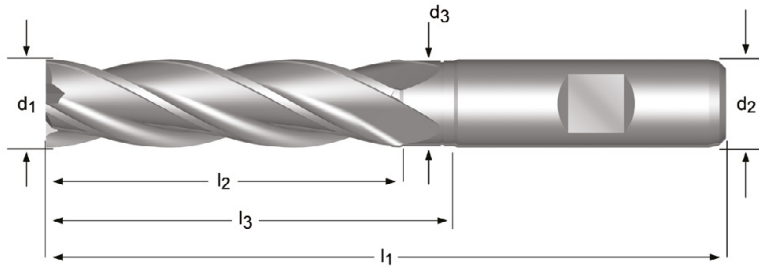
- End Mill
- Fresas de acabado

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



d <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>2</sub> Øh <sub>6</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> 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 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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

<sup>1)</sup> 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 <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>2</sub> Øh <sub>5</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	z	l <sub>3</sub> mm	d <sub>3</sub> Ø mm	C273	C295
3/4	19.05	20	75	141	4	90.5	18.5	C2733/4 <sup>1)</sup>	
	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 <sup>1)</sup>	
	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 <sup>2)3)</sup>	C29540.0

<sup>1)</sup> 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

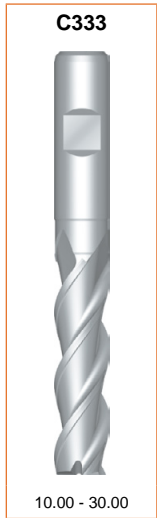
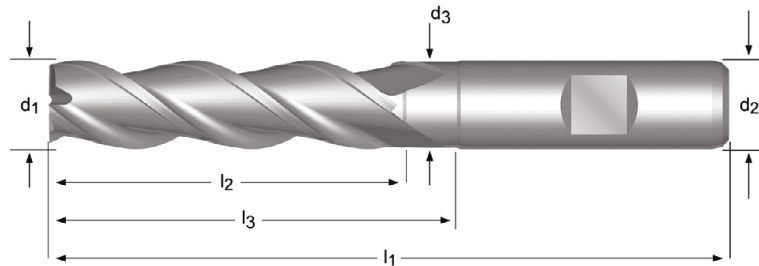
<sup>2)</sup> Available in HSS-E only / Disponible solo en HSCo / Só disponível em HSCo / Disponible en HSCo seulement

<sup>3)</sup> 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



$d_1$ $\emptyset$ mm	$d_2$ $\emptyset h_6$ mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ $\emptyset$ 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

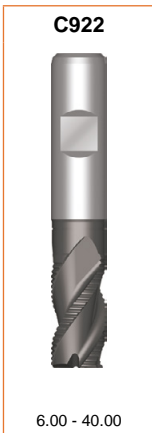
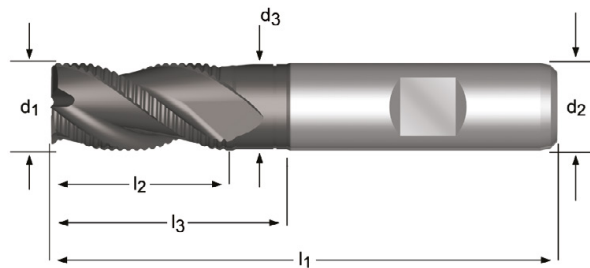
$\lambda$  35°  
 $\gamma$  12°

DIN  
1835B

Alcrona

k12

DIN  
844K



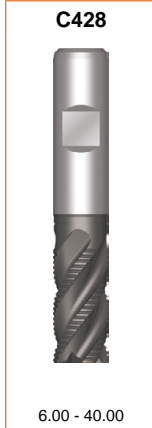
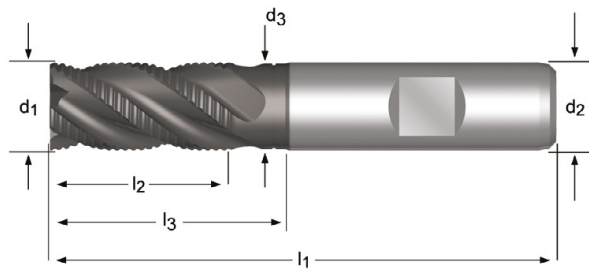
$d_1$ Ø mm	$d_2$ Ø <sub>h8</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C922
6.00	6	13	57	3	-	-	C9226.0
7.00	10	16	66	3	-	-	C9227.0
8.00	10	19	69	3	-	-	C9228.0
9.00	10	19	69	3	-	-	C9229.0
10.00	10	22	72	3	31.5	9.5	C92210.0
11.00	12	22	79	3	-	-	C92211.0
12.00	12	26	83	3	37.5	11.5	C92212.0
13.00	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** 



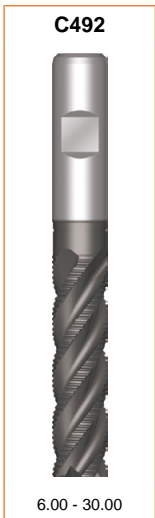
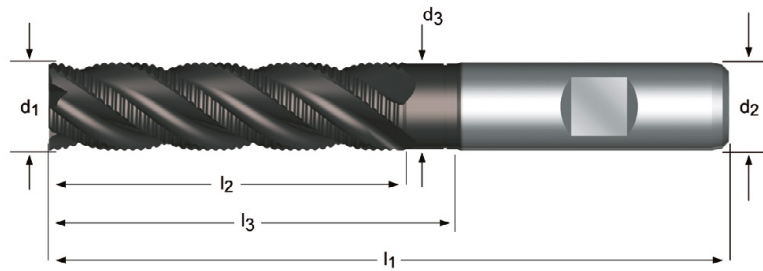
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C428
6.00	6	13	57	4	-	-	C4286.0
7.00	10	16	66	4	-	-	C4287.0
8.00	10	19	69	4	-	-	C4288.0
9.00	10	19	69	4	-	-	C4289.0
10.00	10	22	72	4	31.5	9.5	C42810.0
11.00	12	22	79	4	-	-	C42811.0
12.00	12	26	83	4	37.5	11.5	C42812.0
13.00	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



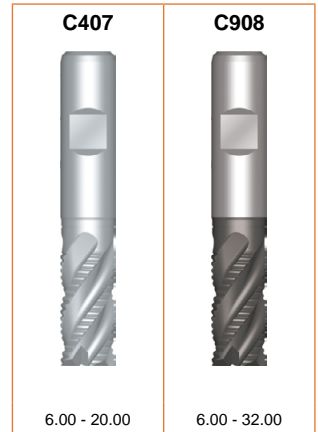
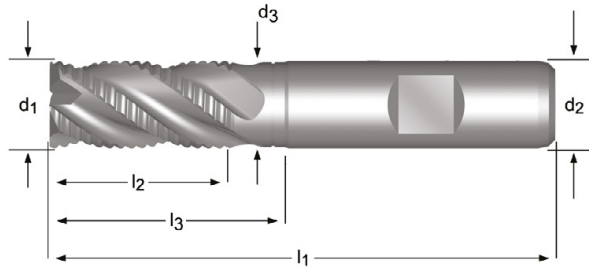
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C492
6.00	6	24	68	3	-	-	C4926.0
8.00	10	38	88	3	-	-	C4928.0
10.00	10	45	95	4	54.5	9.5	C49210.0
12.00	12	53	110	4	64.5	11.5	C49212.0
14.00	12	53	110	4	64.5	11.5	C49214.0
16.00	16	63	123	4	74.5	15.5	C49216.0
18.00	16	63	123	4	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

<b>C407</b>	▪	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									
<b>C908</b>	▪	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											

<b>C407</b>	HSS-E PM		NRA	Z 4-6		$\lambda$ 35° $\gamma$ 12°	DIN 1835B		Alcrona	k12		DIN 844K
<b>C908</b>	HSS-E PM		NRA	Z 4-6		$\lambda$ 35° $\gamma$ 12°	DIN 1835B		Alcrona	k12		DIN 844K



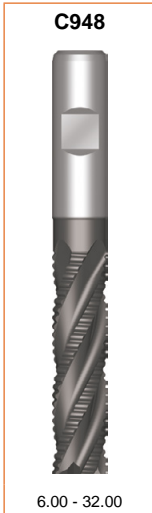
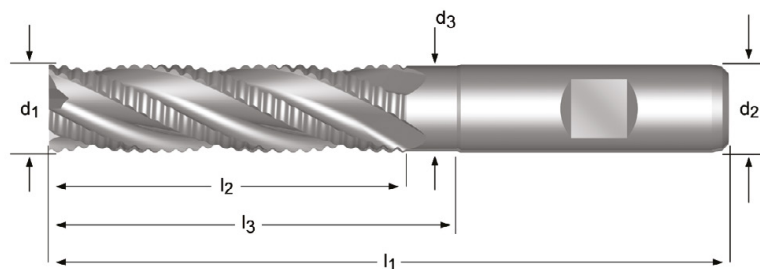
$d_1$ Ø mm	$d_2$ Ø <sub>h5</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	C407	C908
6.00	6	13	57	4	-	-	C4076.0	C9086.0
7.00	10	16	66	4	-	-	C4077.0	C9087.0
8.00	10	19	69	4	-	-	C4078.0	C9088.0
9.00	10	19	69	4	-	-	C4079.0	C9089.0
10.00	10	22	72	4	31.5	9.5	C40710.0	C90810.0
11.00	12	22	79	4	-	-	C40711.0	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










$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> 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

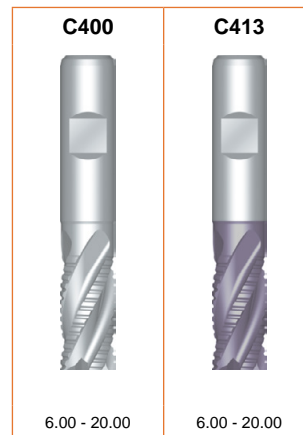
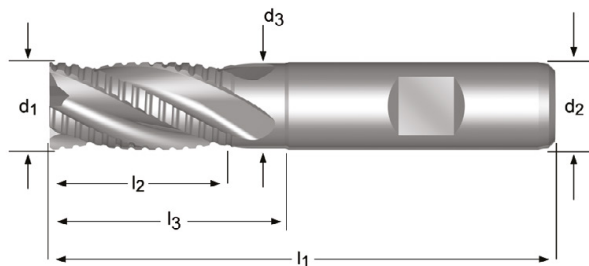


**C400** • Roughing End Mill  
• Fresas desbaste

**C413** • Fresa de Desbaste  
• Fraises d'ébauche

<b>C400</b>	▪	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
<b>C413</b>	▪	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

<b>C400</b>	HSS-E		NF	Z 4-6		$\lambda$ 30° $\gamma$ 12°	DIN 1835B		k12		DIN 844K
<b>C413</b>	HSS-E		NF	Z 4-6		$\lambda$ 30° $\gamma$ 12°	DIN 1835B	TiCN	k12		DIN 844K



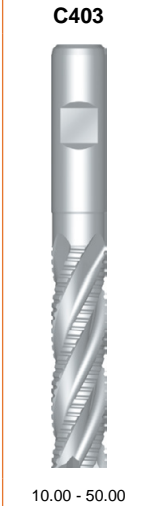
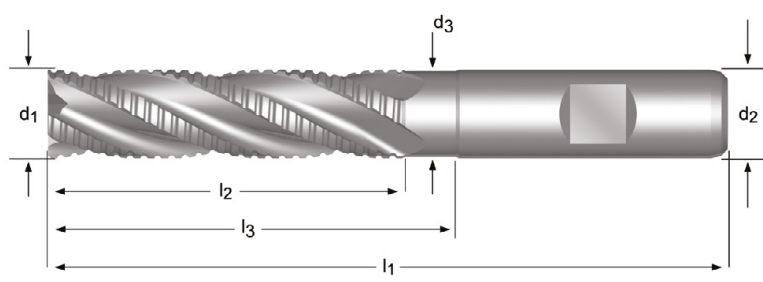
$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	<b>C400</b>	<b>C413</b>
6.00	6	13	57	4	-	-	C4006.0	C4136.0
8.00	10	19	69	4	-	-	C4008.0	C4138.0
10.00	10	22	72	4	-	-	C40010.0	C41310.0
12.00	12	26	83	4	-	-	C40012.0	C41312.0
14.00	12	26	83	4	37.5	11.5	C40014.0	C41314.0
16.00	16	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 NF Z 4-6  $\lambda 30^\circ$   $\gamma 12^\circ$  DIN 1835B k12 DIN 844L

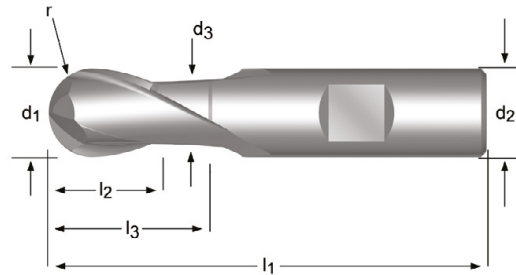


$d_1$ Ø mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	$z$	$l_3$ mm	$d_3$ Ø mm	C403
10.00	10	45	95	4	-	-	C40310.0
12.00	12	53	110	4	-	-	C40312.0
14.00	12	53	110	4	64.5	11.5	C40314.0
16.00	16	63	123	4	74.5	15.5	C40316.0
18.00	16	63	123	4	74.5	15.5	C40318.0
20.00	20	75	141	4	90.5	19.5	C40320.0
30.00	25	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

- C500**
- 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    $\lambda 30^\circ$   $\gamma 12^\circ$    



C500



2.00 - 25.00

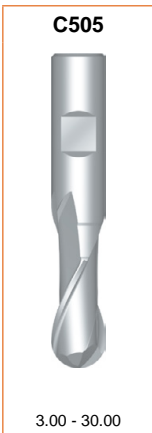
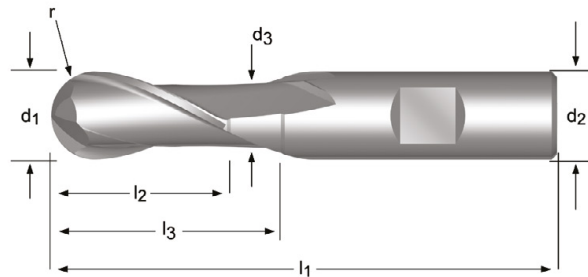
$d_1$ Ø mm	r ±0.05 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	C500
2.00	1.00	6	4	48	2	-	-	C5002.0
3.00	1.50	6	5	49	2	-	-	C5003.0
4.00	2.00	6	7	51	2	-	-	C5004.0
5.00	2.50	6	8	52	2	-	-	C5005.0
6.00	3.00	6	8	52	2	-	-	C5006.0
7.00	3.50	10	10	60	2	-	-	C5007.0
8.00	4.00	10	11	61	2	-	-	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  $\lambda 30^\circ$   $\gamma 12^\circ$  e8



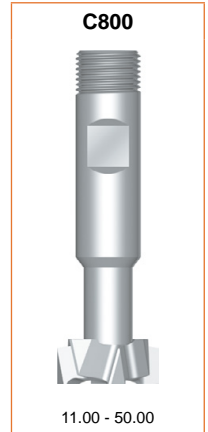
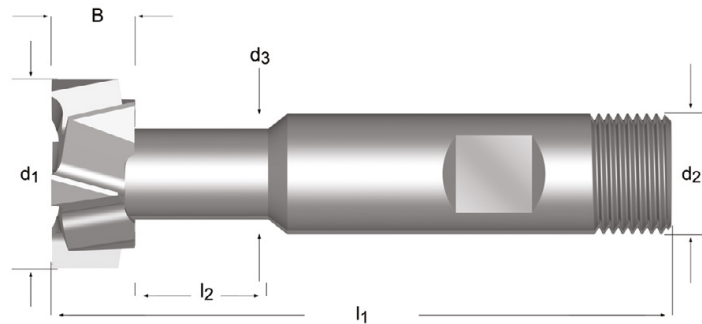
$d_1$ Ø mm	r ±0.05 mm	$d_2$ Ø <sub>h6</sub> mm	$l_2$ mm	$l_1$ mm	z	$l_3$ mm	$d_3$ Ø mm	C505
3.00	1.50	6	8	52	2	-	-	C5053.0
4.00	2.00	6	11	55	2	-	-	C5054.0
5.00	2.50	6	13	57	2	-	-	C5055.0
6.00	3.00	6	13	57	2	-	-	C5056.0
8.00	4.00	10	19	69	2	-	-	C5058.0
10.00	5.00	10	22	72	2	-	-	C50510.0
12.00	6.00	12	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

## C800

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

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  Z 6-8    $\lambda 15^\circ$   $\gamma 10^\circ$   DIN 1835   d11   DIN 851



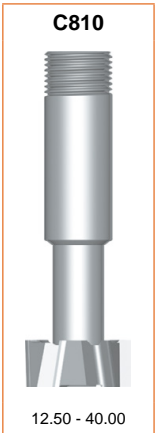
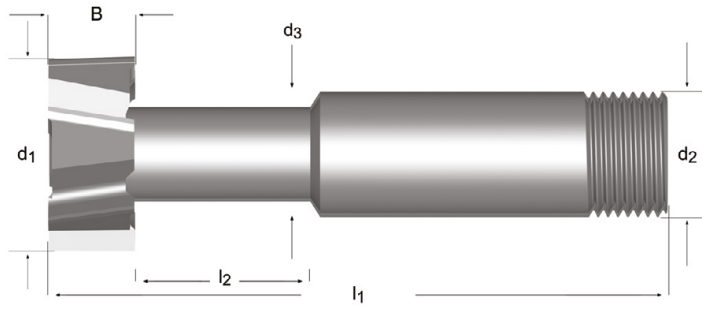
B	d <sub>1</sub> ∅ mm	T DIN650	d <sub>3</sub> ∅ mm	l <sub>2</sub> mm	l <sub>1</sub> mm	d <sub>2</sub> ∅h <sub>6</sub> mm	z	C800
4.0	11.00	5	4	6.5	53.5	10	6	C80011.0X5.0
6.0	12.50	6	5	9	57.0	10	6	C80012.5X6.0
8.0	16.00	8	7	12	62.0	10	6	C80016.0X8.0
8.0	18.00	10	8	15	70.0	12	6	C80018.0X10.0
9.0	21.00	12	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



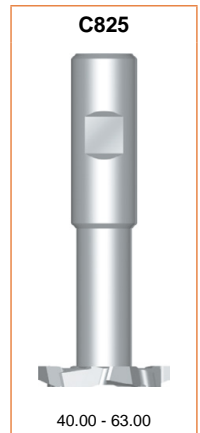
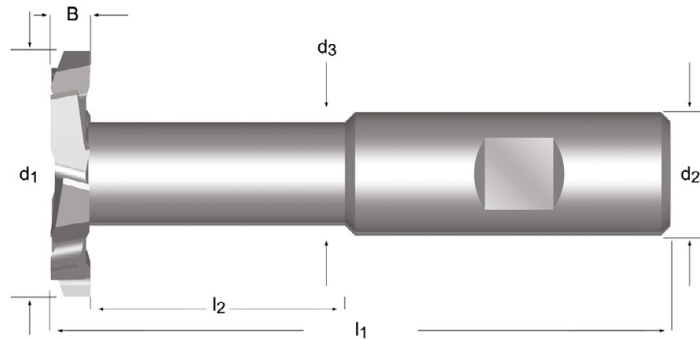
B	d <sub>1</sub> Ø	T	d <sub>3</sub> Ø	l <sub>2</sub>	l <sub>1</sub>	d <sub>2</sub> Ø, -0.025	z	C810
mm	mm	DIN650	mm	mm	mm	mm		
6.00	12.50	6.0	5.00	11	57.0	10.0	6	C8106.0
8.00	16.00	8.0	7.00	13	61.0	10.0	6	C8108.0
8.00	18.00	10.0	8.00	17	65.0	12.0	6	C81010.0
9.00	21.00	12.0	10.00	20	69.0	12.0	6	C81012.0
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

## C825

- 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   $\lambda 15^\circ$   $\gamma 15^\circ$   DIN 1835B  js16  



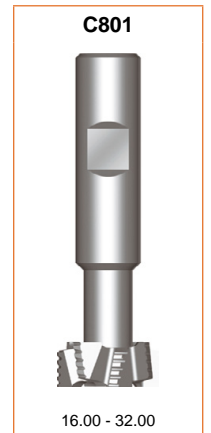
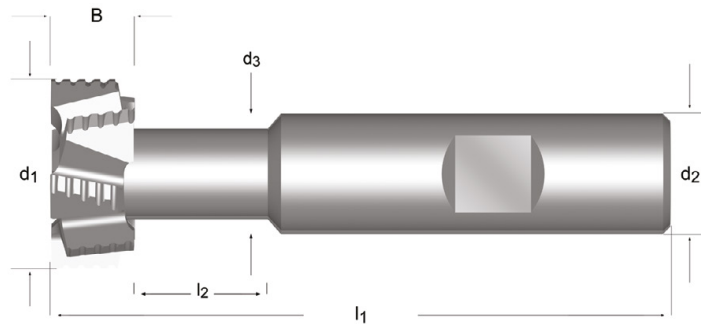
B	d <sub>1</sub>	Ch	d <sub>3</sub>	l <sub>2</sub>	l <sub>1</sub>	d <sub>2</sub>	z	C825
mm	∅ mm	mm	∅ mm	mm	mm	∅h <sub>6</sub> mm		
3	40	0.15	19.2	46	100	20	8	C8253.0X40.0
4	40	0.15	19.2	45	100	20	8	C8254.0X40.0
5	40	0.15	19.2	44	100	20	8	C8255.0X40.0
6	40	0.15	19.2	43	100	20	8	C8256.0X40.0
8	40	0.15	19.2	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 <sub>1</sub> ∅ mm	T DIN650	d <sub>3</sub> ∅ mm	l <sub>2</sub> mm	l <sub>1</sub> mm	d <sub>2</sub> ∅ <sub>h<sub>6</sub> mm</sub>	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

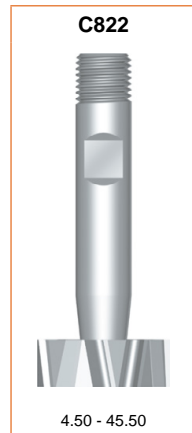
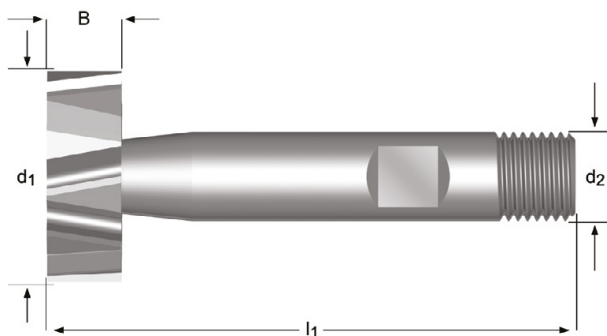


## C822

- 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   $\lambda 10^\circ$   $\gamma 10^\circ$   DIN 1835  h11  DIN 850



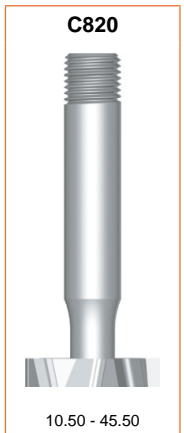
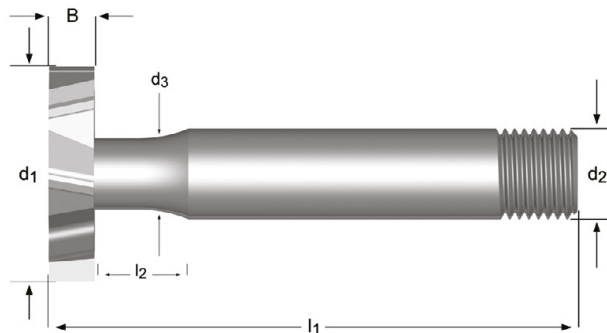
B	d <sub>1</sub> Ø	l <sub>1</sub>	d <sub>2</sub> Ø <sub>h<sub>6</sub></sub>	z	C822
mm	mm	mm	mm		
1.0	4.50	50	6	6	C8224.5X1.0
1.5	7.50	50	6	6	C8227.5X1.5
2.0	7.50	50	6	6	C8227.5X2.0
2.0	10.50	50	6	8	C82210.5X2.0
2.5	10.50	50	6	8	C82210.5X2.5
3.0	10.50	50	6	8	C82210.5X3.0
3.0	13.50	56	10	8	C82213.5X3.0
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  $\lambda 12^\circ$   $\gamma 10^\circ$



Nr.	B Inch	B mm	d <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>3</sub> Ø mm	l <sub>2</sub> mm	l <sub>1</sub> mm	d <sub>2</sub> Ø <sub>0,-0.025</sub> Inch	d <sub>2</sub> Ø <sub>0,-0.025</sub> 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 <sup>9)</sup>
404	1/8	3.18	1/2	12.70	4.85	10	57.0	1/2	12.7	6	C820404 <sup>9)</sup>
		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 <sup>9)</sup>
505	5/32	3.97	5/8	15.88	6.35	10	57.0	1/2	12.7	6	C820505 <sup>9)</sup>
		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 <sup>9)</sup>
506	5/32	3.97	3/4	19.05	6.35	10	57.0	1/2	12.7	6	C820506 <sup>9)</sup>
606	3/16	4.76	3/4	19.05	7.15	10	57.0	1/2	12.7	6	C820606 <sup>9)</sup>
		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 <sup>9)</sup>
607	3/16	4.76	7/8	22.23	7.15	10	63.5	1/2	12.7	8	C820607 <sup>9)</sup>
807	1/4	6.35	7/8	22.23	8.75	10	63.5	1/2	12.0	8	C820807 <sup>9)</sup>
		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 <sup>9)</sup>
808	1/4	6.35	1"	25.40	8.75	10	70.0	1/2	12.7	8	C820808 <sup>9)</sup>
		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 <sup>9)</sup>
810	1/4	6.35	1.1/4	31.75	9.50	12	70.0	1/2	12.7	10	C820810 <sup>9)</sup>

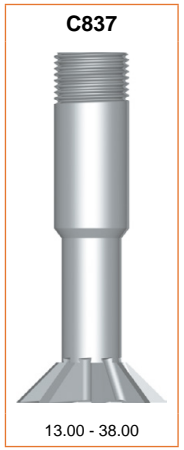
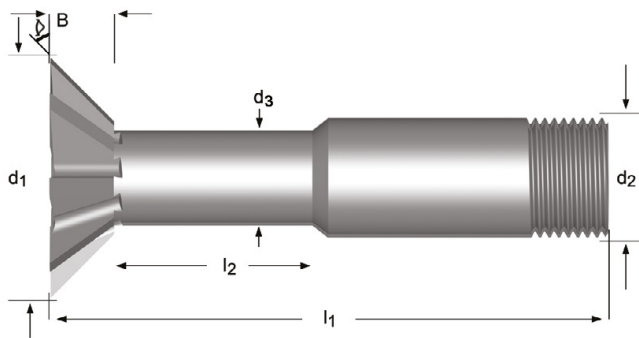
<sup>9)</sup> Standard - BS 122/4 / Norma - BS 122/4 / Norma - BS 122/4 / Standard - BS 122/4

Nr.	B		d <sub>1</sub> Ø Inch	d <sub>1</sub> Ø mm	d <sub>3</sub> Ø mm	l <sub>2</sub> mm	l <sub>1</sub> mm	d <sub>2</sub> Ø0,-0.025 Inch	d <sub>2</sub> Ø0,-0.025 mm	z	C820
	Inch	mm									
1210	3/8	9.53	1.1/4	31.75	11.95	12	70.0	1/2	12.7	10	C8201210 <sup>9)</sup>
		5.00		32.50	8.00	12	70.0		12.0	10	C82032.5X5.0 <sup>9)</sup>
		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 <sup>9)</sup>
1211	3/8	9.53	1.3/8	34.93	11.95	20	76.0	1/2	12.7	10	C8201211 <sup>9)</sup>
		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 <sup>9)</sup>
1212	3/8	9.53	1.1/2	38.10	11.95	20	76.0	1/2	12.7	10	C8201212 <sup>9)</sup>
		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  $\lambda 0^\circ$   $\gamma 0^\circ$  DIN 1835D



	B	d <sub>1</sub>	d <sub>1</sub>	d <sub>3</sub>	l <sub>2</sub>	l <sub>1</sub>	d <sub>2</sub>	d <sub>2</sub>	z	C837
	mm	Ø	Ø	Ø	mm	mm	Ø0,-0.025	Ø0,-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 <sup>9)</sup>
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 <sup>9)</sup>
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 <sup>9)</sup>
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

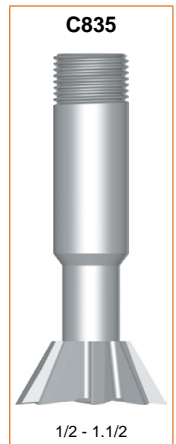
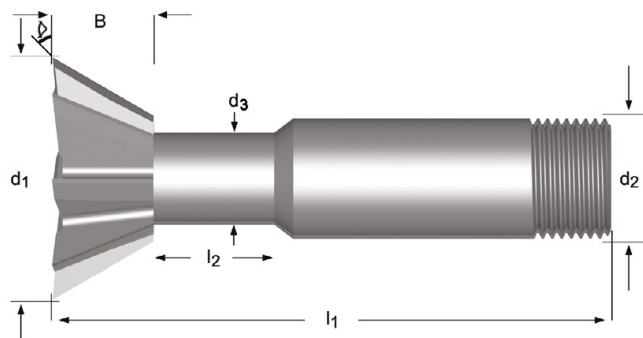
<sup>9)</sup> Standard - BS 122/4 / Norma - BS 122/4 / Norma - BS 122/4 / Standard - BS 122/4

## 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

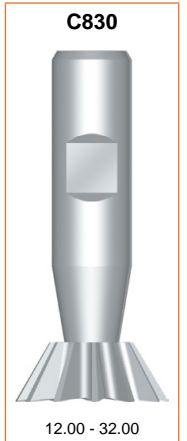
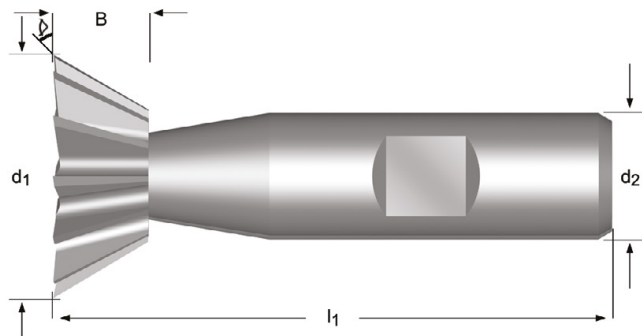


$\angle$	B	d <sub>1</sub> Ø	d <sub>1</sub> Ø	d <sub>3</sub> Ø	l <sub>2</sub>	l <sub>1</sub>	d <sub>2</sub> Ø, -0.025	d <sub>2</sub> Ø, -0.025	z	C835
	mm	Inch	mm	mm	mm	mm	Inch	mm		
60°	4.0	1/2	12.70	7.15	16.5	63.5	1/2	12.70	6	C8351/2 <sup>9)</sup>
60°	4.0		13.00	7.15	16.5	63.5		12.00	6	C83513.0
60°	5.5	5/8	15.88	7.55	18.0	66.5	1/2	12.70	6	C8355/8 <sup>9)</sup>
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 <sup>9)</sup>
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 <sup>9)</sup>
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 <sup>9)</sup>
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 <sup>9)</sup>
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 <sup>9)</sup>
60°	14.5	1.3/8	34.93	12.70	16.0	82.5	1"	25.40	8	C8351.3/8 <sup>9)</sup>
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 <sup>9)</sup>

- 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  $\lambda 0^\circ$   $\gamma 0^\circ$



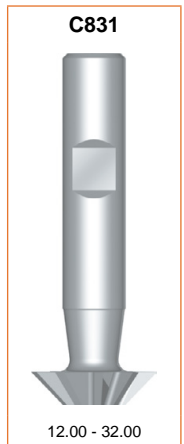
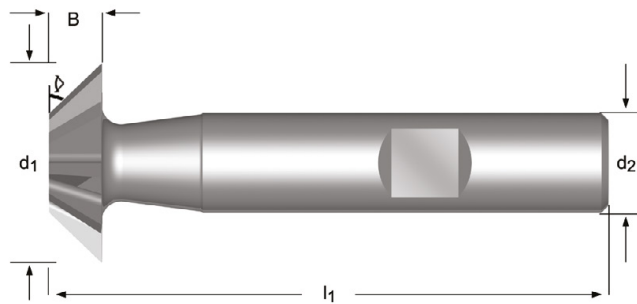
	B mm	$d_1$ $\varnothing$ mm	$l_1$ mm	$d_2$ $\varnothing h_6$ mm	z	C830
45°	3.5	12.0	54	10	10	C83012.0X45
45°	4.0	16.0	60	12	10	C83016.0X45
45°	5.0	20.0	63	12	10	C83020.0X45
45°	6.3	25.0	67	12	10	C83025.0X45
45°	8.0	32.0	71	16	12	C83032.0X45
60°	5.0	12.0	54	10	10	C83012.0X60
60°	6.3	16.0	60	12	10	C83016.0X60
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


## C831

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

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   $\lambda 0^\circ$   $\gamma 0^\circ$   DIN 1835B  js16   DIN 1833D



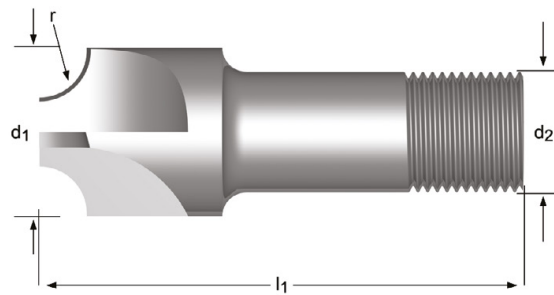
	B mm	$d_1$ Ø mm	$l_1$ mm	$d_2$ Ø <sub>h6</sub> mm	z	C831
45°	3.5	12.0	54	10	10	C83112.0X45
45°	4.0	16.0	60	12	10	C83116.0X45
45°	5.0	20.0	63	12	10	C83120.0X45
45°	6.3	25.0	67	12	10	C83125.0X45
45°	8.0	32.0	71	16	12	C83132.0X45
60°	5.0	12.0	54	10	10	C83112.0X60
60°	6.3	16.0	60	12	10	C83116.0X60
60°	8.0	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
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r Inch	d <sub>1</sub> Ø Inch	d <sub>2</sub> Øh <sub>3</sub> Inch	d <sub>2</sub> Ø mm	l <sub>1</sub> 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

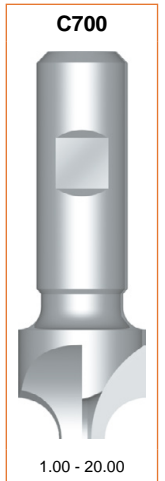
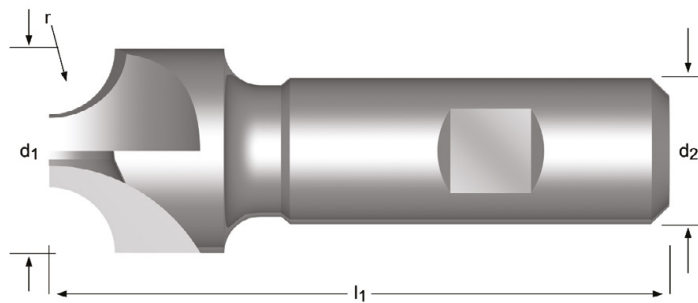


## C700

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

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    $\lambda 0^\circ$   $\gamma 0^\circ$    

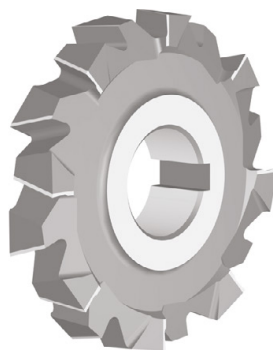
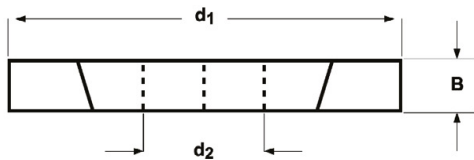


r mm	d <sub>1</sub> Ø mm	d <sub>2</sub> Ø <sub>h<sub>6</sub></sub> mm	l <sub>1</sub> mm	z	C700
1.00	10	10	60	4	C7001.0
1.50	10	10	60	4	C7001.5
2.00	10	10	60	4	C7002.0
2.50	10	10	60	4	C7002.5
3.00	12	12	60	4	C7003.0
3.50	12	12	60	4	C7003.5
4.00	15	12	60	4	C7004.0
5.00	18	16	70	4	C7005.0
6.00	21	16	70	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

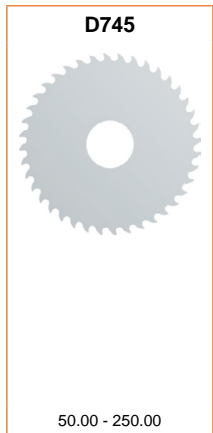
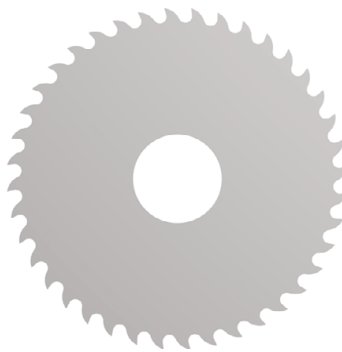
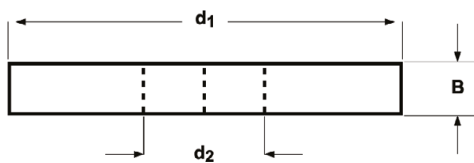


$d_1$ Ø mm	B mm	$d_2$ Ø mm	z	D200	D763
50.00	4.0	16	16	D20050.0X4.0	
50.00	5.0	16	16	D20050.0X5.0	
63.00	1.6	22	32		D76363.0X1.6
63.00	2.0	22	32		D76363.0X2.0
63.00	2.5	22	32		D76363.0X2.5
63.00	3.0	22	28		D76363.0X3.0
63.00	3.5	22	28		D76363.0X3.5
63.00	6.0	22	18	D20063.0X6.0	
63.00	8.0	22	18	D20063.0X8.0	
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

- D745**
- Metal slitting saw Coarse
  - Sierras de ranurar o tronzar paso grueso
  - Serras Circulares p/ Abertura de Rasgos
  - Fraises scies

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



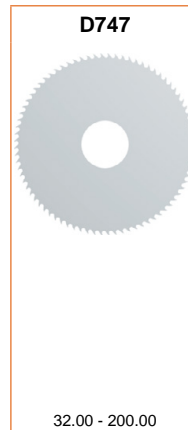
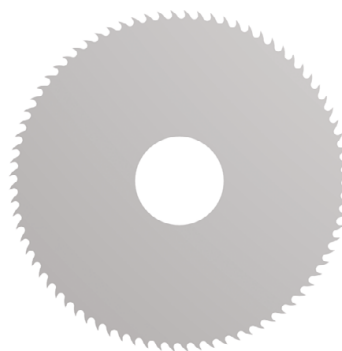
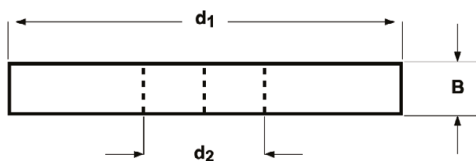
$d_1$ Ø mm	B mm	$d_2$ Ø mm	z	D745
50.00	0.5	13	48	D74550.0X.5
50.00	0.6	13	48	D74550.0X.6
50.00	0.8	13	40	D74550.0X.8
50.00	1.0	13	40	D74550.0X1.0
50.00	1.2	13	40	D74550.0X1.2
50.00	1.5	13	32	D74550.0X1.5
50.00	1.6	13	32	D74550.0X1.6
50.00	2.0	13	32	D74550.0X2.0
63.00	0.5	16	64	D74563.0X.5
63.00	0.6	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

<b>d<sub>1</sub></b> <b>∅</b> <b>mm</b>	<b>B</b> <b>mm</b>	<b>d<sub>2</sub></b> <b>∅</b> <b>mm</b>	<b>z</b>	<b>D745</b>
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

- D747**
- Metal slitting saw Fine
  - Sierras de ranurar o tronzar paso fino
  - Serras Circulares p/ Abertura de Rasgos
  - Fraises scies

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 HSS   Z 40-200   $\gamma 5^\circ$   DIN 1837



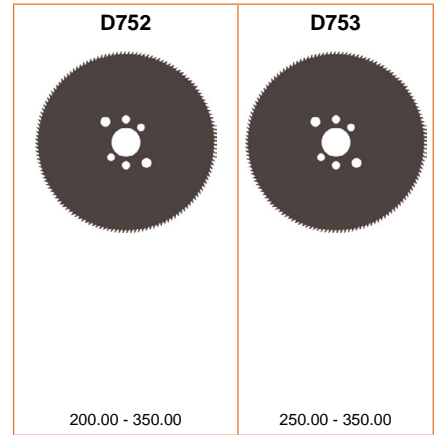
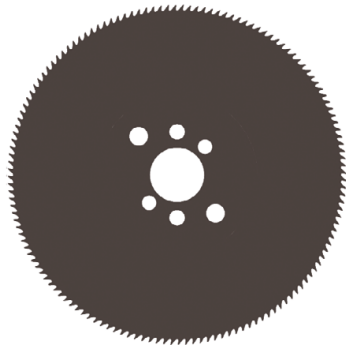
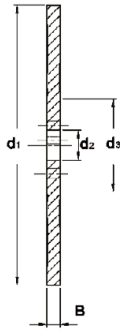
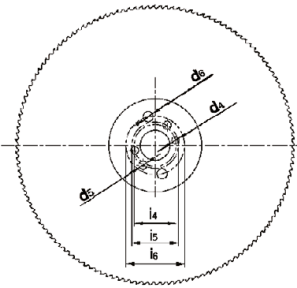
$d_1$ Ø mm	B mm	$d_2$ Ø mm	z	D747
32.00	0.3	8	80	D74732.0X.3
32.00	0.4	8	80	D74732.0X.4
32.00	0.5	8	80	D74732.0X.5
32.00	0.6	8	64	D74732.0X.6
32.00	0.8	8	64	D74732.0X.8
32.00	1.0	8	64	D74732.0X1.0
32.00	1.2	8	48	D74732.0X1.2
32.00	1.5	8	48	D74732.0X1.5
32.00	1.6	8	48	D74732.0X1.6
32.00	2.0	8	48	D74732.0X2.0
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

<b>d<sub>1</sub></b> <b>∅</b> <b>mm</b>	<b>B</b> <b>mm</b>	<b>d<sub>2</sub></b> <b>∅</b> <b>mm</b>	<b>z</b>	<b>D747</b>
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													

<b>D752</b>	HSS			Z 80-180		$\gamma 18^\circ$					
<b>D753</b>	HSS			Z 100-140		$\gamma 18^\circ$					

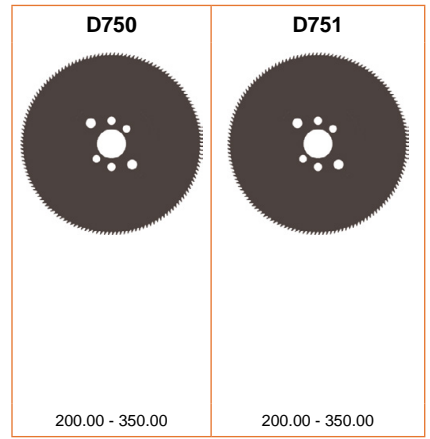
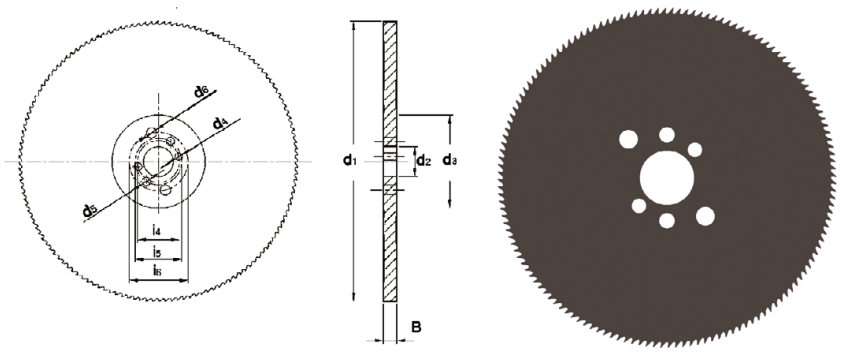


$d_1$ Ø mm	B mm	$d_2$ Ø mm	z	P mm	$d_3$ Ø mm	$d_4$ Ø mm	$i_4$ mm	$d_5$ Ø mm	$i_5$ mm	$d_6$ Ø mm	$i_6$ mm	D752	D753
250	2.0	32	100	8	100	8	45	9	50	11	63		D753250.0X2.0
250	2.0	32	128	6	100	8	45	9	50	11	63	D752250.0X2.0X128	
275	2.5	32	110	8	100	8	45	9	50	11	63	D752275.0X2.5X110	
300	2.5	32	120	8	100	8	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													

<b>D750</b>	HSS			Z 128-220		$\gamma 18^\circ$					
<b>D751</b>	HSS			Z 160-350		$\gamma 18^\circ$					



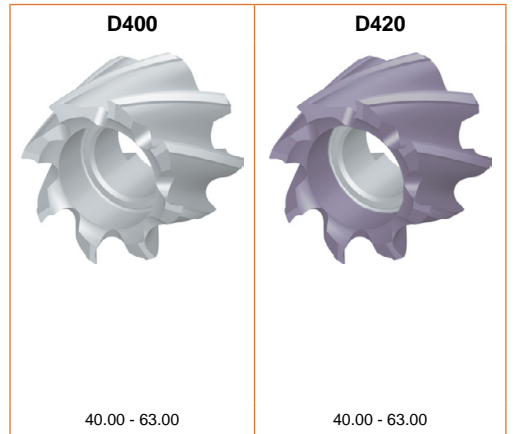
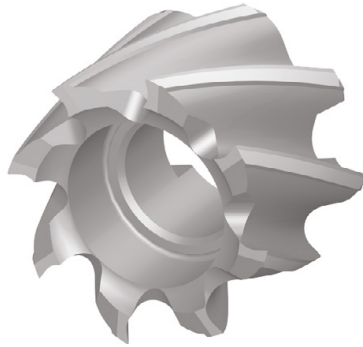
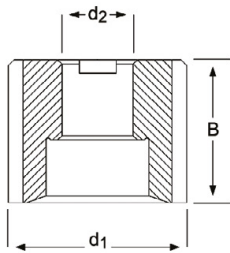
d <sub>1</sub> Ø mm	B mm	d <sub>2</sub> Ø mm	z	P mm	d <sub>3</sub> Ø mm	d <sub>4</sub> Ø mm	i <sub>4</sub> mm	d <sub>5</sub> Ø mm	i <sub>5</sub> mm	d <sub>6</sub> Ø mm	i <sub>6</sub> mm	D750	D751
200	1.8	32	130	5	100	8	45	9	50	11	63	D750200.0X1.8	
200	1.8	32	160	4	100	8	45	9	50	11	63		D751200.0X1.8X160
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		$\lambda 30^\circ$ $\gamma 12^\circ$	TiCN	js16		DIN 1880

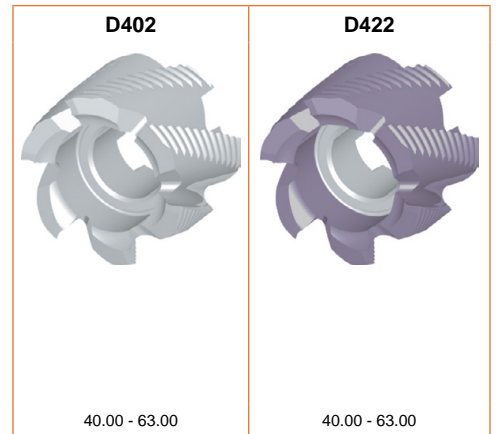
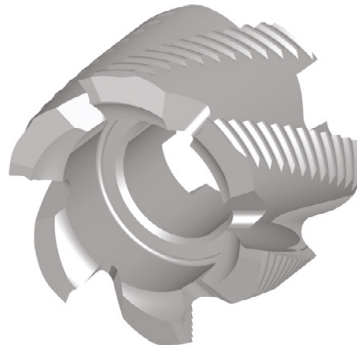
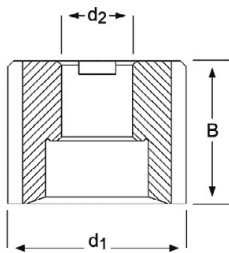


$d_1$ Ø mm	B mm	$d_2$ Ø mm	z	D400	D420
40.00	32	16	8	D40040.0	D42040.0
50.00	36	22	8	D40050.0	D42050.0
63.00	40	27	8	D40063.0	D42063.0

- 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

