DORMER PRAMET

CATÁLOGO COMERCIAL

2021 - 2022



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Uma empresa **Simplesmente Confiável**

A Dormer Pramet é um fabricante e fornecedor global de ferramentas para a indústria de corte de metal. Formada em 2014 após a fusão da Dormer Tools e Pramet Tools, a empresa reúne um grande portfólio de produtos e mais de 150 anos de experiência e conhecimento do setor metalmecânico.

Nossa principal proposta de produtos é uma gama versátil de ferramentas de alta qualidade e adequadas para fins de engenharia geral e múltiplas aplicações. Isso inclui uma série de ferramentas de furação, fresamento, rosqueamento e torneamento de corte e canais, que podem ser tanto intercambiáveis, quanto rotativas.



Fábrica de ferramentas rotativas em São Paulo/SP



Fábrica de ferramentas intercambiáveis em Sumperk/República Checa

Temos o compromisso de ajudar nossos clientes a realizar seus processos de usinagem da maneira mais eficiente possível. Para isso, fornecemos treinamentos, aplicativos para smartphones e material técnico para simplificar a seleção, a solicitação e o uso das ferramentas.

Com 20 escritórios em todo o mundo atendendo a mais de 100 mercados, unidades de produção na Europa, América do Norte e América do Sul e uma rede de distribuição estrategicamente posicionada, oferecemos uma cobertura verdadeiramente global.

Temos orgulho de estar presentes no mercado brasileiro e ganhar a confiança de nossos consumidores, assim como nossos produtos fazem: descomplicada, honesta e consistente. Simplesmente Confiável.

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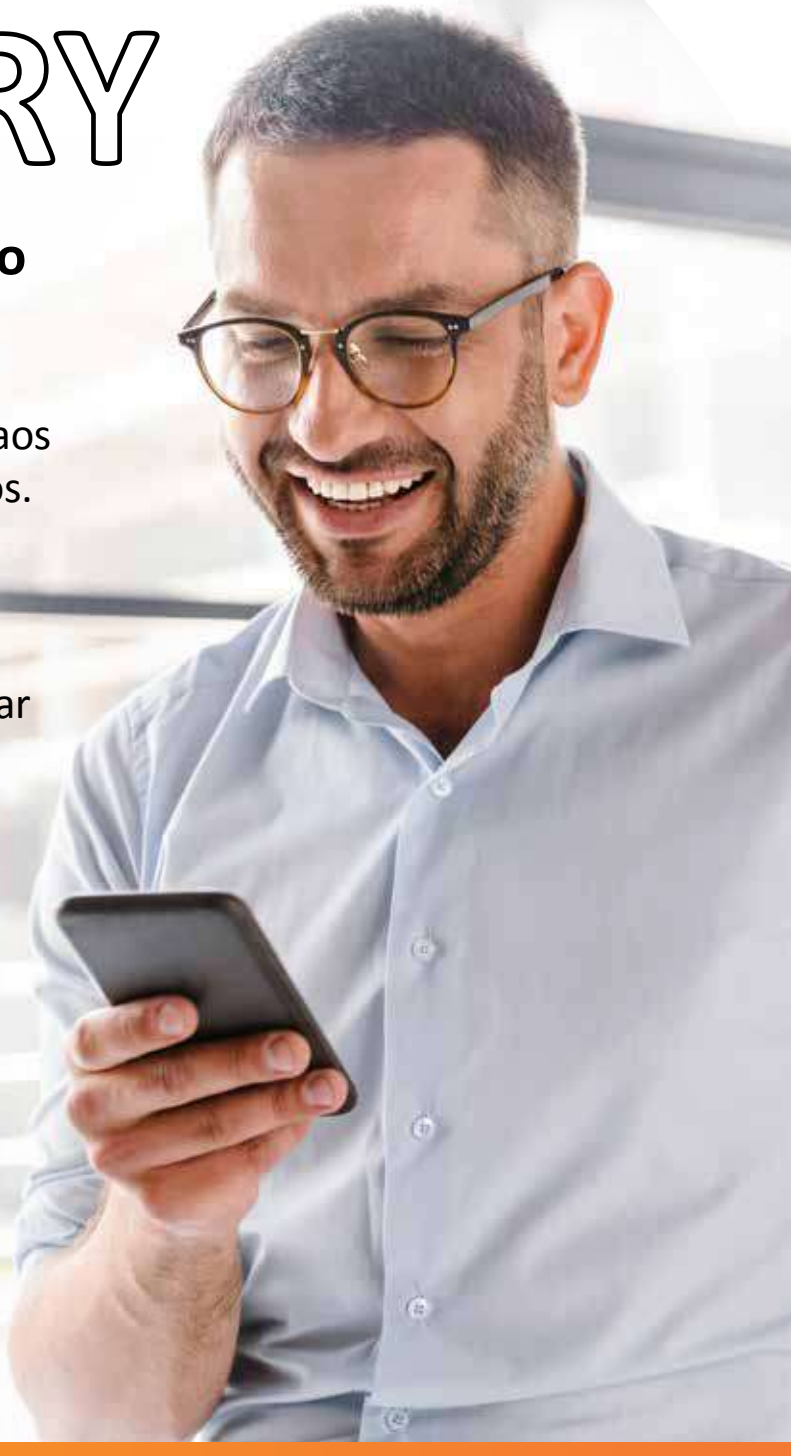
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Conheça o nosso aplicativo de conteúdo literário

Neste aplicativo você tem acesso aos nossos últimos catálogos e folhetos.

Você pode baixar arquivos para consultas, realizar buscas por produtos específicos e compartilhar páginas específicas e arquivos completos por mensagem.

Encontre a ferramenta ideal em um clique.



PRODUTOS DORMER



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Ícones Comuns

Material

HM	HSS	HSS-E	HSS-E PM	HSS HM
Metal Duro	Aço Rápido	Aço Rápido Cobalto	Aço Rápido Cobalto Sinterizado	Aço Rápido Metal Duro

Tratamento

ST	Bright	Bright ST	Bronze	ST Bronze	TiN	TiN
Tratamento a Vapor	Brilhante	Brilhante/ Tratamento a Vapor	Bronze	Tratamento a Vapor / Bronze	Nitreto de Titânio	Brilhante/Nitreto de Titânio

TiCN	TiAlN	TiAlN Top	Alcrona	Alcrona Top	X-CEED	
Carbo Nitreto de Titânio	Nitreto de Titânio Alumínio	Nitreto de Titânio Alumínio - Top	Alcrona	Alcrona Top	X-CEED	Nitreto

Direção

R	L
Direita	Esquerda

Classificação de uso

■	●
Excelente	Bom

Ícones de Brocas

Geometria de Ponta

S.P.	NAS 907	PS
Ponta Especial	NAS 907	PS

Forma

N	H	W

Ângulo de Ponta

118°	120°	122°	130°	135°	140°	90°/120°

Ângulo de Escareado

60°	R	90°/120°	180°	90°	180°
Broca de Centrar 60º	Broca de Centrar com Forma Radial	Subland 90º	Subland 180º	Broca Escalonada 90º	Broca Escalonada 180º

Profundidade

1×D	2.5×D	3×D	4×D	5×D	6×D	10×D	15×D	20×D	25×D

Haste

		DIN 6535HA	DIN 6535HB		
Cilíndrica	Cônica	DIN6535HA	DIN6535HB	Com Lingueta de Arraste	Reduzida

Norma

DIN ANSI	DIN 1899	DIN 1897	DIN 333A	DIN 333R	DIN 338	DIN 340	DIN 341	DIN 345	
DIN 8037	DIN 8374	DIN 8376	DIN 8377	DORMER	ANSI	BS 328	DIN 6539	DIN 1870(1)	DIN 1870(2)
DIN 6537K	DIN 6537L	DIN 1869-1	DIN 1869-2	DIN 1869-3	DIN 8039				

Refrigeração

Refrigeração Interna

Ícones de Escareadores

Aplicação	 Escareador	 G314	 Rebaixador	 M138			
Ângulo de Escareado	20°	60°	82°	90°	100°	180°	
Haste	 Cilíndrica	 Cônica					
Norma	DIN 334C	DIN 334D	DIN 335A	DIN 335C	DIN 335D	DIN 373	DORMER

Ícones de Machos

Tipo de Rosca	M Métrica	MF Métrica Fina	UNC	UNF	UN	G	NPT	NPTF
	NPSF	NPSM	BA	BSF	BSW	EGM	PG	Rc
Tipo do Furo	 Furo Passante	 Furo Cego	 Furo passante/ cego					
Geometria	 Canal Reto	 Ponta Helicoidal	λ 15° Canal Helicoidal 15°	λ 27° Canal Helicoidal 27°	λ 30° Canal Helicoidal 30°	λ 40° Canal Helicoidal 40°	λ 45° Canal Helicoidal 45°	
Profundidade	1×D	1.5×D	2×D	2.5×D	3×D			
Chanfro	A 6-8 Chanfro No. A	B 3.5-5 Chanfro No. B	C 2-3 Chanfro No. C	D 18-20 Chanfro No. D	1.75 XP	2.25 XP		
Tolerância	2A	2B	6g	6G	6H	6HX	Class A	
	Medium Média	Normal Normal						

Ícones de Machos

Norma

DIN 382 | DIN 351 | DIN 352 | DIN 357 | DIN 371 | DIN 374 | DIN 376 | DIN 2181

DIN 5156 | DIN 5157 | DIN 40432 | DIN DORMER | ANSI | ANSI B94.9 | ANSI DORMER | ISO 529

ISO 2283 | ISO 2284 | ISO 2568 | ISO DORMER | BS 1127:1950 | DIN 371/376 | DIN 2184-1

Ícones de Fresas

Tipo

NF	NR	NRA	HRA	FS
Desbaste de Perfil Plano	Desbaste de Perfil Arredondado	Desbaste de Perfil Arredondado Assimétrico	Desbaste Fino Assimétrico	Semiacabamento

W			N	
Fresa para Materiais Macios e Maleáveis	Passo largo	Passo fino	Para Aços com Resistência Alta ou Baixa	

Aplicação

P9					
Rasgos P9	Rasgos	Acabamento	Desbaste	Topo Esférico	Forma - T
Woodruff	Rabo de Andorinha	Rabo de Andorinha Invertido	Fresa Côncava	Corte 3 lados	Fresa Caracol

Formato do Dente de Serra para Corte de Metal

BW | HZ

Comprimento de Corte

Extra Curta		Média		Extra Longa

Tolerância de Diâmetro

DC d11 | DC e8 | DC h9 | DC h10 | DC h11

DC h12 | DC k10 | DC k12 | DC js14 | DC js16

Ícones de Fresas

Ângulo de Hélice

λ 0° | λ 10° | λ 12° | λ 15° | λ 30°

Número de Cortes

NOF 2 | NOF 3 | NOF 3-4 | NOF 3-5 | NOF 3-6 | NOF 4 | NOF 4-6

NOF 4-8 | NOF 6-8 | NOF 6-10 | NOF 6-12 | NOF 8-12 | NOF 16-24 | NOF 16-30

28-44 NOF | 28-100 NOF | 48-200 NOF | 80-180 NOF | 100-140 NOF | 130-220 NOF | 160-350 NOF

Norma

DIN 327D | DIN 844K | DIN 844L | DIN 850 | DIN 851 | DIN 885A

DIN 1833C | DIN 1833D | DIN 1837 | DIN 1838 | DIN 1880 | DORMER

Haste



Ícones de Limas

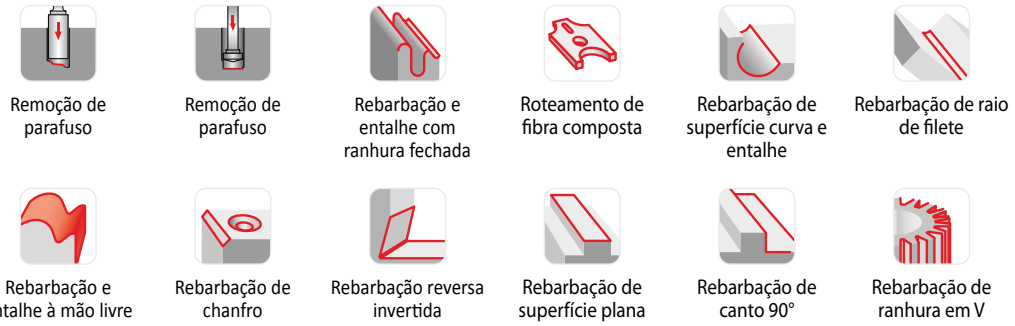
Formato da Lima



Formato Topo



Operações



Ícones de Acessórios

Ângulo de Corte	 0°	 8° Esquerda	 8° Direita	 15° Esquerda	 15° Direita
Tamanho do Inserto					
Aplicação	 Corte	 Ranhura			
Tolerância	DC **h9**	DC **h13**			
Direção de Corte	 Direita	 Esquerda			
Forma	 Redondo	 Quadrado	 Retangular		
Norma	DIN **4964A**	DIN **4964B**	DIN **4964D**	DORMER	



BROCAS DE AÇO RÁPIDO

A002

Broca paralela com TiN na ponta

HSS | TiN | DIN 338 | R | N | 118° | 4×D





e-Code	Descrição	M
A0021.0	1.00 mm	10
A0021.1	1.10 mm	10
A0023/64	3/64"	10
A0021.2	1.20 mm	10
A0021.3	1.30 mm	10
A0021.4	1.40 mm	10
A0021.5	1.50 mm	10
A0021/16	1/16"	10
A0021.6	1.60 mm	10
A0021.7	1.70 mm	10
A0021.8	1.80 mm	10
A0021.9	1.90 mm	10
A0025/64	5/64"	10
A0022.0	2.00 mm	10
A0022.1	2.10 mm	10
A0022.2	2.20 mm	10
A0022.3	2.30 mm	10
A0023/32	3/32"	10
A0022.4	2.40 mm	10
A0022.5	2.50 mm	10
A0022.6	2.60 mm	10
A0022.7	2.70 mm	10
A0027/64	7/64"	10
A0022.8	2.80 mm	10
A0022.9	2.90 mm	10
A0023.0	3.00 mm	10
A0023.1	3.10 mm	10
A0021/8	1/8"	10
A0023.2	3.20 mm	10
A0023.25	3.25 mm	10
A0023.3	3.30 mm	10
A0023.4	3.40 mm	10
A0023.5	3.50 mm	10
A0029/64	9/64"	10
A0023.6	3.60 mm	10
A0023.7	3.70 mm	10
A0023.75	3.75 mm	10
A0023.8	3.80 mm	10
A0023.9	3.90 mm	10
A0025/32	5/32"	10
A0024.0	4.00 mm	10
A0024.1	4.10 mm	10
A0024.2	4.20 mm	10
A0024.25	4.25 mm	10
A0024.3	4.30 mm	10
A00211/64	11/64"	10
A0024.4	4.40 mm	10
A0024.5	4.50 mm	10
A0024.6	4.60 mm	10
A0024.7	4.70 mm	10
A0023/16	3/16"	10
A0024.8	4.80 mm	10
A0024.9	4.90 mm	10
A0025.0	5.00 mm	10
A0025.1	5.10 mm	10
A00213/64	13/64"	10
A0025.2	5.20 mm	10
A0025.3	5.30 mm	10
A0025.4	5.40 mm	10
A0025.5	5.50 mm	10
A0027/32	7/32"	10
A0025.6	5.60 mm	10
A0025.7	5.70 mm	10
A0025.8	5.80 mm	10
A0025.9	5.90 mm	10
A00215/64	15/64"	10
A0026.0	6.00 mm	10
A0026.1	6.10 mm	10
A0026.2	6.20 mm	10
A0026.3	6.30 mm	10
A0021/4	1/4"	10
A0026.4	6.40 mm	10
A0026.5	6.50 mm	10
A0026.6	6.60 mm	10
A0026.7	6.70 mm	10
A00217/64	17/64"	10
A0026.8	6.80 mm	10
A0026.9	6.90 mm	10
A0027.0	7.00 mm	10
A0027.1	7.10 mm	10
A0029/32	9/32"	10
A0027.2	7.20 mm	10
A0027.3	7.30 mm	10
A0027.4	7.40 mm	10
A0027.5	7.50 mm	10
A00219/64	19/64"	10
A0027.6	7.60 mm	10
A0027.7	7.70 mm	10
A0027.8	7.80 mm	10
A0027.9	7.90 mm	10
A0025/16	5/16"	10
A0028.0	8.00 mm	10
A0028.1	8.10 mm	10
A0028.2	8.20 mm	10
A0028.3	8.30 mm	10
A00221/64	21/64"	10
A0028.4	8.40 mm	10
A0028.5	8.50 mm	10
A0028.6	8.60 mm	10
A0028.7	8.70 mm	10
A00211/32	11/32"	10
A0028.8	8.80 mm	10
A0028.9	8.90 mm	10
A0029.0	9.00 mm	10
A0029.1	9.10 mm	10
A00223/64	23/64"	10
A0029.2	9.20 mm	10
A0029.3	9.30 mm	10
A0029.4	9.40 mm	10
A0029.5	9.50 mm	10
A0023/8	3/8"	10
A0029.6	9.60 mm	10
A0029.7	9.70 mm	10
A0029.8	9.80 mm	10
A0029.9	9.90 mm	10
A00225/64	25/64"	10
A00210.0	10.00 mm	10
A00210.1	10.10 mm	5
A00210.2	10.20 mm	5
A00210.3	10.30 mm	5
A00213/32	13/32"	5
A00210.4	10.40 mm	5
A00210.5	10.50 mm	5
A00210.6	10.60 mm	5
A00210.7	10.70 mm	5
A00227/64	27/64"	5
A00210.8	10.80 mm	5
A00210.9	10.90 mm	5
A00211.0	11.00 mm	5
A00211.1	11.10 mm	5
A0027/16	7/16"	5
A00211.2	11.20 mm	5
A00211.3	11.30 mm	5
A00211.4	11.40 mm	5
A00211.5	11.50 mm	5
A00229/64	29/64"	5
A00211.6	11.60 mm	5
A00211.7	11.70 mm	5
A00211.8	11.80 mm	5
A00211.9	11.90 mm	5
A00215/32	15/32"	5
A00212.0	12.00 mm	5
A00212.1	12.10 mm	5
A00212.2	12.20 mm	5
A00212.3	12.30 mm	5
A00231/64	31/64"	5
A00212.4	12.40 mm	5
A00212.5	12.50 mm	5
A00212.6	12.60 mm	5
A0021/2	1/2"	5
A00212.7	12.70 mm	5
A00212.8	12.80 mm	5
A00212.9	12.90 mm	5
A00213.0	13.00 mm	5
A00213.1	13.10 mm	1
A00233/64	33/64"	1
A00213.2	13.20 mm	1
A00213.25	13.25 mm	1
A00213.3	13.30 mm	1
A00213.4	13.40 mm	1
A00217/32	17/32"	1
A00213.5	13.50 mm	1
A00213.6	13.60 mm	1
A00213.7	13.70 mm	1
A00213.75	13.75 mm	1
A00213.8	13.80 mm	1
A00235/64	35/64"	1
A00213.9	13.90 mm	1
A00214.0	14.00 mm	1
A00214.25	14.25 mm	1
A0029/16	9/16"	1
A00214.5	14.50 mm	1
A00237/64	37/64"	1
A00214.75	14.75 mm	1
A00215.0	15.00 mm	1
A00219/32	19/32"	1
A00215.25	15.25 mm	1
A00239/64	39/64"	1
A00215.5	15.50 mm	1
A00215.75	15.75 mm	1
A0025/8	5/8"	1
A00216.0	16.00 mm	1

A002S

Broca paralela com TiN na ponta - Encartelada

HSS | TiN | DIN 338 | R | N | 118° | 4×D





e-Code	Descrição	M
A002S2.0	2.00 mm	1
A002S2.5	2.50 mm	1
A002S3.0	3.00 mm	1
A002S1/8	1/8"	1
A002S3.2	3.20 mm	1
A002S3.3	3.30 mm	1
A002S3.5	3.50 mm	1
A002S5/32	5/32"	1
A002S4.0	4.00 mm	1
A002S4.1	4.10 mm	1
A002S4.2	4.20 mm	1
A002S4.5	4.50 mm	1
A002S3/16	3/16"	1
A002S5.0	5.00 mm	1
A002S13/64	13/64"	1
A002S5.5	5.50 mm	1
A002S7/32	7/32"	1
A002S6.0	6.00 mm	1
A002S1/4	1/4"	1
A002S6.5	6.50 mm	1
A002S17/64	17/64"	1
A002S6.8	6.80 mm	1
A002S7.0	7.00 mm	1
A002S7.5	7.50 mm	1
A002S5/16	5/16"	1
A002S8.0	8.00 mm	1
A002S8.2	8.20 mm	1
A002S8.5	8.50 mm	1
A002S9.0	9.00 mm	1
A002S9.5	9.50 mm	1
A002S3/8	3/8"	1
A002S10.0	10.00 mm	1
A002S10.2	10.20 mm	1
A002S10.5	10.50 mm	1
A002S11.0	11.00 mm	1
A002S11.5	11.50 mm	1
A002S12.0	12.00 mm	1
A002S12.5	12.50 mm	1
A002S1/2	1/2"	1
A002S13.0	13.00 mm	1

A022

Broca paralela curta com TiN na ponta

HSS | TiN | DIN ANSI | R | N | 135° | 2.5×D



e-Code	Descrição	M
A022.5	0.50 mm	10
A022.6	0.60 mm	10
A022.7	0.70 mm	10
A0221/32	1/32"	10
A022.8	0.80 mm	10
A022.9	0.90 mm	10
A0221.0	1.00 mm	10
A0221.1	1.10 mm	10
A0223/64	3/64"	10
A0221.2	1.20 mm	10
A0221.3	1.30 mm	10
A0221.4	1.40 mm	10
A0221.5	1.50 mm	10
A0221/16	1/16"	10
A0221.6	1.60 mm	10
A0221.7	1.70 mm	10
A0221.8	1.80 mm	10
A0221.9	1.90 mm	10
A0225/64	5/64"	10
A0222.0	2.00 mm	10
A0222.1	2.10 mm	10
A0222.2	2.20 mm	10
A0222.25	2.25 mm	10
A0222.3	2.30 mm	10
A0223/32	3/32"	10
A0222.4	2.40 mm	10
A0222.5	2.50 mm	10
A0222.6	2.60 mm	10
A0222.65	2.65 mm	10
A0222.7	2.70 mm	10
A0227/64	7/64"	10
A0222.8	2.80 mm	10
A0222.9	2.90 mm	10
A0223.0	3.00 mm	10
A0223.1	3.10 mm	10
A0221/8	1/8"	10
A0223.2	3.20 mm	10
A0223.25	3.25 mm	10
A0223.3	3.30 mm	10
A0223.4	3.40 mm	10
A0223.5	3.50 mm	10
A0229/64	9/64"	10
A0223.6	3.60 mm	10
A0223.7	3.70 mm	10
A0223.8	3.80 mm	10
A0223.9	3.90 mm	10
A0225/32	5/32"	10
A0224.0	4.00 mm	10
A0224.1	4.10 mm	10
A0224.2	4.20 mm	10
A0224.3	4.30 mm	10
A02211/64	11/64"	10
A0224.4	4.40 mm	10
A0224.5	4.50 mm	10
A0224.6	4.60 mm	10
A0224.7	4.70 mm	10
A0223/16	3/16"	10
A0224.8	4.80 mm	10
A0224.9	4.90 mm	10
A0225.0	5.00 mm	10
A0225.1	5.10 mm	10
A02213/64	13/64"	10
A0225.2	5.20 mm	10
A0225.3	5.30 mm	10
A0225.4	5.40 mm	10
A0225.5	5.50 mm	10
A0227/32	7/32"	10
A0225.6	5.60 mm	10
A0225.7	5.70 mm	10
A0225.8	5.80 mm	10
A0225.9	5.90 mm	10
A02215/64	15/64"	10
A0226.0	6.00 mm	10
A0226.1	6.10 mm	10
A0226.2	6.20 mm	10
A0226.3	6.30 mm	10
A0221/4	1/4"	10
A0226.4	6.40 mm	10
A0226.5	6.50 mm	10
A0226.6	6.60 mm	10
A0226.7	6.70 mm	10
A0226.8	6.80 mm	10
A0226.9	6.90 mm	10
A0227.0	7.00 mm	10
A0227.1	7.10 mm	10
A0229/32	9/32"	10
A0227.2	7.20 mm	10
A0227.3	7.30 mm	10
A0227.4	7.40 mm	10
A0227.5	7.50 mm	10
A0227.6	7.60 mm	10
A0227.7	7.70 mm	10
A0227.8	7.80 mm	10
A0227.9	7.90 mm	10
A0225/16	5/16"	10
A0228.0	8.00 mm	10
A0228.1	8.10 mm	10
A0228.2	8.20 mm	10
A0228.3	8.30 mm	10
A0228.4	8.40 mm	10
A0228.5	8.50 mm	10
A0228.6	8.60 mm	10
A0228.7	8.70 mm	10
A02211/32	11/32"	10
A0228.8	8.80 mm	10
A0228.9	8.90 mm	10
A0229.0	9.00 mm	10
A0229.1	9.10 mm	10
A0229.2	9.20 mm	10
A0229.3	9.30 mm	10
A0229.4	9.40 mm	10
A0229.5	9.50 mm	10
A0223/8	3/8"	10
A0229.6	9.60 mm	10
A0229.7	9.70 mm	10
A0229.8	9.80 mm	10
A0229.9	9.90 mm	10
A02210.0	10.00 mm	10
A02210.1	10.10 mm	5
A02210.2	10.20 mm	5
A02210.3	10.30 mm	5
A02213/32	13/32"	5
A02210.4	10.40 mm	5
A02210.5	10.50 mm	5
A02210.6	10.60 mm	5
A02210.7	10.70 mm	5
A02210.8	10.80 mm	5
A02210.9	10.90 mm	5
A02211.0	11.00 mm	5
A02211.1	11.10 mm	5

A0227/16	7/16"	5
A02211.2	11.20 mm	5
A02211.3	11.30 mm	5
A02211.5	11.50 mm	5
A02211.6	11.60 mm	5
A02211.7	11.70 mm	5
A02211.8	11.80 mm	5
A02211.9	11.90 mm	5
A02212.0	12.00 mm	5
A02212.1	12.10 mm	5
A02212.2	12.20 mm	5
A02212.5	12.50 mm	5
A0221/2	1/2"	5
A02213.0	13.00 mm	5
A02213.5	13.50 mm	1
A02214.0	14.00 mm	1
A0229/16	9/16"	1
A02214.5	14.50 mm	1
A02215.0	15.00 mm	1
A02215.5	15.50 mm	1
A0225/8	5/8"	1
A02216.0	16.00 mm	1

A087

Jogo de brocas A002 - Embalagem caixa



e-Code	Descrição
A087201	19 peças (1.0 mm - 10.0 mm x 0.5 mm)

A088

Jogo de brocas A022 - Embalagem caixa



e-Code	Descrição
A088200S	24 peças (1.0 mm - 10.5 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm)

A089

Jogo de brocas A002 - Embalagem plástica



e-Code	Descrição
A08910	5 peças (4.0 mm - 5.0 mm - 6.0 mm - 8.0 mm - 10.0 mm)

A094

Jogo de brocas A002 - Embalagem circular



e-Code	Descrição
A094413	13 peças (1.0 mm - 6.5 mm x 0.5 mm + 3.3 - 4.2 mm)
A094419	19 peças (1.0 mm - 10.0 mm x 0.5 mm)

A095

Jogo de brocas A002 - Embalagem caixa



e-Code	Descrição
A09518	29 peças (1/16 - 1/2 x 1/64)
A09520	Set 20 (A002 x 15)
A095200	Set 200 (A002 x 24)
A095201	19 peças (1.0 mm - 10.0 mm x 0.5 mm)
A095202	51 peças (1.0 mm - 6.0 mm x 0.1 mm)
A095203	41 peças (6.0 mm - 10.0 mm x 0.1 mm)
A095204	25 peças (1.0 mm - 13.0 mm x 0.5 mm)
A095206	29 peças (1.0 mm - 13.0 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm)
A095209	91 peças (1.0 mm - 10.0 mm x 0.1 mm)

A099

Display de brocas A002



e-Code	Descrição
A099F1	380 peças (5x 13/32, 7/16, 15/32, 1/2) - (10x 5/64, 7/64, 9/64, 11/64, 13/64, 15/64, 17/64, 9/32, 19/64, 5/16, 21/64, 11/32, 23/64, 3/8) - (20x 1/16, 7/32, 1/4) - (30x 3/32) - (40x 5/32, 3/16) - (50x 1/8)
A099M1	340 peças (5x 10.0, 11.0, 11.5, 12.0, 12.5, 13.0 mm) - (10x 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10.0 mm) - (20x 1.0, 5.0, 6.0 mm) - (30x 2.0 mm) - (40x 4 mm) - (50x 3 mm)
A099DRILLBOY	43 peças (3x 3.0 - 3.3 - 3.5 - 4.0 mm) - (2x 4.2 - 4.5 - 5.0 - 5.5 - 6.0 - 6.5 -6.8 - 7.0 - 7.5 - 8.0 mm) - (1x 8.5 - 9.0 - 9.5 - 10.0 - 10.2 - 10.5 - 11.0 - 11.5 - 12.0 - 12.5 - 13.0 mm)

A100

Broca paralela HSS revenida a vapor







e-Code	Descrição	M
A100.2	0.20 mm	10
A100.25	0.25 mm	10
A100.3	0.30 mm	10
A100.32	0.32 mm	10
A100N80	N80	10
A100.35	0.35 mm	10
A100N79	N79	10
A100.38	0.38 mm	10
A1001/64	1/64"	10
A100.4	0.40 mm	10
A100N78	N78	10
A100.42	0.42 mm	10
A100.45	0.45 mm	10
A100N77	N77	10

A100.48	0.48 mm	10
A100.5	0.50 mm	10
A100N76	N76	10
A100.52	0.52 mm	10
A100N75	N75	10
A100.55	0.55 mm	10
A100N74	N74	10
A100.58	0.58 mm	10
A100.6	0.60 mm	10
A100N73	N73	10
A100.62	0.62 mm	10
A100N72	N72	10
A100.65	0.65 mm	10
A100N71	N71	10
A100.68	0.68 mm	10
A100.7	0.70 mm	10
A100N70	N70	10
A100.72	0.72 mm	10
A100N69	N69	10
A100.75	0.75 mm	10
A100.78	0.78 mm	10
A1001/32	1/32"	10
A100N68	N68	10
A100.8	0.80 mm	10
A100N67	N67	10
A100.82	0.82 mm	10
A100N66	N66	10
A100.85	0.85 mm	10
A100.88	0.88 mm	10
A100N65	N65	10
A100.9	0.90 mm	10
A100N64	N64	10
A100.92	0.92 mm	10
A100N63	N63	10
A100.95	0.95 mm	10
A100N62	N62	10
A100.98	0.98 mm	10
A100N61	N61	10
A1001.0	1.00 mm	10
A100N60	N60	10
A100N59	N59	10
A1001.05	1.05 mm	10
A100N58	N58	10
A100N57	N57	10
A1001.1	1.10 mm	10
A1001.15	1.15 mm	10
A100N56	N56	10
A1003/64	3/64"	10
A1001.2	1.20 mm	10
A1001.25	1.25 mm	10
A1001.3	1.30 mm	10
A100N55	N55	10
A1001.35	1.35 mm	10
A1001.4	1.40 mm	10
A100N54	N54	10
A1001.45	1.45 mm	10
A1001.5	1.50 mm	10
A100N53	N53	10
A1001.55	1.55 mm	10
A1001/16	1/16"	10
A1001.6	1.60 mm	10
A100N52	N52	10
A1001.65	1.65 mm	10
A1001.7	1.70 mm	10
A100N51	N51	10
A1001.75	1.75 mm	10
A100N50	N50	10
A1001.8	1.80 mm	10
A1001.85	1.85 mm	10
A100N49	N49	10
A1001.9	1.90 mm	10
A100N48	N48	10
A1001.95	1.95 mm	10
A1005/64	5/64"	10
A100N47	N47	10
A1002.0	2.00 mm	10
A1002.05	2.05 mm	10
A100N46	N46	10
A100N45	N45	10
A1002.1	2.10 mm	10
A1002.15	2.15 mm	10
A100N44	N44	10
A1002.2	2.20 mm	10
A1002.25	2.25 mm	10
A100N43	N43	10
A1002.3	2.30 mm	10
A1002.35	2.35 mm	10
A100N42	N42	10
A1003/32	3/32"	10
A1002.4	2.40 mm	10
A100N41	N41	10
A1002.45	2.45 mm	10
A100N40	N40	10
A1002.5	2.50 mm	10
A100N39	N39	10
A1002.55	2.55 mm	10
A100N38	N38	10
A1002.6	2.60 mm	10
A100N37	N37	10
A1002.65	2.65 mm	10
A1002.7	2.70 mm	10
A100N36	N36	10
A1002.75	2.75 mm	10
A1007/64	7/64"	10
A100N35	N35	10
A1002.8	2.80 mm	10
A100N34	N34	10
A1002.85	2.85 mm	10
A100N33	N33	10
A1002.9	2.90 mm	10
A1002.95	2.95 mm	10
A100N32	N32	10
A1003.0	3.00 mm	10
A100N31	N31	10
A1003.1	3.10 mm	10
A1003.15	3.15 mm	10
A1001/8	1/8"	10
A1003.2	3.20 mm	10
A1003.25	3.25 mm	10
A100N30	N30	10
A1003.3	3.30 mm	10
A1003.4	3.40 mm	10
A100N29	N29	10
A1003.5	3.50 mm	10
A100N28	N28	10
A1009/64	9/64"	10
A1003.6	3.60 mm	10
A100N27	N27	10
A1003.7	3.70 mm	10
A100N26	N26	10
A1003.75	3.75 mm	10
A1003.8	3.80 mm	10
A100N25	N25	10
A100N24	N24	10
A1003.9	3.90 mm	10
A100N23	N23	10
A1005/32	5/32"	10
A100N22	N22	10
A1004.0	4.00 mm	10
A100N21	N21	10
A100N20	N20	10
A1004.1	4.10 mm	10
A1004.2	4.20 mm	10
A100N19	N19	10
A1004.25	4.25 mm	10
A1004.3	4.30 mm	10
A100N18	N18	10
A10011/64	11/64"	10
A100N17	N17	10
A1004.4	4.40 mm	10
A1004.5	4.50 mm	10
A100N16	N16	10
A100N15	N15	10
A1004.6	4.60 mm	10
A100N14	N14	10
A1004.7	4.70 mm	10
A100N13	N13	10
A1004.75	4.75 mm	10
A1003/16	3/16"	10
A1004.8	4.80 mm	10
A100N12	N12	10
A100N11	N11	10
A1004.9	4.90 mm	10
A100N10	N10	10
A100N9	N9	10
A1005.0	5.00 mm	10
A100N8	N8	10
A1005.1	5.10 mm	10
A100N7	N7	10
A10013/64	13/64"	10
A100N6	N6	10
A1005.2	5.20 mm	10
A100N5	N5	10
A1005.25	5.25 mm	10
A1005.3	5.30 mm	10
A100N4	N4	10
A1005.4	5.40 mm	10
A100N3	N3	10
A1005.5	5.50 mm	10
A1007/32	7/32"	10
A1005.6	5.60 mm	10
A100N2	N2	10
A1005.7	5.70 mm	10
A1005.75	5.75 mm	10
A100N1	N1	10
A1005.8	5.80 mm	10
A1005.9	5.90 mm	10
A100A	A	10
A10015/64	15/64"	10
A1006.0	6.00 mm	10
A100B	B	10
A1006.1	6.10 mm	10
A100C	C	10
A1006.2	6.20 mm	10
A1006.25	6.25 mm	10
A100D	D	10
A1006.3	6.30 mm	10
A1001/4	1/4"	10
A100E	E	10
A1006.4	6.40 mm	10
A1006.5	6.50 mm	10
A100F	F	10
A1006.6	6.60 mm	10
A100G	G	10
A1006.7	6.70 mm	10
A10017/64	17/64"	10
A1006.75	6.75 mm	10
A100H	H	10
A1006.8	6.80 mm	10
A1006.9	6.90 mm	10

A100I	I	10
A1007.0	7.00 mm	10
A100J	J	10
A1007.1	7.10 mm	10
A100K	K	10
A1009/32	9/32"	10
A1007.2	7.20 mm	10
A1007.25	7.25 mm	10
A1007.3	7.30 mm	10
A100L	L	10
A1007.4	7.40 mm	10
A100M	M	10
A1007.5	7.50 mm	10
A10019/64	19/64"	10
A1007.6	7.60 mm	10
A100N	N	10
A1007.7	7.70 mm	10
A1007.75	7.75 mm	10
A1007.8	7.80 mm	10
A1007.9	7.90 mm	10
A1005/16	5/16"	10
A1008.0	8.00 mm	10
A100O	O	10
A1008.1	8.10 mm	10
A1008.2	8.20 mm	10
A100P	P	10
A1008.25	8.25 mm	10
A1008.3	8.30 mm	10
A10021/64	21/64"	10
A1008.4	8.40 mm	10
A100Q	Q	10
A1008.5	8.50 mm	10
A1008.6	8.60 mm	10
A100R	R	10
A1008.7	8.70 mm	10
A10011/32	11/32"	10
A1008.75	8.75 mm	10
A1008.8	8.80 mm	10
A100S	S	10
A1008.9	8.90 mm	10
A1009.0	9.00 mm	10
A100T	T	10
A1009.1	9.10 mm	10
A10023/64	23/64"	10
A1009.2	9.20 mm	10
A1009.25	9.25 mm	10
A1009.3	9.30 mm	10
A100U	U	10
A1009.4	9.40 mm	10
A1009.5	9.50 mm	10
A1003/8	3/8"	10
A100V	V	10
A1009.6	9.60 mm	10
A1009.7	9.70 mm	10
A1009.75	9.75 mm	10
A1009.8	9.80 mm	10
A100W	W	10
A1009.9	9.90 mm	10
A10025/64	25/64"	10
A10010.0	10.00 mm	10
A100X	X	5
A10010.1	10.10 mm	5
A10010.2	10.20 mm	5
A10010.25	10.25 mm	5
A100Y	Y	5
A10010.3	10.30 mm	5
A10013/32	13/32"	5
A10010.4	10.40 mm	5
A100Z	Z	5
A10010.5	10.50 mm	5
A10010.6	10.60 mm	5
A10010.7	10.70 mm	5
A10027/64	27/64"	5
A10010.75	10.75 mm	5
A10010.8	10.80 mm	5
A10010.9	10.90 mm	5
A10011.0	11.00 mm	5
A10011.1	11.10 mm	5
A1007/16	7/16"	5
A10011.2	11.20 mm	5
A10011.25	11.25 mm	5
A10011.3	11.30 mm	5
A10011.4	11.40 mm	5
A10011.5	11.50 mm	5
A10029/64	29/64"	5
A10011.6	11.60 mm	5
A10011.7	11.70 mm	5
A10011.75	11.75 mm	5
A10011.8	11.80 mm	5
A10011.9	11.90 mm	5
A10015/32	15/32"	5
A10012.0	12.00 mm	5
A10012.1	12.10 mm	5
A10012.2	12.20 mm	5
A10012.25	12.25 mm	5
A10012.3	12.30 mm	5
A10031/64	31/64"	5
A10012.4	12.40 mm	5
A10012.5	12.50 mm	5
A10012.6	12.60 mm	5
A1001/2	1/2"	5
A10012.7	12.70 mm	5
A10012.75	12.75 mm	5
A10012.8	12.80 mm	5
A10012.9	12.90 mm	5
A10013.0	13.00 mm	5
A10033/64	33/64"	1
A10013.1	13.10 mm	1
A10013.2	13.20 mm	1
A10013.25	13.25 mm	5
A10013.3	13.30 mm	1
A10013.4	13.40 mm	1
A10017/32	17/32"	1
A10013.5	13.50 mm	1
A10013.6	13.60 mm	1
A10013.7	13.70 mm	1
A10013.75	13.75 mm	5
A10013.8	13.80 mm	1
A10035/64	35/64"	5
A10013.9	13.90 mm	1
A10014.0	14.00 mm	1
A10014.25	14.25 mm	1
A1009/16	9/16"	1
A10014.5	14.50 mm	1
A10037/64	37/64"	1
A10014.75	14.75 mm	1
A10015.0	15.00 mm	1
A10019/32	19/32"	1
A10015.25	15.25 mm	1
A10039/64	39/64"	1
A10015.5	15.50 mm	1
A10015.75	15.75 mm	1
A1005/8	5/8"	1
A10016.0	16.00 mm	1
A10041/64	41/64"	1
A10016.5	16.50 mm	1
A10021/32	21/32"	1
A10017.0	17.00 mm	1
A10043/64	43/64"	1
A10011/16	11/16"	1
A10017.5	17.50 mm	1
A10018.0	18.00 mm	1
A10023/32	23/32	1
A10018.5	18.50 mm	1
A10019.0	19.00 mm	1
A1003/4	3/4	1
A10019.5	19.50 mm	1
A10025/32	25/32	1
A10020.0	20.00 mm	1
A10020.5	20.5 mm	1
A10013/16	13/16	1
A10021.0	21.0 mm	1
A10027/32	27/32	1
A10021.5	21.5 mm	1
A10022.0	22.0 mm	1
A1007/8	7/8	1
A10022.5	22.5 mm	1
A10023.0	23.0 mm	1
A10029/32	29/32	1
A10023.5	23.5 mm	1
A10015/16	15/16	1
A1001INCH	1”	1
A10024.0	24.0 mm	1
A10024.5	24.5 mm	1
A10025.0	25.0 mm	1

A101

Broca paralela corte à esquerda revenida a vapor

HSS ST | DIN 338 | L | N | 118° | 4×D



e-Code	Descrição	M
A1011.0	1.00 mm	10
A1011.1	1.10 mm	10
A1011.2	1.20 mm	10
A1011.25	1.25 mm	10
A1011.3	1.30 mm	10
A1011.4	1.40 mm	10
A1011.5	1.50 mm	10
A1011.6	1.60 mm	10
A1011.7	1.70 mm	10
A1011.8	1.80 mm	10
A1011.9	1.90 mm	10
A1012.0	2.00 mm	10
A1012.1	2.10 mm	10
A1012.2	2.20 mm	10
A1012.3	2.30 mm	10
A1012.4	2.40 mm	10
A1012.5	2.50 mm	10
A1012.6	2.60 mm	10
A1012.7	2.70 mm	10
A1012.8	2.80 mm	10
A1012.9	2.90 mm	10
A1013.0	3.00 mm	10
A1013.2	3.20 mm	10
A1013.3	3.30 mm	10
A1013.5	3.50 mm	10
A1013.8	3.80 mm	10
A1014.0	4.00 mm	10
A1014.2	4.20 mm	10
A1014.5	4.50 mm	10
A1014.8	4.80 mm	10
A1015.0	5.00 mm	10

A1015.1	5.10 mm	10
A1015.2	5.20 mm	10
A1015.5	5.50 mm	10
A1016.0	6.00 mm	10
A1016.5	6.50 mm	10
A1017.0	7.00 mm	10
A1017.5	7.50 mm	10
A1018.0	8.00 mm	10
A1018.5	8.50 mm	10
A1019.0	9.00 mm	10
A10110.0	10.00 mm	10
A10111.0	11.00 mm	5
A10112.0	12.00 mm	5

A108

Broca paralela HSS revenida a vapor para inox

HSS ST | DIN 338 | R | W | 135° | 4×D





e-Code	Descrição	M
A1081.0	1.00 mm	10
A1081.1	1.10 mm	10
A1081.2	1.20 mm	10
A1081.3	1.30 mm	10
A1081.4	1.40 mm	10
A1081.5	1.50 mm	10
A1081/16	1/16 pol	10
A1081.6	1.60 mm	10
A1081.7	1.70 mm	10
A1081.8	1.80 mm	10
A1081.9	1.90 mm	10
A1085/64	5/64 pol	10
A1082.0	2.00 mm	10
A1082.1	2.10 mm	10
A1082.2	2.20 mm	10
A1082.3	2.30 mm	10
A1083/32	3/32 pol	10
A1082.4	2.40 mm	10
A1082.5	2.50 mm	10
A1082.6	2.60 mm	10
A1082.7	2.70 mm	10
A1087/64	7/64 pol	10
A1082.8	2.80 mm	10
A1082.9	2.90 mm	10
A1083.0	3.00 mm	10
A1083.1	3.10 mm	10
A1081/8	1/8 pol	10
A1083.2	3.20 mm	10
A1083.3	3.30 mm	10
A1083.4	3.40 mm	10
A1083.5	3.50 mm	10
A1089/64	9/64 pol	10
A1083.6	3.60 mm	10
A1083.7	3.70 mm	10
A1083.8	3.80 mm	10
A1083.9	3.90 mm	10
A1085/32	5/32 pol	10
A1084.0	4.00 mm	10
A1084.1	4.10 mm	10
A1084.2	4.20 mm	10
A1084.3	4.30 mm	10
A10811/64	11/64 pol	10
A1084.4	4.40 mm	10
A1084.5	4.50 mm	10
A1084.6	4.60 mm	10
A1084.7	4.70 mm	10
A1083/16	3/16 pol	10
A1084.8	4.80 mm	10
A1084.9	4.90 mm	10
A1085.0	5.00 mm	10
A1085.1	5.10 mm	10
A10813/64	13/64 pol	10
A1085.2	5.20 mm	10
A1085.3	5.30 mm	10
A1085.4	5.40 mm	10
A1085.5	5.50 mm	10
A1087/32	7/32 pol	10
A1085.6	5.60 mm	10
A1085.7	5.70 mm	10
A1085.8	5.80 mm	10
A1085.9	5.90 mm	10
A10815/64	15/64 pol	10
A1086.0	6.00 mm	10
A1086.1	6.10 mm	10
A1086.2	6.20 mm	10
A1086.3	6.30 mm	10
A1081/4	1/4 pol	10
A1086.4	6.40 mm	10
A1086.5	6.50 mm	10
A1086.6	6.60 mm	10
A1086.7	6.70 mm	10
A10817/64	17/64 pol	10
A1086.8	6.80 mm	10
A1086.9	6.90 mm	10
A1087.0	7.00 mm	10
A1087.1	7.10 mm	10
A1089/32	9/32 pol	10
A1087.2	7.20 mm	10
A1087.3	7.30 mm	10
A1087.4	7.40 mm	10
A1087.5	7.50 mm	10
A10819/64	19/64 pol	10
A1087.6	7.60 mm	10
A1087.7	7.70 mm	10
A1087.8	7.80 mm	10
A1087.9	7.90 mm	10
A1085/16	5/16 pol	10
A1088.0	8.00 mm	10
A1088.1	8.10 mm	10
A1088.2	8.20 mm	10
A1088.3	8.30 mm	10
A10821/64	21/64 pol	10
A1088.4	8.40 mm	10
A1088.5	8.50 mm	10
A1088.6	8.60 mm	10
A1088.7	8.70 mm	10
A10811/32	11/32 pol	10
A1088.8	8.80 mm	10
A1088.9	8.90 mm	10
A1089.0	9.00 mm	10
A1089.1	9.10 mm	10
A10823/64	23/64 pol	10
A1089.2	9.20 mm	10
A1089.3	9.30 mm	10
A1089.4	9.40 mm	10
A1089.5	9.50 mm	10
A1083/8	3/8 pol	10
A1089.6	9.60 mm	10
A1089.7	9.70 mm	10
A1089.8	9.80 mm	10
A1089.9	9.90 mm	10
A10825/64	25/64 pol	10
A10810.0	10.00 mm	10
A10810.2	10.20 mm	5
A10813/32	13/32 pol	5
A10810.5	10.50 mm	5
A10827/64	27/64 pol	5
A10810.8	10.80 mm	5
A10811.0	11.00 mm	5
A1087/16	7/16 pol	5
A10811.5	11.50 mm	5
A10829/64	29/64 pol	5
A10811.8	11.80 mm	5
A10815/32	15/32 pol	5
A10812.0	12.00 mm	5
A10812.2	12.20 mm	5
A10831/64	31/64 pol	5
A10812.5	12.50 mm	5
A1081/2	1/2 pol	5
A10812.8	12.80 mm	5
A10812.9	12.90 mm	5
A10813.0	13.00 mm	5
A10813.5	13.50 mm	1
A10814.0	14.00 mm	1
A10814.5	14.50 mm	1
A10815.0	15.00 mm	1
A10815.25	15.25 mm	1
A10815.5	15.50 mm	1
A10816.0	16.00 mm	1
A108N10	N10	10

A110

Broca HSS longa revenida a vapor

PRIMEIRA ESCOLHA DESTAQUE

HSS ST | DIN 340 | R | N | 118° | 6×D



e-Code	Descrição	M
A110.5	0.50 mm	10
A110.6	0.60 mm	10
A110.7	0.70 mm	10
A1101/32	1/32"	10
A110.8	0.80 mm	10
A110.9	0.90 mm	10
A1101.0	1.00 mm	10
A1101.1	1.10 mm	10
A1101.2	1.20 mm	10
A1101.3	1.30 mm	10
A1101.4	1.40 mm	10
A1101.5	1.50 mm	10
A1101/16	1/16"	10
A1101.6	1.60 mm	10
A1101.7	1.70 mm	10
A1101.75	1.75 mm	10
A1101.8	1.80 mm	10
A1101.9	1.90 mm	10
A1105/64	5/64"	10
A1102.0	2.00 mm	10

A1102.05	2.05 mm	10
A1102.1	2.10 mm	10
A1102.2	2.20 mm	10
A1102.25	2.25 mm	10
A1102.3	2.30 mm	10
A1103/32	3/32"	10
A1102.4	2.40 mm	10
A1102.5	2.50 mm	10
A1102.6	2.60 mm	10
A1102.7	2.70 mm	10
A1107/64	7/64"	10
A1102.8	2.80 mm	10
A1102.9	2.90 mm	10
A1103.0	3.00 mm	10
A1103.1	3.10 mm	10
A1101/8	1/8"	10
A1103.2	3.20 mm	10
A1103.25	3.25 mm	10
A1103.3	3.30 mm	10
A1103.4	3.40 mm	10
A1103.5	3.50 mm	10
A1109/64	9/64"	10
A1103.6	3.60 mm	10
A1103.7	3.70 mm	10
A1103.75	3.75 mm	10
A1103.8	3.80 mm	10
A1103.9	3.90 mm	10
A1105/32	5/32"	10
A1104.0	4.00 mm	10
A1104.1	4.10 mm	10
A1104.2	4.20 mm	10
A1104.25	4.25 mm	10
A1104.3	4.30 mm	10
A11011/64	11/64"	10
A1104.4	4.40 mm	10
A1104.5	4.50 mm	10
A1104.6	4.60 mm	10
A1104.7	4.70 mm	10
A1104.75	4.75 mm	10
A1103/16	3/16"	10
A1104.8	4.80 mm	10
A1104.9	4.90 mm	10
A1105.0	5.00 mm	10
A1105.1	5.10 mm	10
A11013/64	13/64"	10
A1105.2	5.20 mm	10
A1105.25	5.25 mm	10
A1105.3	5.30 mm	10
A1105.4	5.40 mm	10
A1105.5	5.50 mm	10
A1107/32	7/32"	10
A1105.6	5.60 mm	10
A1105.7	5.70 mm	10
A1105.75	5.75 mm	10
A1105.8	5.80 mm	10
A1105.9	5.90 mm	10
A11015/64	15/64"	10
A1106.0	6.00 mm	10
A1106.1	6.10 mm	10
A1106.2	6.20 mm	10
A1106.25	6.25 mm	10
A1106.3	6.30 mm	10
A1101/4	1/4"	10
A1106.4	6.40 mm	10
A1106.5	6.50 mm	10
A1106.6	6.60 mm	10
A1106.7	6.70 mm	10
A11017/64	17/64"	10
A1106.75	6.75 mm	10
A1106.8	6.80 mm	10
A1106.9	6.90 mm	5
A1107.0	7.00 mm	5
A1107.1	7.10 mm	5
A1109/32	9/32"	5
A1107.2	7.20 mm	5
A1107.25	7.25 mm	5
A1107.3	7.30 mm	5
A1107.4	7.40 mm	5
A1107.5	7.50 mm	5
A1107.6	7.60 mm	5
A1107.7	7.70 mm	5
A1107.75	7.75 mm	5
A1107.8	7.80 mm	5
A1107.9	7.90 mm	5
A1105/16	5/16"	5
A1108.0	8.00 mm	5
A1108.1	8.10 mm	5
A1108.2	8.20 mm	5
A1108.25	8.25 mm	5
A1108.3	8.30 mm	5
A1108.4	8.40 mm	5
A1108.5	8.50 mm	5
A1108.6	8.60 mm	5
A1108.7	8.70 mm	5
A11011/32	11/32"	5
A1108.75	8.75 mm	5
A1108.8	8.80 mm	5
A1108.9	8.90 mm	5
A1109.0	9.00 mm	5
A1109.1	9.10 mm	5
A1109.2	9.20 mm	5
A1109.25	9.25 mm	5
A1109.3	9.30 mm	5
A1109.4	9.40 mm	5
A1109.5	9.50 mm	5
A1103/8	3/8"	5
A1109.6	9.60 mm	5
A1109.7	9.70 mm	5
A1109.75	9.75 mm	5
A1109.8	9.80 mm	5
A1109.9	9.90 mm	5
A11010.0	10.00 mm	5
A11010.1	10.10 mm	1
A11010.2	10.20 mm	1
A11010.25	10.25 mm	1
A11010.3	10.30 mm	1
A11013/32	13/32"	1
A11010.5	10.50 mm	1
A11010.75	10.75 mm	1
A11010.8	10.80 mm	1
A11011.0	11.00 mm	1
A1107/16	7/16"	1
A11011.25	11.25 mm	1
A11011.4	11.40 mm	1
A11011.5	11.50 mm	1
A11011.75	11.75 mm	1
A11012.0	12.00 mm	1
A11012.1	12.10 mm	1
A11012.25	12.25 mm	1
A11012.5	12.50 mm	1
A1101/2	1/2"	1
A11013.0	13.00 mm	1
A11017/32	17/32"	1
A11013.5	13.50 mm	1
A11014.0	14.00 mm	1
A1109/16	9/16"	1
A11014.5	14.50 mm	1
A11015.0	15.00 mm	1
A11015.5	15.50 mm	1
A1105/8	5/8"	1
A11016.0	16.00 mm	1
A11016.5	16.50 mm	1
A11017.0	17.00 mm	1
A11011/16	11/16"	1
A11017.5	17.50 mm	1
A11018.0	18.00 mm	1
A11018.5	18.50 mm	1
A11019.0	19.00 mm	1
A1103/4	3/4"	1
A11019.5	19.50 mm	1
A11020.0	20.00 mm	1
A11021.0	21.00 mm	1
A11022.0	22.00 mm	1
A1107/8	7/8"	1
A11015/16	15/16"	1
A1101	1"	1

A114

Broca paralela HSS brilhante - milímetro

HSS | Bright | DIN 338 | N | 118° | 4×D





e-Code	Descrição	M
A1141.0B	1.00 mm	10
A1141.1B	1.10 mm	10
A1141.2B	1.20 mm	10
A1141.3B	1.30 mm	10
A1141.4B	1.40 mm	10
A1141.5B	1.50 mm	10
A1141.6B	1.60 mm	10
A1141.7B	1.70 mm	10
A1141.8B	1.80 mm	10
A1141.9B	1.90 mm	10
A1142.0B	2.00 mm	10
A1142.1B	2.10 mm	10
A1142.25B	2.25 mm	10
A1142.2B	2.20 mm	10
A1142.3B	2.30 mm	10
A1142.4B	2.40 mm	10
A1142.5B	2.50 mm	10
A1142.6B	2.60 mm	10
A1142.75B	2.75 mm	10
A1142.7B	2.70 mm	10
A1142.8B	2.80 mm	10
A1142.9B	2.90 mm	10
A1143.0B	3.00 mm	10
A1143.1B	3.10 mm	10
A1143.25B	3.25 mm	10
A1143.2B	3.20 mm	10
A1143.3B	3.30 mm	10
A1143.4B	3.40 mm	10
A1143.5B	3.50 mm	10
A1143.6B	3.60 mm	10
A1143.75B	3.75 mm	10

A1143.7B	3.70 mm	10
A1143.8B	3.80 mm	10
A1143.9B	3.90 mm	10
A1144.0B	4.00 mm	10
A1144.1B	4.10 mm	10
A1144.25B	4.25 mm	10
A1144.2B	4.20 mm	10
A1144.3B	4.30 mm	10
A1144.4B	4.40 mm	10
A1144.5B	4.50 mm	10
A1144.6B	4.60 mm	10
A1144.75B	4.75 mm	10
A1144.7B	4.70 mm	10
A1144.8B	4.80 mm	10
A1144.9B	4.90 mm	10
A1145.0B	5.00 mm	10
A1145.1B	5.10 mm	10
A1145.25B	5.25 mm	10
A1145.2B	5.20 mm	10
A1145.3B	5.30 mm	10
A1145.4B	5.40 mm	10
A1145.5B	5.50 mm	10
A1145.6B	5.60 mm	10
A1145.75B	5.75 mm	10
A1145.7B	5.70 mm	10
A1145.8B	5.80 mm	10
A1145.9B	5.90 mm	10
A1146.0B	6.00 mm	10
A1146.1B	6.10 mm	10
A1146.25B	6.25 mm	10
A1146.2B	6.20 mm	10
A1146.3B	6.30 mm	10
A1146.4B	6.40 mm	10
A1146.5B	6.50 mm	10
A1146.6B	6.60 mm	10
A1146.75B	6.75 mm	10
A1146.7B	6.70 mm	10
A1146.8B	6.80 mm	10
A1146.9B	6.90 mm	10
A1147.0B	7.00 mm	10
A1147.1B	7.10 mm	10
A1147.25B	7.25 mm	10
A1147.2B	7.20 mm	10
A1147.3B	7.30 mm	10
A1147.4B	7.40 mm	10
A1147.5B	7.50 mm	10
A1147.6B	7.60 mm	10
A1147.75B	7.75 mm	10
A1147.7B	7.70 mm	10
A1147.8B	7.80 mm	10
A1147.9B	7.90 mm	10
A1148.0B	8.00 mm	10
A1148.1B	8.10 mm	10
A1148.25B	8.25 mm	10
A1148.2B	8.20 mm	10
A1148.3B	8.30 mm	10
A1148.4B	8.40 mm	10
A1148.5B	8.50 mm	10
A1148.6B	8.60 mm	10
A1148.75B	8.75 mm	10
A1148.7B	8.70 mm	10
A1148.8B	8.80 mm	10
A1148.9B	8.90 mm	10
A1149.0B	9.00 mm	10
A1149.1B	9.10 mm	10
A1149.25B	9.25 mm	10
A1149.2B	9.20 mm	10
A1149.3B	9.30 mm	10
A1149.4B	9.40 mm	10
A1149.5B	9.50 mm	10
A1149.6B	9.60 mm	10
A1149.75B	9.75 mm	10
A1149.7B	9.70 mm	10
A1149.8B	9.80 mm	10
A1149.9B	9.90 mm	10
A11410.0B	10.00 mm	10
A11410.1B	10.10 mm	5
A11410.25B	10.25 mm	5
A11410.2B	10.20 mm	5
A11410.3B	10.30 mm	5
A11410.4B	10.40 mm	5
A11410.5B	10.50 mm	5
A11410.6B	10.60 mm	5
A11410.75B	10.75 mm	5
A11410.7B	10.70 mm	5
A11410.8B	10.80 mm	5
A11410.9B	10.90 mm	5
A11411.0B	11.00 mm	5
A11411.1B	11.10 mm	5
A11411.25B	11.25 mm	5
A11411.2B	11.20 mm	5
A11411.3B	11.30 mm	5
A11411.4B	11.40 mm	5
A11411.5B	11.50 mm	5
A11411.6B	11.60 mm	5
A11411.75B	11.75 mm	5
A11411.7B	11.70 mm	5
A11411.8B	11.80 mm	5
A11411.9B	11.90 mm	5
A11412.0B	12.00 mm	5
A11412.1B	12.10 mm	5
A11412.25B	12.25 mm	5
A11412.2B	12.20 mm	5
A11412.3B	12.30 mm	5
A11412.4B	12.40 mm	5
A11412.5B	12.50 mm	5
A11412.6B	12.60 mm	5
A11412.75B	12.75 mm	5
A11412.7B	12.70 mm	5
A11412.8B	12.80 mm	5
A11412.9B	12.90 mm	5
A11413.0B	13.00 mm	5
A11413.1B	13.10 mm	1
A11413.2B	13.20 mm	1
A11413.3B	13.30 mm	1
A11413.4B	13.40 mm	1
A11413.5B	13.50 mm	1
A11413.6B	13.60 mm	1
A11413.7B	13.70 mm	1
A11413.8B	13.80 mm	1
A11413.9B	13.90 mm	1
A11414.0B	14.00 mm	1
A11414.25B	14.25 mm	1
A11414.5B	14.50 mm	1
A11414.75B	14.75 mm	1
A11415.0B	15.00 mm	1
A11415.25B	15.25 mm	1
A11415.5B	15.50 mm	1
A11415.75B	15.75 mm	1
A11416.0B	16.00 mm	1

A114S

Broca paralela HSS brilhante - Encartelada

HSS | Bright | DIN 338 | 118° | 4×D





e-Code	Descrição	M
A114S1.1B	1.1 mm	1
A114S1.2B	1.2 mm	1
A114S1.3B	1.3 mm	1
A114S1.4B	1.4 mm	1
A114S1.5B	1.5 mm	1
A114S1.6B	1.6 mm	1
A114S1.7B	1.7 mm	1
A114S1.8B	1.8 mm	1
A114S1.9B	1.9 mm	1
A114S2.0B	2.0 mm	1
A114S2.1B	2.1 mm	1
A114S2.2B	2.2 mm	1
A114S2.25B	2.25 mm	1
A114S2.3B	2.3 mm	1
A114S2.4B	2.4 mm	1
A114S2.5B	2.5 mm	1
A114S2.6B	2.6 mm	1
A114S2.7B	2.7 mm	1
A114S2.75B	2.75 mm	1
A114S2.8B	2.8 mm	1
A114S2.9B	2.9 mm	1
A114S3.0B	3.0 mm	1
A114S3.1B	3.1 mm	1
A114S3.2B	3.2 mm	1
A114S3.25B	3.25 mm	1
A114S3.3B	3.3 mm	1
A114S3.4B	3.4 mm	1
A114S3.5B	3.5 mm	1
A114S3.6B	3.6 mm	1
A114S3.7B	3.7 mm	1
A114S3.75B	3.75 mm	1
A114S3.8B	3.8 mm	1
A114S3.9B	3.9 mm	1
A114S4.0B	4.0 mm	1
A114S4.1B	4.1 mm	1
A114S4.2B	4.2 mm	1
A114S4.25B	4.25 mm	1
A114S4.3B	4.3 mm	1
A114S4.4B	4.4 mm	1
A114S4.5B	4.5 mm	1
A114S4.6B	4.6 mm	1
A114S4.7B	4.7 mm	1
A114S4.75B	4.75 mm	1
A114S4.8B	4.8 mm	1
A114S4.9B	4.9 mm	1
A114S5.0B	5.0 mm	1
A114S5.1B	5.1 mm	1

A114S5.2B	5.2 mm	1
A114S5.25B	5.25 mm	1
A114S5.3B	5.3 mm	1
A114S5.4B	5.4 mm	1
A114S5.5B	5.5 mm	1
A114S5.6B	5.6 mm	1
A114S5.7B	5.7 mm	1
A114S5.75B	5.75 mm	1
A114S5.8B	5.8 mm	1
A114S5.9B	5.9 mm	1
A114S6.0B	6.0 mm	1
A114S6.1B	6.1 mm	1
A114S6.2B	6.2 mm	1
A114S6.25B	6.25 mm	1
A114S6.3B	6.3 mm	1
A114S6.4B	6.4 mm	1
A114S6.5B	6.5 mm	1
A114S6.6B	6.6 mm	1
A114S6.7B	6.7 mm	1
A114S6.75B	6.75 mm	1
A114S6.8B	6.8 mm	1
A114S6.9B	6.9 mm	1
A114S7.0B	7.0 mm	1
A114S7.1B	7.1 mm	1
A114S7.2B	7.2 mm	1
A114S7.25B	7.25 mm	1
A114S7.3B	7.3 mm	1
A114S7.4B	7.4 mm	1
A114S7.5B	7.5 mm	1
A114S7.6B	7.6 mm	1
A114S7.7B	7.7 mm	1
A114S7.75B	7.75 mm	1
A114S7.8B	7.8 mm	1
A114S7.9B	7.9 mm	1
A114S8.0B	8.0 mm	1
A114S8.1B	8.1 mm	1
A114S8.2B	8.2 mm	1
A114S8.25B	8.25 mm	1
A114S8.3B	8.3 mm	1
A114S8.4B	8.4 mm	1
A114S8.5B	8.5 mm	1
A114S8.6B	8.6 mm	1
A114S8.7B	8.7 mm	1
A114S8.75B	8.75 mm	1
A114S8.8B	8.8 mm	1
A114S8.9B	8.9 mm	1
A114S9.0B	9.0 mm	1
A114S9.1B	9.1 mm	1
A114S9.2B	9.2 mm	1
A114S9.25B	9.25 mm	1
A114S9.3B	9.3 mm	1
A114S9.4B	9.4 mm	1
A114S9.5B	9.5 mm	1
A114S9.6B	9.6 mm	1
A114S9.7B	9.7 mm	1
A114S9.75B	9.75 mm	1
A114S9.8B	9.8 mm	1
A114S9.9B	9.9 mm	1
A114S10.0B	10.0 mm	1
A114S10.1B	10.1 mm	1
A114S10.2B	10.2 mm	1
A114S10.3B	10.3 mm	1
A114S10.4B	10.4 mm	1
A114S10.5B	10.5 mm	1
A114S10.6B	10.6 mm	1
A114S10.7B	10.7 mm	1
A114S10.8B	10.8 mm	1
A114S10.9B	10.9 mm	1
A114S11.0B	11.0 mm	1
A114S11.1B	11.1 mm	1
A114S11.2B	11.2 mm	1
A114S11.3B	11.3 mm	1
A114S11.4B	11.4 mm	1
A114S11.5B	11.5 mm	1
A114S11.6B	11.6 mm	1
A114S11.7B	11.7 mm	1
A114S11.8B	11.8 mm	1
A114S11.9B	11.9 mm	1
A114S12.0B	12.0 mm	1
A114S12.1B	12.1 mm	1
A114S12.2B	12.2 mm	1
A114S12.3B	12.3 mm	1
A114S12.4B	12.4 mm	1
A114S12.5B	12.5 mm	1
A114S12.6B	12.6 mm	1
A114S12.7B	12.7 mm	1
A114S12.8B	12.8 mm	1
A114S12.9B	12.9 mm	1
A114S13.0B	13.0 mm	1

A117

Broca paralela curta HSCo





e-Code	Descrição	M
A1171.0	1.00 mm	10
A1171.1	1.10 mm	10
A1171.2	1.20 mm	10
A1171.3	1.30 mm	10
A1171.4	1.40 mm	10
A1171.5	1.50 mm	10
A1171.6	1.60 mm	10
A1171.7	1.70 mm	10
A1171.8	1.80 mm	10
A1171.9	1.90 mm	10
A1172.0	2.00 mm	10
A1172.1	2.10 mm	10
A1172.2	2.20 mm	10
A1172.3	2.30 mm	10
A1172.4	2.40 mm	10
A1172.5	2.50 mm	10
A1172.6	2.60 mm	10
A1172.7	2.70 mm	10
A1172.8	2.80 mm	10
A1172.9	2.90 mm	10
A1173.0	3.00 mm	10
A1173.1	3.10 mm	10
A1171/8	1/8	10
A1173.2	3.20 mm	10
A1173.3	3.30 mm	10
A1173.4	3.40 mm	10
A1173.5	3.50 mm	10
A1173.6	3.60 mm	10
A1173.7	3.70 mm	10
A1173.8	3.80 mm	10
A1173.9	3.90 mm	10
A1175/32	5/32	10
A1174.0	4.00 mm	10
A1174.1	4.10 mm	10
A1174.2	4.20 mm	10
A1174.3	4.30 mm	10
A1174.4	4.40 mm	10
A1174.5	4.50 mm	10
A1174.6	4.60 mm	10
A1174.7	4.70 mm	10
A1173/16	3/16	10
A1174.8	4.80 mm	10
A1174.9	4.90 mm	10
A1175.0	5.00 mm	10
A1175.1	5.10 mm	10
A1175.2	5.20 mm	10
A1175.3	5.30 mm	10
A1175.4	5.40 mm	10
A1175.5	5.50 mm	10
A1175.6	5.60 mm	10
A1175.7	5.70 mm	10
A1175.8	5.80 mm	10
A1175.9	5.90 mm	10
A1176.0	6.00 mm	10
A1176.1	6.10 mm	10
A1176.2	6.20 mm	10
A1176.3	6.30 mm	10
A1171/4	1/4	10
A1176.4	6.40 mm	10
A1176.5	6.50 mm	10
A1176.6	6.60 mm	10
A1176.7	6.70 mm	10
A1176.8	6.80 mm	10
A1176.9	6.90 mm	10
A1177.0	7.00 mm	10
A1177.1	7.10 mm	10
A1177.2	7.20 mm	10
A1177.3	7.30 mm	10
A1177.4	7.40 mm	10
A1177.5	7.50 mm	10
A1177.6	7.60 mm	10
A1177.7	7.70 mm	10
A1177.8	7.80 mm	10
A1177.9	7.90 mm	10
A1175/16	5/16	10
A1178.0	8.00 mm	10
A1178.1	8.10 mm	10
A1178.2	8.20 mm	10
A1178.3	8.30 mm	10
A1178.4	8.40 mm	10
A1178.5	8.50 mm	10
A1178.6	8.60 mm	10
A1178.7	8.70 mm	10
A1178.8	8.80 mm	10
A1178.9	8.90 mm	10
A1179.0	9.00 mm	10
A1179.1	9.10 mm	10
A1179.2	9.20 mm	10
A1179.3	9.30 mm	10
A1179.4	9.40 mm	10
A1179.5	9.50 mm	10
A1173/8	3/8	10
A1179.6	9.60 mm	10
A1179.7	9.70 mm	10
A1179.8	9.80 mm	10
A1179.9	9.90 mm	10
A11710.0	10.00 mm	10
A11710.2	10.20 mm	5
A11710.5	10.50 mm	5
A11711.0	11.00 mm	5
A11711.5	11.50 mm	5
A11712.0	12.00 mm	5
A1171/2	1/2	5
A11713.0	13.00 mm	5

A119

Broca de ponta dupla

HSS | DIN 1897 | R | N | 120° | 1.25×D



e-Code	Descrição	M
A1193.3	3.3 mm	10
A1193.6	3.6 mm	10
A1194.1	4.1 mm	10
A1194.2	4.2 mm	10
A1194.9	4.9 mm	10
A1195.1	5.1 mm	10

A120

Broca paralela curta revenida a vapor

HSS | DIN 1897 | R | N | 135° | 2.5×D



e-Code	Descrição	M
A120.5	0.50 mm	10
A120.6	0.60 mm	10
A120.7	0.70 mm	10
A1201/32	1/32 pol	10
A120.8	0.80 mm	10
A120.9	0.90 mm	10
A1201.0	1.00 mm	10
A1201.1	1.10 mm	10
A1203/64	3/64 pol	10
A1201.2	1.20 mm	10
A1201.3	1.30 mm	10
A1201.4	1.40 mm	10
A1201.5	1.50 mm	10
A1201/16	1/16 pol	10
A1201.6	1.60 mm	10
A1201.7	1.70 mm	10
A1201.8	1.80 mm	10
A1201.9	1.90 mm	10
A1205/64	5/64 pol	10
A1202.0	2.00 mm	10
A1202.1	2.10 mm	10
A1202.2	2.20 mm	10
A1202.25	2.25 mm	10
A1202.3	2.30 mm	10
A1203/32	3/32 pol	10
A1202.4	2.40 mm	10
A1202.5	2.50 mm	10
A1202.6	2.60 mm	10
A1202.65	2.65 mm	10
A1202.7	2.70 mm	10
A1207/64	7/64 pol	10
A1202.8	2.80 mm	10
A1202.9	2.90 mm	10
A1203.0	3.00 mm	10
A1203.1	3.10 mm	10
A1201/8	1/8 pol	10
A1203.2	3.20 mm	10
A1203.25	3.25 mm	10
A1203.3	3.30 mm	10
A1203.4	3.40 mm	10
A1203.5	3.50 mm	10
A1209/64	9/64 pol	10
A1203.6	3.60 mm	10
A1203.7	3.70 mm	10
A1203.8	3.80 mm	10
A1203.9	3.90 mm	10
A1205/32	5/32 pol	10
A1204.0	4.00 mm	10
A1204.1	4.10 mm	10
A1204.2	4.20 mm	10
A1204.3	4.30 mm	10
A12011/64	11/64 pol	10
A1204.4	4.40 mm	10
A1204.5	4.50 mm	10
A1204.6	4.60 mm	10
A1204.7	4.70 mm	10
A1203/16	3/16 pol	10
A1204.8	4.80 mm	10
A1204.9	4.90 mm	10
A1205.0	5.00 mm	10
A1205.1	5.10 mm	10
A12013/64	13/64 pol	10
A1205.2	5.20 mm	10
A1205.3	5.30 mm	10
A1205.4	5.40 mm	10
A1205.5	5.50 mm	10
A1207/32	7/32 pol	10
A1205.6	5.60 mm	10
A1205.7	5.70 mm	10
A1205.8	5.80 mm	10
A1205.9	5.90 mm	10
A12015/64	15/64 pol	10
A1206.0	6.00 mm	10
A1206.1	6.10 mm	10
A1206.2	6.20 mm	10
A1206.3	6.30 mm	10
A1201/4	1/4 pol	10
A1206.4	6.40 mm	10
A1206.5	6.50 mm	10
A1206.6	6.60 mm	10
A1206.7	6.70 mm	10
A1206.8	6.80 mm	10
A1206.9	6.90 mm	10
A1207.0	7.00 mm	10
A1207.1	7.10 mm	10
A1209/32	9/32 pol	10
A1207.2	7.20 mm	10
A1207.3	7.30 mm	10
A1207.4	7.40 mm	10
A1207.5	7.50 mm	10
A1207.6	7.60 mm	10
A1207.7	7.70 mm	10
A1207.8	7.80 mm	10
A1207.9	7.90 mm	10
A1205/16	5/16 pol	10
A1208.0	8.00 mm	10
A1208.1	8.10 mm	10
A1208.2	8.20 mm	10
A1208.3	8.30 mm	10
A1208.4	8.40 mm	10
A1208.5	8.50 mm	10
A1208.6	8.60 mm	10
A1208.7	8.70 mm	10
A12011/32	11/32 pol	10
A1208.8	8.80 mm	10
A1208.9	8.90 mm	10
A1209.0	9.00 mm	10
A1209.1	9.10 mm	10
A1209.2	9.20 mm	10
A1209.3	9.30 mm	10
A1209.4	9.40 mm	10
A1209.5	9.50 mm	10
A1203/8	3/8 pol	10
A1209.6	9.60 mm	10
A1209.7	9.70 mm	10
A1209.8	9.80 mm	10
A1209.9	9.90 mm	10
A12010.0	10.00 mm	10
A12010.1	10.10 mm	5
A12010.2	10.20 mm	5
A12010.3	10.30 mm	5
A12013/32	13/32 pol	5
A12010.4	10.40 mm	5
A12010.5	10.50 mm	5
A12010.6	10.60 mm	5
A12010.7	10.70 mm	5
A12010.8	10.80 mm	5
A12010.9	10.90 mm	5
A12011.0	11.00 mm	5
A12011.1	11.10 mm	5
A1207/16	7/16 pol	5
A12011.2	11.20 mm	5
A12011.3	11.30 mm	5
A12011.5	11.50 mm	5
A12011.6	11.60 mm	5
A12011.7	11.70 mm	5
A12011.8	11.80 mm	5
A12011.9	11.90 mm	5
A12012.0	12.00 mm	5
A12012.1	12.10 mm	5
A12012.2	12.20 mm	5
A12012.5	12.50 mm	5
A1201/2	1/2 pol	5
A12013.0	13.00 mm	5
A12013.5	13.50 mm	1
A12014.0	14.00 mm	1
A1209/16	9/16 pol	1
A12014.5	14.50 mm	1
A12015.0	15.00 mm	1
A12015.5	15.50 mm	1
A1205/8	5/8 pol	1
A12016.0	16.00 mm	1
A12016.5	16.50 mm	1
A12017.0	17.00 mm	1
A12011/16	11/16 pol	1
A12017.5	17.50 mm	1
A12018.0	18.00 mm	1
A12018.5	18.50 mm	1
A12019.0	19.00 mm	1
A1203/4	3/4 pol	1
A12019.5	19.50 mm	1
A12020.0	20.00 mm	1
A12020.5	20.50 mm	1
A12013/16	13/16 pol	1
A12021.0	21.00 mm	1
A12022.0	22.00 mm	1
A1207/8	7/8 pol	1
A12023.0	23.00 mm	1
A12015/16	15/16 pol	1
A12024.0	24.00 mm	1
A12025.0	25.00 mm	1

A122

Broca paralela curta

HSS | Bright | DIN 1897 | R | N | 90°/120° | 1×D



e-Code	Descrição	M
A1226.0X90	6.00 mm x 90	10
A1226.0X120	6.00 mm x 120	10
A1228.0X90	8.00 mm x 90	10
A1228.0X120	8.00 mm x 120	10
A12210.0X120	10.00 mm x 120	10
A12210.0X90	10.00 mm x 90	10
A12212.0X120	12.00 mm x 120	5
A12212.0X90	12.00 mm x 90	5
A12216.0X120	16.00 mm x 120	1
A12216.0X90	16.00 mm x 90	1
A12220.0X120	20.00 mm x 120	1
A12220.0X90	20.00 mm x 90	1

A123

Broca para chapas de metal

HSS | Bright ST | DIN 1897 | R | N | 120° | 1.5×D



e-Code	Descrição	M
A1233/32S	3/32"	10
A1232.5S	2.5 mm	10
A1233.0S	3.0 mm	10
A1231/8S	1/8"	10
A1233.2S	3.2 mm	10
A1233.3S	3.3 mm	10
A1233.5S	3.5 mm	10
A1233.7S	3.7 mm	10
A1235/32S	5/32"	10
A1234.0S	4.0 mm	10
A1234.1S	4.1 mm	10
A1234.2S	4.2 mm	10
A1234.5S	4.5 mm	10
A1233/16S	3/16"	10
A1234.8S	4.8 mm	10
A1234.9S	4.9 mm	10
A1235.0S	5.0 mm	10
A1235.5S	5.5 mm	10
A1237/32S	7/32"	10
A1236.0S	6.0 mm	10
A1231/4S	1/4"	10

A124

Broca curta com ponta de metal duro

HSS HM | Bright ST | DIN 8037 | R | H | 118° | 2.5×D



e-Code	Descrição	M
A1243.0	3.00 mm	1
A1243.2	3.20 mm	1
A1243.5	3.50 mm	1
A1244.0	4.00 mm	1
A1244.2	4.20 mm	1
A1244.5	4.50 mm	1
A1244.8	4.80 mm	1
A1245.0	5.00 mm	1
A1245.2	5.20 mm	1
A1245.5	5.50 mm	1
A1245.8	5.80 mm	1
A1246.0	6.00 mm	1
A1246.5	6.50 mm	1
A1246.8	6.80 mm	1
A1247.0	7.00 mm	1
A1247.5	7.50 mm	1
A1248.0	8.00 mm	1
A1248.5	8.50 mm	1
A1249.0	9.00 mm	1
A1249.5	9.50 mm	1
A12410.0	10.00 mm	1
A12410.5	10.50 mm	1
A12411.0	11.00 mm	1
A12411.5	11.50 mm	1
A12412.0	12.00 mm	1
A12413.0	13.00 mm	1
A12414.0	14.00 mm	1
A12415.0	15.00 mm	1
A12416.0	16.00 mm	1

A125

Broca paralela extra longa revenida a vapor



HSS | ST | BS 328 | R | N | 118° | 10×D

e-Code	Descrição	M
A1251.4X160	1.40 mm x 160 mm	1
A1251.5X125	1.50 mm x 125 mm	1
A1251.5X160	1.50 mm x 160 mm	1
A1251/16X125	1/16" x 125 mm	1
A1251/16X160	1/16" x 160 mm	1
A1251.8X160	1.80 mm x 160 mm	1
A1255/64X125	5/64" x 125 mm	1
A1255/64X160	5/64" x 160 mm	1
A1252.0X125	2.00 mm x 125 mm	1
A1252.0X160	2.00 mm x 160 mm	1
A1252.2X160	2.20 mm x 160 mm	1
A1253/32X125	3/32" x 125 mm	1
A1253/32X160	3/32" x 160 mm	1
A1252.5X125	2.50 mm x 125 mm	1
A1252.5X160	2.50 mm x 160 mm	1
A1257/64X125	7/64" x 125 mm	1
A1257/64X160	7/64" x 160 mm	1
A1253.0X160	3.00 mm x 160 mm	1
A1253.0X200	3.00 mm x 200 mm	1
A1253.0X250	3.00 mm x 250 mm	1
A1251/8X160	1/8" x 160 mm	1
A1251/8X200	1/8" x 200 mm	1
A1251/8X250	1/8" x 250 mm	1
A1251/8X315	1/8" x 310 mm	1
A1253.3X160	3.30 mm x 160 mm	1
A1253.5X160	3.50 mm x 160 mm	1
A1253.5X200	3.50 mm x 200 mm	1
A1253.5X250	3.50 mm x 250 mm	1
A1259/64X160	9/64" x 160 mm	1
A1259/64X200	9/64" x 200 mm	1
A1259/64X315	9/64" x 310 mm	1
A1255/32X160	5/32" x 160 mm	1
A1255/32X200	5/32" x 200 mm	1
A1255/32X250	5/32" x 250 mm	1
A1255/32X315	5/32" x 310 mm	1
A1254.0X160	4.00 mm x 160 mm	1
A1254.0X200	4.00 mm x 200 mm	1
A1254.0X250	4.00 mm x 250 mm	1
A1254.0X315	4.00 mm x 310 mm	1
A12511/64X160	11/64" x 160 mm	1
A12511/64X200	11/64" x 200 mm	1
A12511/64X315	11/64" x 310 mm	1
A1254.5X160	4.50 mm x 160 mm	1
A1254.5X200	4.50 mm x 200 mm	1
A1254.5X250	4.50 mm x 250 mm	1
A1254.5X315	4.50 mm x 310 mm	1
A1253/16X160	3/16" x 160 mm	1
A1253/16X200	3/16" x 200 mm	1
A1253/16X250	3/16" x 250 mm	1
A1253/16X315	3/16" x 310 mm	1
A1253/16X400	3/16" x 400 mm	1
A1255.0X160	5.00 mm x 160 mm	1
A1255.0X200	5.00 mm x 200 mm	1
A1255.0X250	5.00 mm x 250 mm	1
A1255.0X315	5.00 mm x 310 mm	1
A1255.0X400	5.00 mm x 400 mm	1
A12513/64X200	13/64" x 200 mm	1
A12513/64X250	13/64" x 250 mm	1
A12513/64X315	13/64" x 310 mm	1
A1255.5X200	5.50 mm x 200 mm	1
A1255.5X250	5.50 mm x 250 mm	1
A1255.5X315	5.50 mm x 310 mm	1
A1257/32X200	7/32" x 200 mm	1
A1257/32X250	7/32" x 250 mm	1
A1257/32X315	7/32" x 310 mm	1
A12515/64X200	15/64" x 200 mm	1
A12515/64X250	15/64" x 250 mm	1
A12515/64X315	15/64" x 310 mm	1
A1256.0X200	6.00 mm x 200 mm	1
A1256.0X250	6.00 mm x 250 mm	1
A1256.0X315	6.00 mm x 310 mm	1
A1256.0X400	6.00 mm x 400 mm	1
A1251/4X200	1/4" x 200 mm	1
A1251/4X250	1/4" x 250 mm	1
A1251/4X315	1/4" x 310 mm	1
A1251/4X400	1/4" x 400 mm	1
A1251/4X500	1/4" x 460 mm	1
A1256.5X200	6.50 mm x 200 mm	1
A1256.5X250	6.50 mm x 250 mm	1
A1256.5X315	6.50 mm x 310 mm	1
A12517/64X200	17/64" x 200 mm	1
A12517/64X250	17/64" x 250 mm	1
A12517/64X500	17/64" x 460 mm	1
A1257.0X200	7.00 mm x 200 mm	1
A1257.0X250	7.00 mm x 250 mm	1
A1257.0X315	7.00 mm x 310 mm	1
A1259/32X200	9/32" x 200 mm	1
A1259/32X250	9/32" x 250 mm	1
A1259/32X315	9/32" x 310 mm	1
A1259/32X500	9/32" x 460 mm	1
A1257.5X200	7.50 mm x 200 mm	1
A1257.5X250	7.50 mm x 250 mm	1
A1257.5X315	7.50 mm x 310 mm	1
A12519/64X315	19/64" x 310 mm	1
A12519/64X500	19/64" x 460 mm	1
A1255/16X200	5/16" x 200 mm	1
A1255/16X250	5/16" x 250 mm	1
A1255/16X315	5/16" x 310 mm	1
A1255/16X400	5/16" x 400 mm	1
A1255/16X500	5/16" x 460 mm	1
A1258.0X250	8.00 mm x 250 mm	1
A1258.0X315	8.00 mm x 310 mm	1
A1258.0X400	8.00 mm x 400 mm	1
A12521/64X315	21/64" x 310 mm	1
A12521/64X500	21/64" x 460 mm	1
A1258.5X250	8.50 mm x 250 mm	1

A1258.5X315	8.50 mm x 310 mm	1
A12511/32X250	11/32" x 250 mm	1
A12511/32X315	11/32" x 310 mm	1
A12511/32X400	11/32" x 400 mm	1
A12511/32X500	11/32" x 460 mm	1
A1259.0X250	9.00 mm x 250 mm	1
A1259.0X315	9.00 mm x 310 mm	1
A1259.0X400	9.00 mm x 400 mm	1
A12523/64X315	23/64" x 310 mm	1
A12523/64X500	23/64" x 460 mm	1
A1259.5X250	9.50 mm x 250 mm	1
A1259.5X315	9.50 mm x 310 mm	1
A1253/8X250	3/8" x 250 mm	1
A1253/8X315	3/8" x 310 mm	1
A1253/8X400	3/8" x 400 mm	1
A1253/8X500	3/8" x 460 mm	1
A12525/64X315	25/64" x 310 mm	1
A12525/64X500	25/64" x 460 mm	1
A12510.0X250	10.00 mm x 250 mm	1
A12510.0X315	10.00 mm x 310 mm	1
A12510.0X400	10.00 mm x 400 mm	1
A12513/32X250	13/32" x 250 mm	1
A12513/32X315	13/32" x 310 mm	1
A12513/32X500	13/32" x 460 mm	1
A12510.5X250	10.50 mm x 250 mm	1
A12510.5X315	10.50 mm x 310 mm	1
A12510.5X400	10.50 mm x 400 mm	1
A12527/64X315	27/64" x 310 mm	1
A12511.0X250	11.00 mm x 250 mm	1
A12511.0X315	11.00 mm x 310 mm	1
A12511.0X400	11.00 mm x 400 mm	1
A1257/16X250	7/16" x 250 mm	1
A1257/16X315	7/16" x 310 mm	1
A1257/16X400	7/16" x 400 mm	1
A1257/16X500	7/16" x 460 mm	1
A12529/64X315	29/64" x 310 mm	1
A12529/64X500	29/64" x 460 mm	1
A12515/32X250	15/32" x 250 mm	1
A12515/32X315	15/32" x 310 mm	1
A12515/32X500	15/32" x 460 mm	1
A12512.0X250	12.00 mm x 250 mm	1
A12512.0X315	12.00 mm x 310 mm	1
A12512.0X400	12.00 mm x 400 mm	1
A12531/64X315	31/64" x 310 mm	1
A12531/64X500	31/64" x 460 mm	1
A1251/2X250	1/2" x 250 mm	1
A1251/2X315	1/2" x 310 mm	1
A1251/2X400	1/2" x 400 mm	1
A1251/2X500	1/2" x 460 mm	1
A12513.0X315	13.00 mm x 310 mm	1
A12513.0X400	13.00 mm x 400 mm	1
A12533/64X315	33/64" x 310 mm	1
A12533/64X500	33/64" x 460 mm	1
A12517/32X315	17/32" x 310 mm	1
A12517/32X500	17/32" x 460 mm	1
A12535/64X315	35/64" x 310 mm	1
A12535/64X500	35/64" x 460 mm	1
A12514.0X315	14.00 mm x 310 mm	1
A12514.0X400	14.00 mm x 400 mm	1
A1259/16X315	9/16" x 310 mm	1
A1259/16X500	9/16" x 460 mm	1
A12537/64X315	37/64" x 310 mm	1
A12519/32X315	19/32" x 310 mm	1
A12519/32X500	19/32" x 460 mm	1
A12539/64X315	39/64" x 310 mm	1
A12539/64X500	39/64" x 460 mm	1
A1255/8X315	5/8" x 310 mm	1
A1255/8X500	5/8" x 460 mm	1
A12521/32X315	21/32" x 310 mm	1
A12521/32X500	21/32" x 460 mm	1
A12511/16X315	11/16" x 310 mm	1
A12511/16X500	11/16" x 460 mm	1
A12523/32X315	23/32" x 310 mm	1
A12523/32X500	23/32" x 460 mm	1
A1253/4X315	3/4" x 310 mm	1
A1253/4X500	3/4" x 460 mm	1
A12525/32X500	25/32" x 460 mm	1
A12513/16X500	13/16" x 460 mm	1
A1257/8X500	7/8" x 460 mm	1
A12515/16X500	15/16" x 460 mm	1
A1251X500	1" x 460 mm	1

A130

Broca haste cônica revenida à vapor



e-Code	Descrição	M
A1303.0	3.00 mm	1
A1301/8	1/8"	1
A1303.2	3.20 mm	1
A1303.25	3.25 mm	1
A1303.3	3.30 mm	1
A1303.5	3.50 mm	1
A1309/64	9/64"	1
A1303.75	3.75 mm	1
A1305/32	5/32"	1
A1304.0	4.00 mm	1
A1304.1	4.10 mm	1
A1304.2	4.20 mm	1
A1304.25	4.25 mm	1
A13011/64	11/64"	1
A1304.5	4.50 mm	1
A1304.75	4.75 mm	1
A1303/16	3/16"	1
A1304.8	4.80 mm	1
A1304.9	4.90 mm	1
A1305.0	5.00 mm	1
A1305.1	5.10 mm	1
A13013/64	13/64"	1
A1305.2	5.20 mm	1
A1305.25	5.25 mm	1
A1305.4	5.40 mm	1
A1305.5	5.50 mm	1
A1307/32	7/32"	1
A1305.7	5.70 mm	1
A1305.75	5.75 mm	1
A1305.8	5.80 mm	1
A1305.9	5.90 mm	1
A13015/64	15/64"	1
A1306.0	6.00 mm	1
A1306.1	6.10 mm	1
A1306.2	6.20 mm	1
A1306.25	6.25 mm	1
A1306.3	6.30 mm	1
A1301/4	1/4"	1
A1306.4	6.40 mm	1
A1306.5	6.50 mm	1
A1306.6	6.60 mm	1
A1306.7	6.70 mm	1
A13017/64	17/64"	1
A1306.75	6.75 mm	1
A1306.8	6.80 mm	1
A1306.9	6.90 mm	1
A1307.0	7.00 mm	1
A1309/32	9/32"	1
A1307.2	7.20 mm	1
A1307.25	7.25 mm	1
A1307.3	7.30 mm	1
A1307.4	7.40 mm	1
A1307.5	7.50 mm	1
A13019/64	19/64"	1
A1307.7	7.70 mm	1
A1307.75	7.75 mm	1
A1307.8	7.80 mm	1
A1307.9	7.90 mm	1
A1305/16	5/16"	1
A1308.0	8.00 mm	1
A1308.1	8.10 mm	1
A1308.2	8.20 mm	1
A1308.25	8.25 mm	1
A1308.3	8.30 mm	1
A13021/64	21/64"	1
A1308.4	8.40 mm	1
A1308.5	8.50 mm	1
A1308.6	8.60 mm	1
A1308.7	8.70 mm	1
A13011/32	11/32"	1
A1308.75	8.75 mm	1
A1308.8	8.80 mm	1
A1308.9	8.90 mm	1
A1309.0	9.00 mm	1
A1309.1	9.10 mm	1
A13023/64	23/64"	1
A1309.2	9.20 mm	1
A1309.25	9.25 mm	1
A1309.3	9.30 mm	1
A1309.5	9.50 mm	1
A1303/8	3/8"	1
A1309.6	9.60 mm	1
A1309.7	9.70 mm	1
A1309.75	9.75 mm	1
A1309.8	9.80 mm	1
A1309.9	9.90 mm	1
A13025/64	25/64"	1
A13010.0	10.00 mm	1
A13010.1	10.10 mm	1
A13010.2	10.20 mm	1
A13010.25	10.25 mm	1
A13010.3	10.30 mm	1
A13013/32	13/32"	1
A13010.5	10.50 mm	1
A13027/64	27/64"	1
A13010.75	10.75 mm	1
A13010.8	10.80 mm	1
A13010.9	10.90 mm	1
A13011.0	11.00 mm	1
A13011.1	11.10 mm	1
A1307/16	7/16"	1
A13011.2	11.20 mm	1
A13011.25	11.25 mm	1
A13011.3	11.30 mm	1
A13011.4	11.40 mm	1
A13011.5	11.50 mm	1
A13029/64	29/64"	1
A13011.6	11.60 mm	1
A13011.7	11.70 mm	1
A13011.75	11.75 mm	1
A13011.8	11.80 mm	1
A13011.9	11.90 mm	1
A13015/32	15/32"	1
A13012.0	12.00 mm	1
A13012.1	12.10 mm	1
A13012.2	12.20 mm	1
A13012.25	12.25 mm	1

A13012.3	12.30 mm	1
A13031/64	31/64"	1
A13012.4	12.40 mm	1
A13012.5	12.50 mm	1
A13012.6	12.60 mm	1
A1301/2	1/2"	1
A13012.7	12.70 mm	1
A13012.75	12.75 mm	1
A13012.8	12.80 mm	1
A13012.9	12.90 mm	1
A13013.0	13.00 mm	1
A13033/64	33/64"	1
A13013.2	13.20 mm	1
A13013.25	13.25 mm	1
A13017/32	17/32"	1
A13013.5	13.50 mm	1
A13013.6	13.60 mm	1
A13013.7	13.70 mm	1
A13013.75	13.75 mm	1
A13013.8	13.80 mm	1
A13035/64	35/64"	1
A13013.9	13.90 mm	1
A13014.0	14.00 mm	1
A13014.1	14.10 mm	1
A13014.2	14.20 mm	1
A13014.25	14.25 mm	1
A1309/16	9/16"	1
A13014.3	14.30 mm	1
A13014.4	14.40 mm	1
A13014.5	14.50 mm	1
A13014.6	14.60 mm	1
A13037/64	37/64"	1
A13014.7	14.70 mm	1
A13014.75	14.75 mm	1
A13014.8	14.80 mm	1
A13014.9	14.90 mm	1
A13015.0	15.00 mm	1
A13019/32	19/32"	1
A13015.1	15.10 mm	1
A13015.2	15.20 mm	1
A13015.25	15.25 mm	1
A13039/64	39/64"	1
A13015.5	15.50 mm	1
A13015.7	15.70 mm	1
A13015.75	15.75 mm	1
A13015.8	15.80 mm	1
A1305/8	5/8"	1
A13015.9	15.90 mm	1
A13016.0	16.00 mm	1
A13016.1	16.10 mm	1
A13016.2	16.20 mm	1
A13016.25	16.25 mm	1
A13041/64	41/64"	1
A13016.5	16.50 mm	1
A13021/32	21/32"	1
A13016.75	16.75 mm	1
A13017.0	17.00 mm	1
A13043/64	43/64"	1
A13017.25	17.25 mm	1
A13011/16	11/16"	1
A13017.5	17.50 mm	1
A13017.75	17.75 mm	1
A13045/64	45/64"	1
A13018.0	18.00 mm	1
A13018.25	18.25 mm	1
A13023/32	23/32"	1
A13018.5	18.50 mm	1
A13047/64	47/64"	1
A13018.75	18.75 mm	1
A13019.0	19.00 mm	1
A1303/4	3/4"	1
A13019.25	19.25 mm	1
A13049/64	49/64"	1
A13019.5	19.50 mm	1
A13019.75	19.75 mm	1
A13025/32	25/32"	1
A13020.0	20.00 mm	1
A13051/64	51/64"	1
A13020.25	20.25 mm	1
A13020.4	20.40 mm	1
A13020.5	20.50 mm	1
A13013/16	13/16"	1
A13020.75	20.75 mm	1
A13021.0	21.00 mm	1
A13053/64	53/64"	1
A13021.25	21.25 mm	1
A13027/32	27/32"	1
A13021.5	21.50 mm	1
A13021.75	21.75 mm	1
A13055/64	55/64"	1
A13022.0	22.00 mm	1
A1307/8	7/8"	1
A13022.25	22.25 mm	1
A13022.5	22.50 mm	1
A13057/64	57/64"	1
A13022.75	22.75 mm	1
A13023.0	23.00 mm	1
A13029/32	29/32"	1
A13023.25	23.25 mm	1
A13059/64	59/64"	1
A13023.5	23.50 mm	1
A13023.75	23.75 mm	1
A13015/16	15/16"	1
A13024.0	24.00 mm	1
A13061/64	61/64"	1
A13024.25	24.25 mm	1
A13024.5	24.50 mm	1
A13031/32	31/32"	1
A13024.75	24.75 mm	1
A13025.0	25.00 mm	1
A13063/64	63/64"	1
A13025.25	25.25 mm	1
A1301	1"	1
A13025.5	25.50 mm	1
A13025.75	25.75 mm	1
A13026.0	26.00 mm	1
A13026.25	26.25 mm	1
A13026.5	26.50 mm	1
A13026.75	26.75 mm	1
A1301.1/16	1.1/16"	1
A13027.0	27.00 mm	1
A13027.25	27.25 mm	1
A13027.5	27.50 mm	1
A13027.75	27.75 mm	1
A13028.0	28.00 mm	1
A13028.25	28.25 mm	1
A13028.5	28.50 mm	1
A1301.1/8	1.1/8"	1
A13028.75	28.75 mm	1
A13029.0	29.00 mm	1
A13029.25	29.25 mm	1
A1301.5/32	1.5/32"	1
A13029.5	29.50 mm	1
A13029.75	29.75 mm	1
A13030.0	30.00 mm	1
A1301.3/16	1.3/16"	1
A13030.25	30.25 mm	1
A13030.5	30.50 mm	1
A13030.75	30.75 mm	1
A1301.7/32	1.7/32"	1
A13031.0	31.00 mm	1
A13031.25	31.25 mm	1
A13031.5	31.50 mm	1
A1301.1/4	1.1/4"	1
A13031.75	31.75 mm	1
A13032.0	32.00 mm	1
A13032.5	32.50 mm	1
A1301.9/32	1.9/32"	1
A13033.0	33.00 mm	1
A1301.5/16	1.5/16"	1
A13033.5	33.50 mm	1
A13034.0	34.00 mm	1
A13036.0	36.00 mm	1
A1301.11/32	1.11/32"	1
A13034.5	34.50 mm	1
A13036.5	36.50 mm	1
A1301.3/8	1.3/8"	1
A13035.0	35.00 mm	1
A13037.0	37.00 mm	1
A13035.5	35.50 mm	1
A13037.5	37.50 mm	1
A1301.13/32	1.13/32"	1
A1301.7/16	1.7/16"	1
A13038.0	38.00 mm	1
A1301.1/2	1.1/2"	1
A13038.5	38.50 mm	1
A13039.0	39.00 mm	1
A13039.5	39.50 mm	1
A1301.9/16	1.9/16"	1
A13040.0	40.00 mm	1
A13040.5	40.50 mm	1
A13041.0	41.00 mm	1
A1301.5/8	1.5/8"	1
A13041.5	41.50 mm	1
A13042.0	42.00 mm	1
A13042.5	42.50 mm	1
A1301.11/16	1.11/16"	1
A13043.0	43.00 mm	1
A13043.5	43.50 mm	1
A13044.0	44.00 mm	1
A1301.3/4	1.3/4"	1
A13044.5	44.50 mm	1
A13045.0	45.00 mm	1
A13045.5	45.50 mm	1
A13046.0	46.00 mm	1
A13046.5	46.50 mm	1
A13047.0	47.00 mm	1
A13047.5	47.50 mm	1
A13048.0	48.00 mm	1
A13048.5	48.50 mm	1
A13049.0	49.00 mm	1
A13049.5	49.50 mm	1
A13050.0	50.00 mm	1
A1302	2"	1

A147

Broca para aço inoxidável

HSS-E | Bright | DIN 338 | R | VA | 130° | 6×D



e-Code	Descrição	M
A147.3	0.30 mm	10
A147.4	0.40 mm	10
A147.5	0.50 mm	10
A147.6	0.60 mm	10
A147.7	0.70 mm	10

A147.8	0.80 mm	10
A147.9	0.90 mm	10
A1471.0	1.00 mm	10
A1471.1	1.10 mm	10
A1471.2	1.20 mm	10
A1471.3	1.30 mm	10
A1471.4	1.40 mm	10
A1471.5	1.50 mm	10
A1471/16	1/16"	10
A1471.6	1.60 mm	10
A1471.7	1.70 mm	10
A1471.8	1.80 mm	10
A1471.9	1.90 mm	10
A1472.0	2.00 mm	10
A1472.1	2.10 mm	10
A1472.2	2.20 mm	10
A1472.3	2.30 mm	10
A1473/32	3/32"	10
A1472.4	2.40 mm	10
A1472.5	2.50 mm	10
A1472.6	2.60 mm	10
A1472.7	2.70 mm	10
A1472.8	2.80 mm	10
A1472.9	2.90 mm	10
A1473.0	3.00 mm	10
A1473.1	3.10 mm	10
A1471/8	1/8"	10
A1473.2	3.20 mm	10
A1473.3	3.30 mm	10
A1473.4	3.40 mm	10
A1473.5	3.50 mm	10
A1473.6	3.60 mm	10
A1473.7	3.70 mm	10
A1473.8	3.80 mm	10
A1473.9	3.90 mm	10
A1475/32	5/32"	10
A1474.0	4.00 mm	10
A1474.1	4.10 mm	10
A1474.2	4.20 mm	10
A1474.3	4.30 mm	10
A1474.4	4.40 mm	10
A1474.5	4.50 mm	10
A1474.6	4.60 mm	10
A1474.7	4.70 mm	10
A1473/16	3/16"	10
A1474.8	4.80 mm	10
A1474.9	4.90 mm	10
A1475.0	5.00 mm	10
A1475.1	5.10 mm	5
A1475.2	5.20 mm	5
A1475.3	5.30 mm	5
A1475.4	5.40 mm	5
A1475.5	5.50 mm	5
A1475.6	5.60 mm	5
A1475.7	5.70 mm	5
A1475.8	5.80 mm	5
A1475.9	5.90 mm	5
A1476.0	6.00 mm	5
A1476.1	6.10 mm	5
A1476.2	6.20 mm	5
A1476.3	6.30 mm	5
A1471/4	1/4"	5
A1476.4	6.40 mm	5
A1476.5	6.50 mm	5
A1476.6	6.60 mm	5
A1476.7	6.70 mm	5
A1476.8	6.80 mm	5
A1476.9	6.90 mm	5
A1477.0	7.00 mm	5
A1477.1	7.10 mm	5
A1477.2	7.20 mm	5
A1477.3	7.30 mm	5
A1477.4	7.40 mm	5
A1477.5	7.50 mm	5
A1477.6	7.60 mm	5
A1477.7	7.70 mm	5
A1477.8	7.80 mm	5
A1477.9	7.90 mm	5
A1478.0	8.00 mm	5
A1478.1	8.10 mm	5
A1478.2	8.20 mm	5
A1478.3	8.30 mm	5
A1478.4	8.40 mm	5
A1478.5	8.50 mm	5
A1478.6	8.60 mm	5
A1478.7	8.70 mm	5
A1478.8	8.80 mm	5
A1478.9	8.90 mm	5
A1479.0	9.00 mm	5
A1479.1	9.10 mm	5
A1479.2	9.20 mm	5
A1479.3	9.30 mm	5
A1479.4	9.40 mm	5
A1479.5	9.50 mm	5
A1479.6	9.60 mm	5
A1479.7	9.70 mm	5
A1479.8	9.80 mm	5
A1479.9	9.90 mm	5
A14710.0	10.00 mm	5
A14710.2	10.20 mm	1
A14710.5	10.50 mm	1
A14711.0	11.00 mm	1
A14711.2	11.20 mm	1
A14711.5	11.50 mm	1
A14712.0	12.00 mm	1
A14712.5	12.5 mm	1
A14713.0	13.0 mm	1
A14713.5	13.5 mm	1
A14714.0	14.0 mm	1
A14714.5	14.5 mm	1
A14715.0	15.0 mm	1

A154

Broca paralela HSS brilhante - polegada

HSS | Bright | ANSI | 118° | 4×D





e-Code	Descrição	M
A1543/64B	3/64"	10
A1541/16B	1/16"	10
A1545/64B	5/64"	10
A1543/32B	3/32"	10
A1547/64B	7/64"	10
A1541/8B	1/8"	10
A1549/64B	9/64"	10
A1545/32B	5/32"	10
A15411/64B	11/64"	10
A1543/16B	3/16"	10
A15413/64B	13/64"	10
A1547/32B	7/32"	10
A15415/64B	15/64"	10
A1541/4B	1/4"	10
A15417/64B	17/64"	10
A1549/32B	9/32"	10
A15419/64B	19/64"	10
A1545/16B	5/16"	10
A15421/64B	21/64"	10
A15411/32B	11/32"	10
A15423/64B	23/64"	10
A1543/8B	3/8"	10
A15425/64B	25/64"	10
A15413/32B	13/32"	5
A15427/64B	27/64"	5
A1547/16B	7/16"	5
A15429/64B	29/64"	5
A15415/32B	15/32"	5
A15431/64B	31/64"	5
A1541/2B	1/2"	5
A15433/64B	33/64"	1
A15417/32B	17/32"	1
A15435/64B	35/64"	5
A1549/16B	9/16"	1
A15437/64B	37/64"	1
A15419/32B	19/32"	1
A15439/64B	39/64"	1
A1545/8B	5/8"	1

A154S

Broca paralela HSS brilhante - polegada - encartelada

HSS | Bright | ANSI | 118° | 4×D





e-Code	Descrição	M
A154S1/16B	1/16"	1
A154S5/64B	5/64"	1
A154S3/32B	3/32"	1
A154S7/64B	7/64"	1
A154S9/64B	9/64"	1
A154S5/32B	5/32"	1
A154S1/8B	1/8"	1
A154S3/16B	3/16"	1
A154S13/64B	13/64"	1
A154S7/32B	7/32"	1
A154S15/64B	15/64"	1
A154S1/4B	1/4"	1
A154S17/64B	17/64"	1
A154S9/32B	9/32"	1
A154S19/64B	19/64"	1
A154S5/16B	5/16"	1

A154S21/64B	21/6"	1
A154S23/64B	23/64"	1
A154S3/8B	3/8"	1
A154S11/64B	11/6"	1
A154S13/32B	13/3"	1
A154S7/16B	7/16"	1
A154S1/2B	1/2"	1

A160

Broca paralela com ponta de metal duro

HSS HM | Bright ST | DIN 338 | R | N | 118° | 4×D



e-Code	Descrição	M
A1604.0	4.00 mm	1
A1604.5	4.50 mm	1
A1605.0	5.00 mm	1
A1605.5	5.50 mm	1
A1606.0	6.00 mm	1
A1606.5	6.50 mm	1
A1606.8	6.80 mm	1
A1607.0	7.00 mm	1
A1607.5	7.50 mm	1
A1608.0	8.00 mm	1
A1608.5	8.50 mm	1
A1609.0	9.00 mm	1
A1609.5	9.50 mm	1
A16010.0	10.00 mm	1
A16010.2	10.20 mm	1
A16010.5	10.50 mm	1
A16011.0	11.00 mm	1
A16011.5	11.50 mm	1
A16012.0	12.00 mm	1
A16013.0	13.00 mm	1
A16014.0	14.00 mm	1
A16015.0	15.00 mm	1
A16016.0	16.00 mm	1

A166

Broca de haste cônica com ponta de metal duro

HSS HM | Bright ST | DIN 345 | R | N | 118° | 4×D



e-Code	Descrição	M
A16610.0	10.00 mm	1
A16610.5	10.50 mm	1
A16611.0	11.00 mm	1
A16611.5	11.50 mm	1
A16612.0	12.00 mm	1
A16613.0	13.00 mm	1
A16613.5	13.50 mm	1
A16614.0	14.00 mm	1
A16615.0	15.00 mm	1
A16616.0	16.00 mm	1
A16617.0	17.00 mm	1
A16617.5	17.50 mm	1
A16618.0	18.00 mm	1
A16619.0	19.00 mm	1
A16620.0	20.00 mm	1
A16621.0	21.00 mm	1
A16622.0	22.00 mm	1
A16622.5	22.50 mm	1
A16623.0	23.00 mm	1
A16624.0	24.00 mm	1
A16625.0	25.00 mm	1
A16626.0	26.00 mm	1
A16627.0	27.00 mm	1
A16628.0	28.00 mm	1
A16629.0	29.00 mm	1
A16630.0	30.00 mm	1
A16632.0	32.00 mm	1
A16633.0	33.00 mm	1

A170

Broca cilíndrica com haste reduzida 1/2" revenida a vapor

HSS | ST | DORMER | R | N | 118° | 4×D



e-Code	Descrição	M
A17013.0	13.00 mm	1
A17033/64	33/64"	1
A17017/32	17/32"	1
A17013.5	13.50 MM	1
A17035/64	35/64"	1
A17014.0	14.00 MM	1
A1709/16	9/16"	1
A17014.5	14.50 MM	1
A17037/64	37/64"	1
A17015.0	15.00 mm	1
A17019/32	19/32"	1
A17039/64	39/64"	1
A17015.5	15.50 mm	1
A1705/8	5/8"	1
A17016.0	16.00 mm	1
A17041/64	41/64"	1
A17016.5	16.50 MM	1
A17021/32	21/32"	1
A17017.0	17.00 MM	1
A17043/64	43/64"	1
A17011/16	11/16"	1
A17017.5	17.50 MM	1
A17045/64	45/64"	1
A17018.0	18.00 MM	1
A17023/32	23/32"	1
A17018.5	18.50 MM	1
A17047/64	47/64"	1
A17019.0	19.00 mm	1
A1703/4	3/4"	1
A17049/64	49/64"	1
A17019.5	19.50 mm	1
A17025/32	25/32"	1
A17020.0	20.00 mm	1
A17051/64	51/64"	1
A17013/16	13/16"	1
A17021.0	21.00 mm	1
A17053/64	53/64"	1
A17027/32	27/32"	1
A17055/64	55/64"	1
A17022.0	22.00 mm	1
A1707/8	7/8"	1
A17057/64	57/64"	1
A17023.0	23.00 mm	1
A17029/32	29/32"	1
A17059/64	59/64"	1
A17015/16	15/16"	1
A17024.0	24.00 mm	1
A17061/64	61/64"	1
A17031/32	31/32"	1
A17025.0	25.00 mm	1
A17063/64	63/64"	1
A1701	1"	1
A1701.1/32	1.1/32"	1
A1701.1/16	1.1/16"	1
A1701.7/64	1.7/64"	1
A1701.1/8	1.1/8"	1
A1701.9/64	1.9/64"	1
A1701.5/32	1.5/32"	1
A1701.3/16	1.3/16"	1
A1701.7/32	1.7/32"	1
A1701.1/4	1.1/4"	1
A1701.5/16	1.5/16"	1
A1701.3/8	1.3/8"	1
A1701.7/16	1.7/16"	1
A1701.1/2	1.1/2"	1

A188

Jogo de brocas A108 - Embalagem caixa



e-Code	Descrição
A188201	19 peças (1.0 mm - 10.0 mm x 0.5 mm)
A188204	25 peças (1.0 mm - 13.0 mm x 0.5 mm)

A190

Jogo de brocas A100 - Embalagem caixa



e-Code	Descrição
A1903	21 peças (1/16 - 3/8 x 1/64)
A19012	60 peças (Nr.1 - Nr.60)
A19018	29 peças (1/16 - 1/2 x 1/64)
A19020	15 peças (1/16 - 1/2 x 1/32)
A190201	19 peças (1.0 mm - 10.0 mm x 0.5 mm)
A190202	51 peças (1.0 mm - 6.0 mm x 0.1 mm)
A190203	41 peças (6.0 mm - 10.0 mm x 0.1 mm)
A190204	25 peças (1.0 mm - 13.0 mm x 0.5 mm)
A190206	29 peças (1.0 mm - 13.0 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm)
A190209	91 peças (1.0 mm - 10.0 mm x 0.1 mm)

A191

Jogo de brocas A100 - Embalagem cilíndrica



e-Code	Descrição
A19131M	20 peças (0.3 mm - 1.0 mm x 0.05 mm + 0.38 - 0.52 - 0.58 - 0.78 - 0.82 mm)
A19161-80	20 peças (N61 - N80)
A191413	13 peças (1.5 mm - 6.5 mm x 0.5 mm + 3.3 - 4.2 mm)
A191419	19 peças (1.0 mm - 10.0 mm x 0.5 mm)

A199

Display de brocas



e-Code	Descrição
A199F1	380 peças (5x 13/32, 7/16, 15/32, 1/2) - (10x 5/64, 7/64, 9/64, 11/64, 13/64, 15/64, 17/64, 9/32, 19/64, 5/16, 21/64, 11/32, 23/64, 3/8) - (20x 1/16, 7/32, 1/4) - (30x 3/32) - (40x 5/32, 3/16) - (50x 1/8)
A199M1	340 peças (5x 10.0, 11.0, 11.5, 12.0, 12.5, 13.0 mm) - (10x 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10.0 mm) - (20x 1.0, 5.0, 6.0 mm) - (30x 2.0 mm) - (40x 4 mm) - (50x 3 mm)

A200

Broca de centrar

HSS | Bright | DIN 333A | R | 118° | 1×D



e-Code	Descrição	M
A200.5X3.15	0.50 mm x 3.15 mm	1
A200.8X3.15	0.80 mm x 3.15 mm	1
A2001.0X3.15	1.00 mm x 3.15 mm	1
A2001.25X3.15	1.25 mm x 3.15 mm	1
A2001.6X4.0	1.60 mm x 4.00 mm	1
A2002.0X5.0	2.00 mm x 5.00 mm	1
A2002.5X6.3	2.50 mm x 6.30 mm	1
A2003.15X8.0	3.15 mm x 8.00 mm	1
A2004.0X10.0	4.00 mm x 10.00 mm	1
A2005.0X12.5	5.00 mm x 12.50 mm	1
A2006.3X16.0	6.30 mm x 16.00 mm	1
A2008.0X20.0	8.00 mm x 20.00 mm	1
A20010.0X25.0	10.00 mm x 25.00 mm	1
A20012.5X31.5	12.50 mm x 31.50 mm	1

A201

Broca de centrar

HSS | Bright | DORMER | R | 122° | 1×D



e-Code	Descrição	M
A201.63X3.15	3.15 mm x 0.63 mm	1
A201.75X3.5	3.50 mm x 0.75 mm	1
A2011.0X4.0	4.00 mm x 1.00 mm	1
A2011.5X5.0	5.00 mm x 1.50 mm	1
A2011.6X5.0	5.00 mm x 1.60 mm	1
A2012.0X6.0	6.00 mm x 2.00 mm	1
A2012.0X6.3	6.30 mm x 2.00 mm	1
A2012.5X8.0	8.00 mm x 2.50 mm	1
A2013.0X10.0	10.00 mm x 3.00 mm	1
A2013.0X8.0	8.00 mm x 3.00 mm	1
A2013.15X10.0	10.00 mm x 3.15 mm	1
A2014.0X12.0	12.00 mm x 4.00 mm	1
A2015.0X14.0	14.00 mm x 5.00 mm	1
A2016.0X18.0	18.00 mm x 6.00 mm	1

A204

Broca de centrar

HSS | Bright | DIN 333B | R | 118° | 1×D



e-Code	Descrição	M
A2041.6X6.3B	1.6 x 6.3 mm	1
A2042.0X8.0B	2.0 x 8.0 mm	1
A2042.5X10.0B	2.5 x 10.0 mm	1
A2043.15X11.2B	3.15 x 11.2 mm	1
A2044.0X14.0B	4.0 x 14.0 mm	1
A2045.0X18.0B	5.0 x 18.0 mm	1
A2046.3X20.0B	6.3 x 20.0 mm	1

A205

Broca de centrar com cobertura TiN

HSS | TiN | DIN 333A | R | 118° | 1×D



e-Code	Descrição	M
A2051.0X3.15	1.00 mm x 3.15 mm	1
A2051.25X3.15	1.25 mm x 3.15 mm	1
A2051.6X4.0	1.60 mm x 4.00 mm	1
A2052.0X5.0	2.00 mm x 5.00 mm	1
A2052.5X6.3	2.50 mm x 6.30 mm	1
A2053.15X8.0	3.15 mm x 8.00 mm	1
A2054.0X10.0	4.00 mm x 10.00 mm	1
A2055.0X12.5	5.00 mm x 12.50 mm	1

A206

Broca de centrar

HSS-E | Bright | DIN 333A | R | 118° | 1×D



e-Code	Descrição	M
A2061.0X3.15	1.0 x 3.15 mm	1
A2061.25X3.15	1.25 x 3.15 mm	1
A2061.6X4.0	1.6 x 4.0 mm	1
A2062.0X5.0	2.0 x 5.0 mm	1
A2062.5X6.3	2.5 x 6.3 mm	1
A2063.15X8.0	3.15 x 8.0 mm	1
A2064.0X10.0	4.0 x 10.0 mm	1
A2065.0X12.5	5.0 x 12.5 mm	1

A210

Broca de centrar

HSS | Bright | DIN 333R | R | 118° | 1×D



e-Code	Descrição	M
A210.5X3.15	0.50 mm x 3.15 mm	1
A210.8X3.15	0.80 mm x 3.15 mm	1
A2101.0X3.15	1.00 mm x 3.15 mm	1
A2101.25X3.15	1.25 mm x 3.15 mm	1
A2101.6X4.0	1.60 mm x 4.00 mm	1
A2102.0X5.0	2.00 mm x 5.00 mm	1
A2102.5X6.3	2.50 mm x 6.30 mm	1
A2103.15X8.0	3.15 mm x 8.00 mm	1
A2104.0X10.0	4.00 mm x 10.00 mm	1
A2105.0X12.5	5.00 mm x 12.50 mm	1
A2106.3X16.0	6.30 mm x 16.00 mm	1
A2108.0X20.0	8.00 mm x 20.00 mm	1
A21010.0X25.0	10.00 mm x 25.00 mm	1

A217

Broca de centrar

HSS | Bright | ANSI | R | 120° | 1×D



e-Code	Descrição	M
A217N1	0.0469 x 1/8"	1
A217N2	0.0781 x 3/16"	1
A217N3	0.1094 x 1/4"	1
A217N4	0.1250 x 5/16"	1
A217N6	0.2188 x 1/2"	1

A218

Broca de centrar

HSS | Bright | ANSI | R | 120° | 1×D



e-Code	Descrição	M
A218N1	0.0469 x 1/8"	1
A218N2	0.0781 x 3/16"	1
A218N3	0.1094 x 1/4"	1
A218N4	0.1250 x 5/16"	1
A218N5	0.1875 x 7/16"	1
A218N7	0.2500 x 5/8"	1
A218N8	0.3125 x 3/4"	1

A220

Broca de centrar

HSS | Bright | ANSI | 60° | 118° | 1×D



e-Code	Descrição	M
A220N1B	N1 1/32"	1
A220N2B	N2 5/64"	1
A220N3B	N3 7/64"	1
A220N4B	N4 1/8"	1
A220N5B	N5 3/16"	1
A220N6B	N6 7/32"	1
A220N7B	N7 1/4"	1
A220N8B	N8 5/16"	1

A221

Broca de centrar

HSS-E | Bright | ANSI | R | 118° | 1.5×D



e-Code	Descrição	M
A221N00	0.0250 x 1/8"	1
A221N0	0.0313 x 1/8"	1
A221N1	0.0469 x 1/8"	1
A221N3	0.1094 x 1/4"	1
A221N8	0.3125 x 3/4"	1

A225

Broca de centrar

HSS | Bright | BS 328 | R | 120° | 1×D



e-Code	Descrição	M
A225BS1	3/64" x 1/8"	1
A225BS2	1/16" x 3/16"	1
A225BS3	3/32" x 1/4"	1
A225BS4	1/8" x 5/16"	1
A225BS5	3/16" x 7/16"	1
A225BS5A	7/32" x 1/2"	1
A225BS6	1/4" x 5/8"	1
A225BS7	5/16" x 3/4"	1

A237

Broca de centrar

HSS-E | Bright | DIN 333A | R | d_4 | 118° | 1×D



e-Code	Descrição	M
A2371.6X4.0	1.6 x 4.0 mm	1
A2372.0X5.0	2.0 x 5.0 mm	1
A2372.5X6.3	2.5 x 6.3 mm	1
A2373.15X8.0	3.15 x 8.0 mm	1
A2374.0X10.0	4.0 x 10.0 mm	1
A2375.0X12.5	5.0 x 12.5 mm	1
A2376.3X16.0	6.3 x 16.0 mm	1
A2378.0X20.0	8.0 x 20.0 mm	1
A23710.0X25.0	10.0 x 25.0 mm	1

A238

Broca de centrar

HSS-E | Bright | DIN 333R | R | d_4 | 118° | 1×D



e-Code	Descrição	M
A2381.6X4.0	1.6 x 4.0 mm	1
A2382.0X5.0	2.0 x 5.0 mm	1
A2382.5X6.3	2.5 x 6.3 mm	1
A2383.15X8.0	3.15 x 8.0 mm	1
A2384.0X10.0	4.0 x 10.0 mm	1
A2385.0X12.5	5.0 x 12.5 mm	1
A2386.3X16.0	6.3 x 16.0 mm	1
A2388.0X20.0	8.0 x 20.0 mm	1

A242

Broca de centrar

HSS-E | Bright | DORMER | R | 118° | 1×D



e-Code	Descrição	M
A2421.0X4.0	1.0 x 4.0 mm	1
A2421.5X5.0	1.5 x 5.0 mm	1
A2422.0X6.0	2.0 x 6.0 mm	1
A2422.5X8.0	2.5 x 8.0 mm	1
A2423.0X10.0	3.0 x 10.0 mm	1
A2423.0X8.0	3.0 x 8.0 mm	1
A2424.0X10.0	4.0 x 10.0 mm	1
A2424.0X12.0	4.0 x 12.0 mm	1
A2425.0X12.0	5.0 x 12.0 mm	1

A243

Broca com haste longa para aviação

HSS | Bright | NAS 907 | R | N | 135° | 4×D



e-Code	Descrição	M
A2433/32X6	3/32 "	10
A243N40X6	N40	10
A2431/8X6	1/8 "	10
A243N30X6	N30	10
A2435/32X6	5/32 "	10
A243N21X6	N21	10
A243N20X6	N20	10
A2433/16X6	3/16 "	10
A243N11X6	N11	10
A243N10X6	N10	10
A2431/4X6	1/4 "	10

A244

Broca com haste longa para aviação

HSS | Bright | NAS 907 | R | N | 118° | 4×D



e-Code	Descrição	M
A2441/8X6	1/8 "	10
A2445/32X6	5/32 "	10
A2443/16X6	3/16 "	10
A2441/4X6	1/4 "	10

A266

Broca de centrar

HSS-E | TiAlN | DIN 333A | R | 118° | 1×D



e-Code	Descrição	M
A2661.0X3.15	1.0 x 3.15 mm	1
A2661.25X3.15	1.25 x 3.15 mm	1
A2661.6X4.0	1.6 x 4.0 mm	1
A2662.0X5.0	2.0 x 5.0 mm	1
A2662.5X6.3	2.5 x 6.3 mm	1
A2663.15X8.0	3.15 x 8.0 mm	1
A2664.0X10.0	4.0 x 10.0 mm	1
A2665.0X12.5	5.0 x 12.5 mm	1

A285

Jogo de brocas A100



e-Code	Descrição
A2850107	7 peças (2.0mm - 2.5mm - 3.0mm - 3.5mm - 4.00mm - 5.0mm - 6.0mm)
A2850110E	10 peças (1.5mm - 2.0mm - 2.5mm - 3.0mm - 3.2mm - 3.5mm - 4.00mm - 4.5mm - 4.5mm - 5.0mm - 6.0mm)
A2850205A	5 peças (1/16 - 3/32 - 1/8 - 3/16 - 1/4)
A2850207A	7 peças (1/16 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4)
A2850210A	10 peças (1/16 - 5/64 - 3/32 - 7/64 - 1/8 - 9/64 - 5/32 - 3/16 - 7/32 - 1/4)

A290

Jogo de brocas brilhantes



e-Code	Descrição
A29009BR	9 peças - A114 + A800 (A114 p/ metal: 3.00 - 4.00 - 5,00 - 6.0 - 8.0 e A800 p/concreto: 4.0 - 5.0 - 6.0 - 8.0)
A29010BR	10 peças (1.50 - 2.0 - 2.50 - 3.0 - 3.20 - 3.50 - 4.0 - 4.50 - 5.0 - 6.0)
A29010PBR	10 peças (1/16 - 5/64 - 3/32 - 7/64 - 1/8 - 9/64 - 5/32 - 3/16 - 7/32 - 1/4)
A29013BR	13 peças (1.50 - 2.0 - 2.50 - 3.0 - 3.20 - 3.50 - 4.0 - 4.50 - 4.80 - 5.0 - 5.50 - 6.0 - 6.50)
A29013PBR	13 peças (1/16 - 5/64 - 3/32 - 7/64 - 1/8 - 9/64 - 5/32 - 11/64 - 3/16 - 13/64 - 7/32 - 15/64 - 1/4)
A29018BR	29 peças (1/16 - 1/2 x 1/64)
A290201BR	19 peças (1.0 - 10.0 mm x 0.50 mm)
A29025BR	25 peças (1.0 - 13.0 mm x 0.50 mm)
A2907BR	7 peças (2.0 - 2.50 - 3.0 - 4.0 - 5.0 - 6.0 - 6.50)
A2907PBR	7 peças (1/16 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4)
A2909BR	9 peças - A114 + A800 (A114 p/ metal: 3.00 - 3.50 - 4.00 - 5,00 - 6.5 e A800 p/concreto: 5.0 - 6.0 - 8.0 - 9.5)

A295

Jogo de brocas A777



e-Code	Descrição
A295219	19 peças (1.0 mm - 10.0 mm x 0.5 mm)
A295225	25 peças (1.0 mm - 13.0 mm x 0.5 mm)

A296

Jogo de brocas de centrar



e-Code	Descrição
A296200	Set 200 (A200 x 5)
A296225	Set 225 (A225 x 5)

A345

Broca extra longa com haste cônica revenida a vapor

HSS ST | DIN 1870(1) | R | N | 118° | 10×D



e-Code	Descrição	M
A3458.0	8.00 mm	1
A3458.5	8.50 mm	1
A3459.0	9.00 mm	1
A3459.5	9.50 mm	1
A3453/8	3/8"	1
A34510.0	10.00 mm	1
A34513/32	13/32"	1
A34510.5	10.50 mm	1
A34511.0	11.00 mm	1
A3457/16	7/16"	1
A34511.5	11.50 mm	1
A34529/64	29/64"	1
A34512.0	12.00 mm	1
A34512.5	12.50 mm	1
A3451/2	1/2"	1
A34513.0	13.00 mm	1
A34517/32	17/32"	1
A34513.5	13.50 mm	1
A34514.0	14.00 mm	1
A3459/16	9/16"	1
A34537/64	37/64"	1
A34515.0	15.00 mm	1
A34539/64	39/64"	1
A34515.5	15.50 mm	1
A3455/8	5/8"	1
A34516.0	16.00 mm	1
A34541/64	41/64"	1
A34516.5	16.50 mm	1
A34521/32	21/32"	1
A34517.0	17.00 mm	1
A34511/16	11/16"	1
A34517.5	17.50 mm	1
A34518.0	18.00 mm	1
A34518.5	18.50 mm	1
A34519.0	19.00 mm	1
A3453/4	3/4"	1
A34519.5	19.50 mm	1
A34520.0	20.00 mm	1
A34520.5	20.50 mm	1
A34521.0	21.00 mm	1
A34521.5	21.50 mm	1
A34522.0	22.00 mm	1
A3457/8	7/8"	1
A34522.5	22.50 mm	1
A34523.0	23.00 mm	1
A34523.5	23.50 mm	1
A34524.0	24.00 mm	1
A34524.5	24.50 mm	1
A34525.0	25.00 mm	1
A3451	1"	1
A34525.5	25.50 mm	1
A34526.0	26.00 mm	1
A34526.5	26.50 mm	1
A34527.0	27.00 mm	1
A34528.0	28.00 mm	1
A34529.0	29.00 mm	1
A34530.0	30.00 mm	1
A3451.1/4	1.1/4"	1
A34531.0	31.00 mm	1
A34532.0	32.00 mm	1
A34533.0	33.00 mm	1
A34534.0	34.00 mm	1
A34535.0	35.00 mm	1
A34536.0	36.00 mm	1
A34537.0	37.00 mm	1
A34538.0	38.00 mm	1
A3451.1/2	1.1/2"	1
A34539.0	39.00 mm	1
A34540.0	40.00 mm	1

A350

Broca longa com haste cônica revenida a vapor

HSS ST | DIN 341 | R | N | 118° | 6×D



e-Code	Descrição	M
A3505.0	5.00 mm	1
A3505.5	5.50 mm	1
A3506.0	6.00 mm	1
A3506.7	6.70 mm	1
A3506.8	6.80 mm	1
A3507.0	7.00 mm	1
A3507.5	7.50 mm	1
A3508.0	8.00 mm	1
A3508.4	8.40 mm	1

A3508.5	8.50 mm	1
A3508.75	8.75 mm	1
A3509.0	9.00 mm	1
A3509.5	9.50 mm	1
A3509.8	9.80 mm	1
A35010.0	10.00 mm	1
A35010.2	10.20 mm	1
A35010.5	10.50 mm	1
A35010.7	10.70 mm	1
A35011.0	11.00 mm	1
A35011.5	11.50 mm	1
A35011.75	11.75 mm	1
A35011.8	11.80 mm	1
A35012.0	12.00 mm	1
A35012.5	12.50 mm	1
A35013.0	13.00 mm	1
A35013.5	13.50 mm	1
A35014.0	14.00 mm	1
A35014.25	14.25 mm	1
A35014.5	14.50 mm	1
A35014.75	14.75 mm	1
A35015.0	15.00 mm	1
A35015.25	15.25 mm	1
A35015.5	15.50 mm	1
A35015.75	15.75 mm	1
A35016.0	16.00 mm	1
A35016.25	16.25 mm	1
A35016.5	16.50 mm	1
A35016.75	16.75 mm	1
A35017.0	17.00 mm	1
A35017.25	17.25 mm	1
A35017.5	17.50 mm	1
A35018.0	18.00 mm	1
A35018.5	18.50 mm	1
A35019.0	19.00 mm	1
A35019.5	19.50 mm	1
A35019.75	19.75 mm	1
A35020.0	20.00 mm	1
A35020.25	20.25 mm	1
A35020.5	20.50 mm	1
A35021.0	21.00 mm	1
A35021.5	21.50 mm	1
A35022.0	22.00 mm	1
A35022.5	22.50 mm	1
A35023.0	23.00 mm	1
A35023.5	23.50 mm	1
A35024.0	24.00 mm	1
A35024.5	24.50 mm	1
A35025.0	25.00 mm	1
A35025.5	25.50 mm	1
A35026.0	26.00 mm	1
A35026.5	26.50 mm	1
A35027.0	27.00 mm	1
A35027.5	27.50 mm	1
A35028.0	28.00 mm	1
A35029.0	29.00 mm	1
A35030.0	30.00 mm	1
A35030.5	30.50 mm	1
A35031.0	31.00 mm	1
A35031.5	31.50 mm	1
A35032.0	32.00 mm	1
A35033.0	33.00 mm	1
A35034.0	34.00 mm	1
A35035.0	35.00 mm	1
A35036.0	36.00 mm	1
A35037.0	37.00 mm	1
A35038.0	38.00 mm	1
A35039.0	39.00 mm	1
A35040.0	40.00 mm	1
A35041.0	41.00 mm	1
A35042.0	42.00 mm	1
A35043.0	43.00 mm	1
A35044.0	44.00 mm	1
A35045.0	45.00 mm	1
A35046.0	46.00 mm	1
A35047.0	47.00 mm	1
A35048.0	48.00 mm	1
A35050.0	50.00 mm	1

A400

Broca escalonada subland revenida a vapor

HSS ST | DIN 8374 | R | N | 118° | 4×D



e-Code	Descrição	M
A400M3	M3	1
A400M4	M4	1
A400M5	M5	1
A400M6	M6	1
A400M8	M8	1
A400M10	M10	1

A402

Broca escalonada subland revenida a vapor

HSS ST | DIN 8376 | R | N | 118° | 4×D



e-Code	Descrição	M
A402M3	M3	1
A402M4	M4	1
A402M5	M5	1
A402M6	M6	1
A402M8	M8	1
A402M10	M10	1

A405

Broca haste cônica escalonada revenida a vapor

HSS ST | DIN 8377 | R | N | 118° | 4×D



e-Code	Descrição	M
A405M6	M6	1
A405M8	M8	1
A405M10	M10	1
A405M12	M12	1
A405M14	M14	1
A405M16	M16	1
A405M18	M18	1

A412

Broca escalonada revenida a vapor

HSS ST | DORMER | R | 118° | 2.5×D



e-Code	Descrição	M
A412M3	M3	1
A412M4	M4	1
A412M5	M5	1
A412M6	M6	1
A412M8	M8	1
A412M10	M10	1

A413

Broca escalonada revenida a vapor

HSS ST | DORMER | R | 118° | 2.5×D



e-Code	Descrição	M
A413M3	M3	1
A413M4	M4	1
A413M5	M5	1
A413M6	M6	1
A413M8	M8	1
A413M10	M10	1

A530

Broca haste cônica com TiN

HSS TiN | DIN 345 | R | N | 118° | 4×D



e-Code	Descrição	M
A5308.5	8.50 mm	1
A5309.0	9.00 mm	1
A53010.0	10.00 mm	1
A53010.2	10.20 mm	1
A53010.5	10.50 mm	1
A53011.0	11.00 mm	1
A53011.5	11.50 mm	1
A53011.75	11.75 mm	1
A53012.0	12.00 mm	1
A53012.5	12.50 mm	1
A53013.0	13.00 mm	1
A53013.5	13.50 mm	1
A53014.0	14.00 mm	1
A53014.5	14.50 mm	1
A53015.0	15.00 mm	1
A53015.25	15.25 mm	1
A53015.5	15.50 mm	1
A53016.0	16.00 mm	1
A53016.5	16.50 mm	1
A53017.0	17.00 mm	1
A53017.5	17.50 mm	1
A53018.0	18.00 mm	1
A53018.5	18.50 mm	1

A53019.0	19.00 mm	1
A53019.5	19.50 mm	1
A53020.0	20.00 mm	1
A53020.5	20.50 mm	1
A53021.0	21.00 mm	1
A53021.5	21.50 mm	1
A53022.0	22.00 mm	1
A53022.5	22.50 mm	1
A53023.0	23.00 mm	1
A53023.5	23.50 mm	1
A53024.0	24.00 mm	1
A53024.5	24.50 mm	1
A53025.0	25.00 mm	1
A53025.5	25.50 mm	1
A53026.0	26.00 mm	1
A53026.5	26.50 mm	1
A53027.0	27.00 mm	1
A53027.5	27.50 mm	1
A53028.0	28.00 mm	1
A53028.5	28.50 mm	1
A53029.0	29.00 mm	1
A53029.5	29.50 mm	1
A53030.0	30.00 mm	1
A53031.0	31.00 mm	1
A53032.0	32.00 mm	1
A53033.0	33.00 mm	1
A53035.0	35.00 mm	1
A53040.0	40.00 mm	1

A723

Broca para ponto de solda

HSS-E Bronze | DORMER | R | N | 1×D



e-Code	Descrição	M
A7236.0X66	6.0 x 66.0 mm	10
A7236.0X93	6.0 x 93.0 mm	10
A7238.0X117	8.0 x 117.0 mm	10
A7238.0X79	8.0 x 79.0 mm	10

A730

Broca haste cônica HSCo

HSS-E Bronze | DIN 345 | R | N | 118° | 4×D



e-Code	Descrição	M
A73010.0	10.00 mm	1
A73010.2	10.20 mm	1
A73010.5	10.50 mm	1
A73010.8	10.80 mm	1
A73011.0	11.00 mm	1
A73011.5	11.50 mm	1
A73011.8	11.80 mm	1
A73012.0	12.00 mm	1
A73012.2	12.20 mm	1
A73012.5	12.50 mm	1
A73012.8	12.80 mm	1
A73013.0	13.00 mm	1
A73013.5	13.50 mm	1
A73013.8	13.80 mm	1
A73014.0	14.00 mm	1
A73014.25	14.25 mm	1
A73014.5	14.50 mm	1
A73014.75	14.75 mm	1
A73015.0	15.00 mm	1
A73015.25	15.25 mm	1
A73015.5	15.50 mm	1
A73015.75	15.75 mm	1
A73016.0	16.00 mm	1
A73016.25	16.25 mm	1
A73016.5	16.50 mm	1
A73017.0	17.00 mm	1
A73017.25	17.25 mm	1
A73017.5	17.50 mm	1
A73017.75	17.75 mm	1
A73018.0	18.00 mm	1
A73018.25	18.25 mm	1
A73018.5	18.50 mm	1
A73018.75	18.75 mm	1
A73019.0	19.00 mm	1
A73019.25	19.25 mm	1
A73019.5	19.50 mm	1
A73019.75	19.75 mm	1
A73020.0	20.00 mm	1
A73020.25	20.25 mm	1
A73020.5	20.50 mm	1
A73020.75	20.75 mm	1
A73021.0	21.00 mm	1
A73021.5	21.50 mm	1
A73022.0	22.00 mm	1
A73022.5	22.50 mm	1
A73023.0	23.00 mm	1
A73023.5	23.50 mm	1
A73024.0	24.00 mm	1
A73024.5	24.50 mm	1
A73025.0	25.00 mm	1
A73025.5	25.50 mm	1
A73026.0	26.00 mm	1
A73026.5	26.50 mm	1
A73027.0	27.00 mm	1
A73027.5	27.50 mm	1
A73028.0	28.00 mm	1
A73028.5	28.50 mm	1
A73029.0	29.00 mm	1
A73030.0	30.00 mm	1
A73031.0	31.00 mm	1
A73032.0	32.00 mm	1

A777

Broca haste cônica HSCo

HSS-E Bronze | DIN 338 | R | N | 135° | 4×D





e-Code	Descrição	M
A777.3	0.30 mm	10
A777.35	0.35 mm	10
A777.4	0.40 mm	10
A777.45	0.45 mm	10
A777.5	0.50 mm	10
A777.55	0.55 mm	10
A777.6	0.60 mm	10
A777.65	0.65 mm	10
A777.7	0.70 mm	10
A777.8	0.80 mm	10
A777.9	0.90 mm	10
A777.95	0.95 mm	10
A7771.0	1.00 mm	10
A7771.1	1.10 mm	10
A7771.2	1.20 mm	10
A7771.3	1.30 mm	10
A7771.4	1.40 mm	10
A7771.5	1.50 mm	10
A7771/16	1/16"	10
A7771.6	1.60 mm	10
A7771.7	1.70 mm	10
A7771.8	1.80 mm	10
A7771.9	1.90 mm	10
A7775/64	5/64"	10
A7772.0	2.00 mm	10
A7772.1	2.10 mm	10
A7772.2	2.20 mm	10
A7772.3	2.30 mm	10
A7773/32	3/32"	10
A7772.4	2.40 mm	10
A7772.5	2.50 mm	10
A7772.6	2.60 mm	10
A7772.7	2.70 mm	10
A7777/64	7/64"	10
A7772.8	2.80 mm	10
A7772.9	2.90 mm	10
A7773.0	3.00 mm	10
A7773.1	3.10 mm	10
A7771/8	1/8 "	10
A7773.2	3.20 mm	10
A7773.3	3.30 mm	10
A7773.4	3.40 mm	10
A7773.5	3.50 mm	10
A7779/64	9/64"	10
A7773.6	3.60 mm	10
A7773.7	3.70 mm	10
A7773.8	3.80 mm	10
A7773.9	3.90 mm	10
A7775/32	5/32"	10
A7774.0	4.00 mm	10
A7774.1	4.10 mm	10
A7774.2	4.20 mm	10
A7774.3	4.30 mm	10
A77711/64	11/64"	10
A7774.4	4.40 mm	10
A7774.5	4.50 mm	10
A7774.6	4.60 mm	10
A7774.7	4.70 mm	10
A7773/16	3/16"	10
A7774.8	4.80 mm	10
A7774.9	4.90 mm	10
A7775.0	5.00 mm	10
A7775.1	5.10 mm	10
A77713/64	13/64"	10
A7775.2	5.20 mm	10
A7775.3	5.30 mm	10
A7775.4	5.40 mm	10
A7775.5	5.50 mm	10
A7777/32	7/32"	10
A7775.6	5.60 mm	10
A7775.7	5.70 mm	10

A7775.8	5.80 mm	10
A7775.9	5.90 mm	10
A77715/64	15/64"	10
A7776.0	6.00 mm	10
A7776.1	6.10 mm	10
A7776.2	6.20 mm	10
A7776.3	6.30 mm	10
A7771/4	1/4 "	10
A7776.4	6.40 mm	10
A7776.5	6.50 mm	10
A7776.6	6.60 mm	10
A7776.7	6.70 mm	10
A77717/64	17/64"	10
A7776.8	6.80 mm	10
A7776.9	6.90 mm	10
A7777.0	7.00 mm	10
A7777.1	7.10 mm	10
A7779/32	9/32"	10
A7777.2	7.20 mm	10
A7777.3	7.30 mm	10
A7777.4	7.40 mm	10
A7777.5	7.50 mm	10
A77719/64	19/64"	10
A7777.6	7.60 mm	10
A7777.7	7.70 mm	10
A7777.8	7.80 mm	10
A7777.9	7.90 mm	10
A7775/16	5/16"	10
A7778.0	8.00 mm	10
A7778.1	8.10 mm	10
A7778.2	8.20 mm	10
A7778.3	8.30 mm	10
A77721/64	21/64"	10
A7778.4	8.40 mm	10
A7778.5	8.50 mm	10
A7778.6	8.60 mm	10
A7778.7	8.70 mm	10
A77711/32	11/32"	10
A7778.8	8.80 mm	10
A7778.9	8.90 mm	10
A7779.0	9.00 mm	10
A7779.1	9.10 mm	10
A77723/64	23/64"	10
A7779.2	9.20 mm	10
A7779.3	9.30 mm	10
A7779.4	9.40 mm	10
A7779.5	9.50 mm	10
A7773/8	3/8"	10
A7779.6	9.60 mm	10
A7779.7	9.70 mm	10
A7779.8	9.80 mm	10
A7779.9	9.90 mm	10
A77725/64	25/64"	10
A77710.0	10.00 mm	10
A77710.1	10.10 mm	5
A77710.2	10.20 mm	5
A77713/32	13/32"	5
A77710.5	10.50 mm	5
A77727/64	27/64"	5
A77710.8	10.80 mm	5
A77711.0	11.00 mm	5
A7777/16	7/16"	5
A77711.2	11.20 mm	5
A77711.5	11.50 mm	5
A77729/64	29/64"	5
A77711.8	11.80 mm	5
A77715/32	15/32"	5
A77712.0	12.00 mm	5
A77712.2	12.20 mm	5
A77731/64	31/64"	5
A77712.5	12.50 mm	5
A7771/2	1/2 "	5
A77712.8	12.80 mm	5
A77713.0	13.00 mm	5
A77713.5	13.50 mm	1
A77714.0	14.00 mm	1
A77714.5	14.50 mm	1
A77715.0	15.00 mm	1
A77715.5	15.50 mm	1
A77716.0	16.00 mm	1

A800

Broca padrão para concreto - Encartelada





e-Code	Descrição	M
A8001/8X1/8B	3 | 1/8" x 60 mm	1
A8003.5AB	3,5 x 60 mm	1
A8005/32X5/32B	4 | 5/32" x 75 mm	1
A8003/16X3/16B	5 | 3/16" x 80 mm	1
A8007/32X7/32B	5,5 | 7/32" x 80 mm	1
A8006.0BB	6 x 100 mm	1
A8001/4X1/4B	6,5 | 1/4" x 100 mm	1
A8009/32X1/4B	7 | 9/32" x 100 mm	1
A8005/16X1/4B	8 | 5/16" x 120 mm	1
A80011/32X1/4B	9 | 11/32" x 120 mm	1
A8003/8X1/4B	9,5 | 3/8" x 120 mm	1
A80013/32X1/4B	10 | 13/32" x 150 mm	1
A8007/16X1/4B	11 | 7/16" x 150 mm	1
A80012.0DB	12 | 15/32" x 150 mm	1
A8001/2X3/8B	13 | 1/2" x 150 mm	1
A8009/16X3/8B	14 | 9/16" x 150 mm	1
A8005/8X1/2B	16 | 5/8" x 150 mm	1
A8007/8X1/2B	22 | 7/8" x 160 mm	1
A8001X1/2B	25 | 1/2" x 160 mm	1

A802

Broca longa para concreto - Encartelada





e-Code	Descrição	M
A8026.0FB	6 x 300 mm	1
A8026.5FB	6,5 | 1/4" x 300 mm	1
A8028.0FB	8 | 5/16" x 300 mm	1
A8029.5FB	9,5 x 300 mm	1
A80210.0FB	10 | 13/32" x 300 mm	1
A80212.0FB	12 | 15/32" x 300 mm	1
A80213.0FB	13 | 1/2" x 300 mm	1
A80214.0FB	14 | 9/16" x 300 mm	1
A80216.0FB	16 | 5/8" x 300 mm	1
A80219.0FB	19 | 3/4" x 300 mm	1
A80222.0FB	22 | 7/8" x 300 mm	1
A80225.0FB	25 | 1" x 300 mm	1

A803

Jogo de brocas A800 para concreto



e-Code	Descrição
A803144B	4 peças (4.0mm - 6.0mm - 8.0mm - 10.0mm)

A806

Broca SDS Plus para concreto - Encartelada





e-Code	Descrição	M
A8064.0X110B	4mm x 110mm	1
A8065.0X110B	5mm x 110mm	1
A8065.0X160B	5mm x 160mm	1
A8066.0X110B	6mm x 110mm	1
A8066.0X160B	6mm x 160mm	1
A8066.0X210B	6mm x 210mm	1
A8066.0X260B	6mm x 260mm	1
A8067.0X160B	7mm x 160mm	1
A8068.0X110B	8mm x 110mm	1
A8068.0X160B	8mm x 160mm	1
A8068.0X210B	8mm x 210mm	1
A8068.0X260B	8mm x 260mm	1
A8068.0X310B	8mm x 310mm	1
A80610.0X110B	10mm x 110mm	1
A80610.0X160B	10mm x 160mm	1
A80610.0X210B	10mm x 210mm	1
A80610.0X260B	10mm x 260mm	1
A80610.0X310B	10mm x 310mm	1
A80612.0X160B	12mm x 160mm	1
A80612.0X210B	12mm x 210mm	1
A80612.0X260B	12mm x 260mm	1
A80612.0X310B	12mm x 310mm	1
A80612.0X450B	12mm x 450mm	1
A80613.0X160B	13mm x 160mm	1
A80613.0X210B	13mm x 210mm	1
A80613.0X260B	13mm x 260mm	1
A80613.0X310B	13mm x 310mm	1
A80614.0X160B	14mm x 160mm	1
A80614.0X210B	14mm x 210mm	1
A80614.0X260B	14mm x 260mm	1
A80614.0X310B	14mm x 310mm	1
A80614.0X400B	14mm x 400mm	1
A80616.0X160B	16mm x 160mm	1
A80616.0X210B	16mm x 210mm	1
A80616.0X260B	16mm x 260mm	1
A80616.0X310B	16mm x 310mm	1
A80616.0X400B	16mm x 400mm	1
A80618.0X210B	18mm x 210mm	1
A80618.0X260B	18mm x 260mm	1
A80618.0X310B	18mm x 310mm	1

A80618.0X400B	18mm x 400mm	1
A80618.0X500B	18mm x 500mm	1
A80619.0X210B	19mm x 210mm	1
A80619.0X310B	19mm x 310mm	1
A80620.0X210B	20mm x 210mm	1
A80620.0X260B	20mm x 260mm	1
A80620.0X400B	20mm x 400mm	1
A80622.0X210B	22mm x 210mm	1
A80622.0X310B	22mm x 310mm	1
A80622.0X400B	22mm x 400mm	1
A80624.0X310B	24mm x 310mm	1
A80624.0X400B	24mm x 400mm	1
A80625.0X250B	25mm x 250mm	1
A80625.0X460B	25mm x 460mm	1

A951

Broca extra longa com haste cônica





e-Code	Descrição	M
A95110.0	10.00 mm	1
A95111.0	11.00 mm	1
A95112.0	12.00 mm	1
A95112.5	12.50 mm	1
A95113.0	13.00 mm	1
A95113.5	13.50 mm	1
A95114.0	14.00 mm	1
A95114.5	14.50 mm	1
A95115.0	15.00 mm	1
A95115.5	15.50 mm	1
A95116.0	16.00 mm	1
A95116.5	16.50 mm	1
A95117.0	17.00 mm	1
A95117.5	17.50 mm	1
A95118.0	18.00 mm	1
A95118.5	18.50 mm	1
A95119.0	19.00 mm	1
A95119.5	19.50 mm	1
A95120.0	20.00 mm	1
A95121.0	21.00 mm	1
A95122.0	22.00 mm	1
A95123.0	23.00 mm	1
A95124.0	24.00 mm	1
A95125.0	25.00 mm	1
A95126.0	26.00 mm	1
A95127.0	27.00 mm	1
A95128.0	28.00 mm	1
A95129.0	29.00 mm	1
A95130.0	30.00 mm	1

A952

Broca extra longa com haste cônica





e-Code	Descrição	M
A9528.0	8.00 mm	1
A9528.5	8.50 mm	1
A9529.0	9.00 mm	1
A95210.0	10.00 mm	1
A95210.5	10.50 mm	1
A95211.0	11.00 mm	1
A95211.5	11.50 mm	1
A95212.0	12.00 mm	1
A95212.5	12.50 mm	1
A95213.0	13.00 mm	1
A95213.5	13.50 mm	1
A95214.0	14.00 mm	1
A95214.5	14.50 mm	1
A95215.0	15.00 mm	1
A95215.5	15.50 mm	1
A95216.0	16.00 mm	1
A95216.5	16.50 mm	1
A95217.0	17.00 mm	1
A95217.5	17.50 mm	1
A95218.0	18.00 mm	1
A95218.5	18.50 mm	1
A95219.0	19.00 mm	1
A95219.5	19.50 mm	1
A95220.0	20.00 mm	1
A95221.0	21.00 mm	1
A95222.0	22.00 mm	1
A95223.0	23.00 mm	1
A95224.0	24.00 mm	1
A95225.0	25.00 mm	1
A95226.0	26.00 mm	1
A95227.0	27.00 mm	1
A95228.0	28.00 mm	1
A95229.0	29.00 mm	1
A95230.0	30.00 mm	1
A95231.0	31.00 mm	1
A95232.0	32.00 mm	1
A95233.0	33.00 mm	1
A95234.0	34.00 mm	1
A95235.0	35.00 mm	1
A95238.0	38.00 mm	1
A95240.0	40.00 mm	1



BROCAS DE METAL DURO

R100

Broca série curta

HM | Bright | DIN 338 | R | N | 120° | 4×D



e-Code	Descrição	M
R1001.0	1.00 mm	1
R1001.1	1.10 mm	1
R1001.2	1.20 mm	1
R1001.3	1.30 mm	1
R1001.4	1.40 mm	1
R1001.5	1.50 mm	1
R1001.6	1.60 mm	1
R1001.7	1.70 mm	1
R1001.8	1.80 mm	1
R1001.9	1.90 mm	1
R1002.0	2.00 mm	1
R1002.1	2.10 mm	1
R1002.2	2.20 mm	1
R1002.3	2.30 mm	1
R1002.4	2.40 mm	1
R1002.5	2.50 mm	1
R1002.6	2.60 mm	1
R1002.7	2.70 mm	1
R1002.8	2.80 mm	1
R1002.9	2.90 mm	1
R1003.0	3.00 mm	1
R1003.1	3.10 mm	1
R1003.2	3.20 mm	1
R1003.3	3.30 mm	1
R1003.4	3.40 mm	1
R1003.5	3.50 mm	1
R1003.6	3.60 mm	1
R1003.7	3.70 mm	1
R1003.8	3.80 mm	1
R1003.9	3.90 mm	1
R1004.0	4.00 mm	1
R1004.1	4.10 mm	1
R1004.2	4.20 mm	1
R1004.3	4.30 mm	1
R1004.4	4.40 mm	1
R1004.5	4.50 mm	1
R1004.6	4.60 mm	1
R1004.7	4.70 mm	1
R1004.8	4.80 mm	1
R1004.9	4.90 mm	1
R1005.0	5.00 mm	1
R1005.1	5.10 mm	1
R1005.2	5.20 mm	1
R1005.3	5.30 mm	1
R1005.4	5.40 mm	1
R1005.5	5.50 mm	1
R1005.6	5.60 mm	1
R1005.7	5.70 mm	1
R1005.8	5.80 mm	1
R1005.9	5.90 mm	1
R1006.0	6.00 mm	1
R1006.1	6.10 mm	1
R1006.2	6.20 mm	1
R1006.3	6.30 mm	1
R1006.4	6.40 mm	1
R1006.5	6.50 mm	1
R1006.6	6.60 mm	1
R1006.7	6.70 mm	1
R1006.8	6.80 mm	1
R1006.9	6.90 mm	1
R1007.0	7.00 mm	1
R1007.1	7.10 mm	1
R1007.2	7.20 mm	1
R1007.3	7.30 mm	1
R1007.4	7.40 mm	1
R1007.5	7.50 mm	1
R1007.6	7.60 mm	1
R1007.7	7.70 mm	1
R1007.8	7.80 mm	1
R1007.9	7.90 mm	1
R1008.0	8.00 mm	1
R1008.1	8.10 mm	1
R1008.2	8.20 mm	1
R1008.3	8.30 mm	1
R1008.4	8.40 mm	1
R1008.5	8.50 mm	1
R1008.6	8.60 mm	1
R1008.7	8.70 mm	1
R1008.8	8.80 mm	1
R1008.9	8.90 mm	1
R1009.0	9.00 mm	1
R1009.1	9.10 mm	1
R1009.2	9.20 mm	1
R1009.3	9.30 mm	1
R1009.4	9.40 mm	1
R1009.5	9.50 mm	1
R1009.6	9.60 mm	1
R1009.7	9.70 mm	1
R1009.8	9.80 mm	1
R1009.9	9.90 mm	1
R10010.0	10.00 mm	1
R10010.2	10.20 mm	1
R10010.5	10.50 mm	1
R10011.0	11.00 mm	1
R10011.5	11.50 mm	1
R10012.0	12.00 mm	1
R10013.0	13.00 mm	1
R10014.0	14.00 mm	1

R120

Broca série extra curta

HM | Bright | DIN 6539 | R | N | 120° | 2.5×D



e-Code	Descrição	M
R1201.0	1.00 mm	1
R1201.1	1.10 mm	1
R1201.2	1.20 mm	1
R1201.3	1.30 mm	1
R1201.4	1.40 mm	1
R1201.5	1.50 mm	1
R1201.6	1.60 mm	1
R1201.7	1.70 mm	1
R1201.8	1.80 mm	1
R1201.9	1.90 mm	1
R1202.0	2.00 mm	1
R1202.1	2.10 mm	1
R1202.2	2.20 mm	1
R1202.3	2.30 mm	1
R1202.4	2.40 mm	1
R1202.5	2.50 mm	1
R1202.6	2.60 mm	1
R1202.7	2.70 mm	1
R1202.8	2.80 mm	1
R1202.9	2.90 mm	1
R1203.0	3.00 mm	1
R1203.1	3.10 mm	1
R1203.2	3.20 mm	1
R1203.3	3.30 mm	1
R1203.4	3.40 mm	1
R1203.5	3.50 mm	1
R1203.6	3.60 mm	1
R1203.7	3.70 mm	1
R1203.8	3.80 mm	1
R1203.9	3.90 mm	1
R1204.0	4.00 mm	1
R1204.1	4.10 mm	1
R1204.2	4.20 mm	1
R1204.3	4.30 mm	1
R1204.4	4.40 mm	1
R1204.5	4.50 mm	1
R1204.6	4.60 mm	1
R1204.7	4.70 mm	1
R1204.8	4.80 mm	1
R1204.9	4.90 mm	1
R1205.0	5.00 mm	1
R1205.1	5.10 mm	1
R1205.2	5.20 mm	1
R1205.3	5.30 mm	1
R1205.4	5.40 mm	1
R1205.5	5.50 mm	1
R1205.6	5.60 mm	1
R1205.7	5.70 mm	1
R1205.8	5.80 mm	1
R1205.9	5.90 mm	1
R1206.0	6.00 mm	1
R1206.1	6.10 mm	1
R1206.2	6.20 mm	1
R1206.3	6.30 mm	1
R1206.4	6.40 mm	1
R1206.5	6.50 mm	1
R1206.6	6.60 mm	1
R1206.7	6.70 mm	1
R1206.8	6.80 mm	1
R1206.9	6.90 mm	1
R1207.0	7.00 mm	1
R1207.1	7.10 mm	1
R1207.2	7.20 mm	1
R1207.3	7.30 mm	1
R1207.4	7.40 mm	1
R1207.5	7.50 mm	1
R1207.6	7.60 mm	1
R1207.7	7.70 mm	1
R1207.8	7.80 mm	1
R1207.9	7.90 mm	1
R1208.0	8.00 mm	1
R1208.1	8.10 mm	1
R1208.2	8.20 mm	1
R1208.3	8.30 mm	1
R1208.4	8.40 mm	1
R1208.5	8.50 mm	1
R1208.6	8.60 mm	1
R1208.7	8.70 mm	1
R1208.8	8.80 mm	1
R1208.9	8.90 mm	1
R1209.0	9.00 mm	1
R1209.1	9.10 mm	1
R1209.2	9.20 mm	1
R1209.3	9.30 mm	1
R1209.4	9.40 mm	1
R1209.5	9.50 mm	1
R1209.6	9.60 mm	1
R1209.7	9.70 mm	1
R1209.8	9.80 mm	1
R1209.9	9.90 mm	1

R12010.0	10.00 mm	1
R12010.2	10.20 mm	1
R12010.5	10.50 mm	1
R12011.0	11.00 mm	1
R12011.5	11.50 mm	1
R12012.0	12.00 mm	1

R200

Broca de centrar

HM | Bright | DIN 333A | R | 118° | 1×D



e-Code	Descrição	M
R2001.0X3.15	1.0 x 3.15 mm	1
R2001.25X3.15	1.25 x 3.15 mm	1
R2001.6X4.0	1.6 x 4.0 mm	1
R2002.0X5.0	2.0 x 5.0 mm	1
R2002.5X6.3	2.5 x 6.3 mm	1
R2003.15X8.0	3.15 x 8.0 mm	1
R2004.0X10.0	4.0 x 10.0 mm	1
R2005.0X12.5	5.0 x 12.5 mm	1

R453

Broca Force X com refrigeração interna 5xD

HM | TiAlN | DIN 6537L | R | DIN 6535HA | N | 140° | 5×D





e-Code	Descrição	M
R4533.0	3.00 mm	1
R4533.1	3.10 mm	1
R4531/8	1/8 pol	1
R4533.2	3.20 mm	1
R453N30	N30	1
R4533.3	3.30 mm	1
R4533.4	3.40 mm	1
R453N29	N29	1
R4533.5	3.50 mm	1
R4539/64	9/64 pol	1
R453N28	N28	1
R4533.6	3.60 mm	1
R453N27	N27	1
R4533.7	3.70 mm	1
R453N26	N26	1
R4533.8	3.80 mm	1
R453N25	N25	1
R453N24	N24	1
R4533.9	3.90 mm	1
R453N23	N23	1
R4535/32	5/32 pol	1
R453N22	N22	1
R4534.0	4.00 mm	1
R453N21	N21	1
R4534.05	4.05 mm	1
R453N20	N20	1
R4534.1	4.10 mm	1
R4534.2	4.20 mm	1
R453N19	N19	1
R4534.3	4.30 mm	1
R453N18	N18	1
R45311/64	11/64 pol	1
R453N17	N17	1
R4534.4	4.40 mm	1
R4534.5	4.50 mm	1
R453N16	N16	1
R453N15	N15	1
R4534.6	4.60 mm	1
R453N14	N14	1
R4534.7	4.70 mm	1
R453N13	N13	1
R4533/16	3/16 pol	1
R4534.8	4.80 mm	1
R453N12	N12	1
R453N11	N11	1
R4534.9	4.90 mm	1
R453N10	N10	1
R453N9	N9	1
R4535.0	5.00 mm	1
R4535.05	5.05 mm	1
R453N8	N8	1
R4535.1	5.10 mm	1
R453N7	N7	1
R45313/64	13/64 pol	1
R453N6	N6	1
R4535.2	5.20 mm	1
R4535.3	5.30 mm	1
R4535.4	5.40 mm	1
R453N5	N5	1
R453N4	N4	1
R453N3	N3	1
R4535.5	5.50 mm	1
R4537/32	7/32 pol	1
R4535.6	5.60 mm	1
R453N2	N2	1
R4535.7	5.70 mm	1
R453N1	N1	1
R4535.8	5.80 mm	1
R4535.9	5.90 mm	1
R453A	A	1
R45315/64	15/64 pol	1
R4536.0	6.00 mm	1
R453B	B	1
R4536.05	6.05 mm	1
R4536.1	6.10 mm	1
R453C	C	1
R4536.2	6.20 mm	1
R453D	D	1
R4536.3	6.30 mm	1
R4531/4	1/4 pol	1
R453E	E	1
R4536.4	6.40 mm	1
R4536.5	6.50 mm	1
R453F	F	1
R4536.6	6.60 mm	1
R453G	G	1
R4536.7	6.70 mm	1
R45317/64	17/64 pol	1
R453H	H	1
R4536.8	6.80 mm	1
R4536.9	6.90 mm	1
R453I	I	1
R4537.0	7.00 mm	1
R453J	J	1
R4537.1	7.10 mm	1
R4537.2	7.20 mm	1
R4539/32	9/32 pol	1
R453K	K	1
R4537.3	7.30 mm	1
R453L	L	1
R4537.4	7.40 mm	1
R453M	M	1
R4537.5	7.50 mm	1
R45319/64	19/64 pol	1
R4537.6	7.60 mm	1
R453N	N	1
R4537.7	7.70 mm	1
R4537.8	7.80 mm	1
R4537.9	7.90 mm	1
R4535/16	5/16 pol	1
R4538.0	8.00 mm	1
R453O	O	1
R4538.05	8.05 mm	1
R4538.1	8.10 mm	1
R4538.2	8.20 mm	1
R4538.3	8.30 mm	1
R453P	P	1
R45321/64	21/64 pol	1
R4538.4	8.40 mm	1
R453Q	Q	1
R4538.5	8.50 mm	1
R4538.6	8.60 mm	1
R453R	R	1
R4538.7	8.70 mm	1
R45311/32	11/32 pol	1
R4538.8	8.80 mm	1
R453S	S	1
R4538.9	8.90 mm	1
R4539.0	9.00 mm	1
R453T	T	1
R4539.1	9.10 mm	1
R4539.2	9.20 mm	1
R45323/64	23/64 pol	1
R4539.3	9.30 mm	1
R453U	U	1
R4539.4	9.40 mm	1
R4539.5	9.50 mm	1
R4533/8	3/8 pol	1
R453V	V	1
R4539.6	9.60 mm	1
R4539.7	9.70 mm	1
R4539.8	9.80 mm	1
R453W	W	1
R4539.9	9.90 mm	1
R45325/64	25/64 pol	1
R45310.0	10.00 mm	1
R45310.05	10.05 mm	1
R453X	X	1
R45310.1	10.10 mm	1
R45310.2	10.20 mm	1
R453Y	Y	1
R45310.3	10.30 mm	1
R45313/32	13/32 pol	1
R45310.4	10.40 mm	1
R453Z	Z	1
R45310.5	10.50 mm	1
R45310.6	10.60 mm	1
R45310.8	10.80 mm	1
R45327/64	27/64 pol	1

R45311.0	11.00 mm	1
R4537/16	7/16 pol	1
R45311.2	11.20 mm	1
R45311.3	11.30 mm	1
R45311.4	11.40 mm	1
R45311.5	11.50 mm	1
R45329/64	29/64 pol	1
R45311.6	11.60 mm	1
R45311.8	11.80 mm	1
R45315/32	15/32 pol	1
R45312.0	12.00 mm	1
R45312.05	12.05 mm	1
R45312.2	12.20 mm	1
R45331/64	31/64 pol	1
R45312.5	12.50 mm	1
R4531/2	1/2 pol	1
R45312.7	12.70 mm	1
R45312.8	12.80 mm	1
R45313.0	13.00 mm	1
R45313.3	13.30 mm	1
R45333/64	33/64 pol	1
R45317/32	17/32 pol	1
R45313.5	13.50 mm	1
R45313.8	13.80 mm	1
R45335/64	35/64 pol	1
R45314.0	14.00 mm	1
R45314.25	14.25 mm	1
R4539/16	9/16 pol	1
R45314.5	14.50 mm	1
R45337/64	37/64 pol	1
R45314.8	14.80 mm	1
R45315.0	15.00 mm	1
R45319/32	19/32 pol	1
R45315.1	15.10 mm	1
R45315.3	15.30 mm	1
R45339/64	39/64 pol	1
R45315.5	15.50 mm	1
R45315.8	15.80 mm	1
R4535/8	5/8 pol	1
R45316.0	16.00 mm	1
R45341/64	41/64 pol	1
R45316.5	16.50 mm	1
R45321/32	21/32 pol	1
R45317.0	17.00 mm	1
R45343/64	43/64 pol	1
R45311/16	11/16 pol	1
R45317.5	17.50 mm	1
R45317.8	17.80 mm	1
R45345/64	45/64 pol	1
R45318.0	18.00 mm	1
R45323/32	23/32 pol	1
R45318.5	18.50 mm	1
R45347/64	47/64 pol	1
R45319.0	19.00 mm	1
R4533/4	3/4 pol	1
R45319.5	19.50 mm	1
R45319.8	19.80 mm	1
R45320.0	20.00 mm	1

R454

Broca Force X 5xD

HM | TiAlN | DIN 6537L | R | DIN 6535HA | N | 140° | 5×D





e-Code	Descrição	M
R4543.0	3.00 mm	1
R4543.1	3.10 mm	1
R4541/8	1/8 pol	1
R4543.2	3.20 mm	1
R454N30	N30	1
R4543.3	3.30 mm	1
R4543.4	3.40 mm	1
R454N29	N29	1
R4543.5	3.50 mm	1
R4549/64	9/64 pol	1
R454N28	N28	1
R4543.6	3.60 mm	1
R454N27	N27	1
R4543.7	3.70 mm	1
R454N26	N26	1
R4543.8	3.80 mm	1
R454N25	N25	1
R454N24	N24	1
R4543.9	3.90 mm	1
R454N23	N23	1
R4545/32	5/32 pol	1
R454N22	N22	1
R4544.0	4.00 mm	1
R454N21	N21	1
R454N20	N20	1
R4544.1	4.10 mm	1
R4544.2	4.20 mm	1
R454N19	N19	1
R4544.3	4.30 mm	1
R454N18	N18	1
R45411/64	11/64 pol	1
R454N17	N17	1
R4544.4	4.40 mm	1
R4544.5	4.50 mm	1
R454N16	N16	1
R454N15	N15	1
R4544.6	4.60 mm	1
R454N14	N14	1
R4544.7	4.70 mm	1
R454N13	N13	1
R4543/16	3/16 pol	1
R4544.8	4.80 mm	1
R454N12	N12	1
R454N11	N11	1
R4544.9	4.90 mm	1
R454N10	N10	1
R454N9	N9	1
R4545.0	5.00 mm	1
R454N8	N8	1
R4545.1	5.10 mm	1
R454N7	N7	1
R45413/64	13/64 pol	1
R454N6	N6	1
R4545.2	5.20 mm	1
R454N5	N5	1
R454N4	N4	1
R454N3	N3	1
R4545.5	5.50 mm	1
R4547/32	7/32 pol	1
R4545.6	5.60 mm	1
R454N2	N2	1
R4545.7	5.70 mm	1
R454N1	N1	1
R4545.8	5.80 mm	1
R454A	A	1
R45415/64	15/64 pol	1
R4546.0	6.00 mm	1
R454B	B	1
R4546.1	6.10 mm	1
R454C	C	1
R4546.2	6.20 mm	1
R454D	D	1
R4546.3	6.30 mm	1
R4541/4	1/4 pol	1
R454E	E	1
R4546.4	6.40 mm	1
R4546.5	6.50 mm	1
R454F	F	1
R4546.6	6.60 mm	1
R454G	G	1
R4546.7	6.70 mm	1
R45417/64	17/64 pol	1
R454H	H	1
R4546.8	6.80 mm	1
R4546.9	6.90 mm	1
R454I	I	1
R4547.0	7.00 mm	1
R454J	J	1
R4547.1	7.10 mm	1
R4549/32	9/32 pol	1
R454K	K	1
R4547.3	7.30 mm	1
R454L	L	1
R4547.4	7.40 mm	1
R454M	M	1
R4547.5	7.50 mm	1
R45419/64	19/64 pol	1
R4547.6	7.60 mm	1
R454N	N	1
R4547.7	7.70 mm	1
R4547.8	7.80 mm	1
R4547.9	7.90 mm	1
R4545/16	5/16 pol	1
R4548.0	8.00 mm	1
R454O	O	1
R4548.1	8.10 mm	1
R4548.2	8.20 mm	1
R454P	P	1
R45421/64	21/64 pol	1
R4548.4	8.40 mm	1
R454Q	Q	1
R4548.5	8.50 mm	1
R4548.6	8.60 mm	1
R454R	R	1
R4548.7	8.70 mm	1
R45411/32	11/32 pol	1
R4548.8	8.80 mm	1
R454S	S	1
R4548.9	8.90 mm	1
R4549.0	9.00 mm	1

R454T	T	1
R4549.1	9.10 mm	1
R45423/64	23/64 pol	1
R4549.3	9.30 mm	1
R454U	U	1
R4549.4	9.40 mm	1
R4549.5	9.50 mm	1
R4543/8	3/8 pol	1
R454V	V	1
R4549.6	9.60 mm	1
R4549.7	9.70 mm	1
R4549.8	9.80 mm	1
R454W	W	1
R4549.9	9.90 mm	1
R45425/64	25/64 pol	1
R45410.0	10.00 mm	1
R454X	X	1
R45410.1	10.10 mm	1
R45410.2	10.20 mm	1
R454Y	Y	1
R45410.3	10.30 mm	1
R45413/32	13/32 pol	1
R45410.4	10.40 mm	1
R454Z	Z	1
R45410.5	10.50 mm	1
R45410.6	10.60 mm	1
R45427/64	27/64 pol	1
R45411.0	11.00 mm	1
R4547/16	7/16 pol	1
R45411.2	11.20 mm	1
R45411.4	11.40 mm	1
R45411.5	11.50 mm	1
R45429/64	29/64 pol	1
R45411.6	11.60 mm	1
R45411.8	11.80 mm	1
R45415/32	15/32 pol	1
R45412.0	12.00 mm	1
R45412.1	12.10 mm	1
R45412.2	12.20 mm	1
R45431/64	31/64 pol	1
R45412.5	12.50 mm	1
R4541/2	1/2 pol	1
R45412.7	12.70 mm	1
R45412.8	12.80 mm	1
R45413.0	13.00 mm	1
R45433/64	33/64 pol	1
R45417/32	17/32 pol	1
R45413.5	13.50 mm	1
R45413.8	13.80 mm	1
R45435/64	35/64 pol	1
R45414.0	14.00 mm	1
R45414.25	14.25 mm	1
R4549/16	9/16 pol	1
R45414.5	14.50 mm	1
R45437/64	37/64 pol	1
R45414.8	14.80 mm	1
R45415.0	15.00 mm	1
R45419/32	19/32 pol	1
R45415.1	15.10 mm	1
R45439/64	39/64 pol	1
R45415.5	15.50 mm	1
R45415.8	15.80 mm	1
R4545/8	5/8 pol	1
R45416.0	16.00 mm	1
R45441/64	41/64 pol	1
R45416.5	16.50 mm	1
R45421/32	21/32 pol	1
R45417.0	17.00 mm	1
R45443/64	43/64 pol	1
R45411/16	11/16 pol	1
R45417.5	17.50 mm	1
R45417.8	17.80 mm	1
R45445/64	45/64 pol	1
R45418.0	18.00 mm	1
R45423/32	23/32 pol	1
R45418.5	18.50 mm	1
R45447/64	47/64 pol	1
R45419.0	19.00 mm	1
R4543/4	3/4 pol	1
R45419.5	19.50 mm	1
R45419.8	19.80 mm	1
R45420.0	20.00 mm	1

R457

Broca Force X série curta com refrigeração interna 3xD







e-Code	Descrição	M
R4573.0	3.00 mm	1
R4573.1	3.10 mm	1
R4571/8	1/8 pol	1
R4573.2	3.20 mm	1
R457N30	N30	1
R4573.3	3.30 mm	1
R4573.4	3.40 mm	1
R457N29	N29	1
R4573.5	3.50 mm	1
R4579/64	9/64 pol	1
R457N28	N28	1
R4573.6	3.60 mm	1
R457N27	N27	1
R4573.7	3.70 mm	1
R457N26	N26	1
R4573.8	3.80 mm	1
R457N25	N25	1
R457N24	N24	1
R4573.9	3.90 mm	1
R457N23	N23	1
R4575/32	5/32 pol	1
R457N22	N22	1
R4574.0	4.00 mm	1
R457N21	N21	1
R4574.05	4.05 mm	1
R457N20	N20	1
R4574.1	4.10 mm	1
R4574.2	4.20 mm	1
R457N19	N19	1
R4574.3	4.30 mm	1
R457N18	N18	1
R45711/64	11/64 pol	1
R457N17	N17	1
R4574.4	4.40 mm	1
R4574.5	4.50 mm	1
R457N16	N16	1
R457N15	N15	1
R4574.6	4.60 mm	1
R457N14	N14	1
R4574.7	4.70 mm	1
R457N13	N13	1
R4573/16	3/16 pol	1
R4574.8	4.80 mm	1
R457N12	N12	1
R457N11	N11	1
R4574.9	4.90 mm	1
R457N10	N10	1
R457N9	N9	1
R4575.0	5.00 mm	1
R4575.05	5.05 mm	1
R457N8	N8	1
R4575.1	5.10 mm	1
R457N7	N7	1
R45713/64	13/64 pol	1
R457N6	N6	1
R4575.2	5.20 mm	1
R4575.3	5.30 mm	1
R4575.4	5.40 mm	1
R457N5	N5	1
R457N4	N4	1
R457N3	N3	1
R4575.5	5.50 mm	1
R4577/32	7/32 pol	1
R4575.6	5.60 mm	1
R457N2	N2	1
R4575.7	5.70 mm	1
R457N1	N1	1
R4575.8	5.80 mm	1
R4575.9	5.90 mm	1
R457A	A	1
R45715/64	15/64 pol	1
R4576.0	6.00 mm	1
R457B	B	1
R4576.05	6.05 mm	1
R4576.1	6.10 mm	1
R457C	C	1
R4576.2	6.20 mm	1
R457D	D	1
R4576.3	6.30 mm	1
R4571/4	1/4 pol	1
R457E	E	1
R4576.4	6.40 mm	1
R4576.5	6.50 mm	1
R457F	F	1
R4576.6	6.60 mm	1
R457G	G	1
R4576.7	6.70 mm	1
R45717/64	17/64 pol	1
R457H	H	1
R4576.8	6.80 mm	1
R4576.9	6.90 mm	1
R457I	I	1
R4577.0	7.00 mm	1
R457J	J	1
R4577.1	7.10 mm	1
R4577.2	7.20 mm	1
R4579/32	9/32 pol	1
R457K	K	1
R4577.3	7.30 mm	1
R457L	L	1
R4577.4	7.40 mm	1
R457M	M	1
R4577.5	7.50 mm	1
R45719/64	19/64 pol	1
R4577.6	7.60 mm	1

R457N	N	1
R4577.7	7.70 mm	1
R4577.8	7.80 mm	1
R4577.9	7.90 mm	1
R4575/16	5/16 pol	1
R4578.0	8.00 mm	1
R457O	O	1
R4578.05	8.05 mm	1
R4578.1	8.10 mm	1
R4578.2	8.20 mm	1
R4578.3	8.30 mm	1
R457P	P	1
R45721/64	21/64 pol	1
R4578.4	8.40 mm	1
R457Q	Q	1
R4578.5	8.50 mm	1
R4578.6	8.60 mm	1
R457R	R	1
R4578.7	8.70 mm	1
R45711/32	11/32 pol	1
R4578.8	8.80 mm	1
R457S	S	1
R4578.9	8.90 mm	1
R4579.0	9.00 mm	1
R457T	T	1
R4579.1	9.10 mm	1
R4579.2	9.20 mm	1
R45723/64	23/64 pol	1
R4579.3	9.30 mm	1
R457U	U	1
R4579.4	9.40 mm	1
R4579.5	9.50 mm	1
R4573/8	3/8 pol	1
R457V	V	1
R4579.6	9.60 mm	1
R4579.7	9.70 mm	1
R4579.8	9.80 mm	1
R457W	W	1
R4579.9	9.90 mm	1
R45725/64	25/64 pol	1
R45710.0	10.00 mm	1
R45710.05	10.05 mm	1
R457X	X	1
R45710.1	10.10 mm	1
R45710.2	10.20 mm	1
R457Y	Y	1
R45710.3	10.30 mm	1
R45713/32	13/32 pol	1
R45710.4	10.40 mm	1
R457Z	Z	1
R45710.5	10.50 mm	1
R45710.6	10.60 mm	1
R45710.8	10.80 mm	1
R45727/64	27/64 pol	1
R45711.0	11.00 mm	1
R4577/16	7/16 pol	1
R45711.2	11.20 mm	1
R45711.3	11.30 mm	1
R45711.4	11.40 mm	1
R45711.5	11.50 mm	1
R45729/64	29/64 pol	1
R45711.6	11.60 mm	1
R45711.8	11.80 mm	1
R45715/32	15/32 pol	1
R45712.0	12.00 mm	1
R45712.05	12.05 mm	1
R45712.1	12.10 mm	1
R45712.2	12.20 mm	1
R45731/64	31/64 pol	1
R45712.5	12.50 mm	1
R4571/2	1/2 pol	1
R45712.7	12.70 mm	1
R45712.8	12.80 mm	1
R45713.0	13.00 mm	1
R45713.3	13.30 mm	1
R45733/64	33/64 pol	1
R45717/32	17/32 pol	1
R45713.5	13.50 mm	1
R45713.8	13.80 mm	1
R45735/64	35/64 pol	1
R45714.0	14.00 mm	1
R45714.25	14.25 mm	1
R4579/16	9/16 pol	1
R45714.5	14.50 mm	1
R45737/64	37/64 pol	1
R45714.8	14.80 mm	1
R45715.0	15.00 mm	1
R45719/32	19/32 pol	1
R45715.1	15.10 mm	1
R45715.3	15.30 mm	1
R45739/64	39/64 pol	1
R45715.5	15.50 mm	1
R45715.8	15.80 mm	1
R4575/8	5/8 pol	1
R45716.0	16.00 mm	1
R45741/64	41/64 pol	1
R45716.5	16.50 mm	1
R45721/32	21/32 pol	1
R45717.0	17.00 mm	1
R45743/64	43/64 pol	1
R45711/16	11/16 pol	1
R45717.5	17.50 mm	1
R45745/64	45/64 pol	1
R45718.0	18.00 mm	1
R45723/32	23/32 pol	1
R45718.5	18.50 mm	1
R45747/64	47/64 pol	1
R45718.8	18.80 mm	1
R45719.0	19.00 mm	1
R4573/4	3/4 pol	1
R45719.5	19.50 mm	1
R45719.8	19.80 mm	1
R45720.0	20.00 mm	1

R458

Broca Force X série curta 3xD

HM | TiAlN | DIN 6537K | R | DIN 6535HA | N | 140° | 3×D





e-Code	Descrição	M
R4583.0	3.00 mm	1
R4583.1	3.10 mm	1
R4581/8	1/8 pol	1
R4583.2	3.20 mm	1
R458N30	N30	1
R4583.3	3.30 mm	1
R4583.4	3.40 mm	1
R458N29	N29	1
R4583.5	3.50 mm	1
R4589/64	9/64 pol	1
R458N28	N28	1
R4583.6	3.60 mm	1
R458N27	N27	1
R4583.7	3.70 mm	1
R4583.73	3.73 mm	1
R458N26	N26	1
R4583.8	3.80 mm	1
R458N25	N25	1
R458N24	N24	1
R4583.9	3.90 mm	1
R458N23	N23	1
R4585/32	5/32 pol	1
R458N22	N22	1
R4584.0	4.00 mm	1
R458N21	N21	1
R458N20	N20	1
R4584.1	4.10 mm	1
R4584.2	4.20 mm	1
R458N19	N19	1
R4584.3	4.30 mm	1
R458N18	N18	1
R45811/64	11/64 pol	1
R458N17	N17	1
R4584.4	4.40 mm	1
R4584.5	4.50 mm	1
R458N16	N16	1
R458N15	N15	1
R4584.6	4.60 mm	1
R458N14	N14	1
R4584.7	4.70 mm	1
R458N13	N13	1
R4583/16	3/16 pol	1
R4584.8	4.80 mm	1
R458N12	N12	1
R458N11	N11	1
R4584.9	4.90 mm	1
R458N10	N10	1
R458N9	N9	1
R4585.0	5.00 mm	1
R458N8	N8	1
R4585.1	5.10 mm	1
R458N7	N7	1
R45813/64	13/64 pol	1
R458N6	N6	1
R4585.2	5.20 mm	1
R4585.3	5.30 mm	1
R4585.4	5.40 mm	1
R458N5	N5	1
R458N4	N4	1
R458N3	N3	1
R4585.5	5.50 mm	1
R4587/32	7/32 pol	1
R4585.6	5.60 mm	1
R458N2	N2	1
R4585.7	5.70 mm	1
R458N1	N1	1
R4585.8	5.80 mm	1
R4585.9	5.90 mm	1
R458A	A	1
R45815/64	15/64 pol	1
R4586.0	6.00 mm	1
R458B	B	1
R4586.1	6.10 mm	1
R458C	C	1
R4586.2	6.20 mm	1

R458D	D	1
R4586.3	6.30 mm	1
R4581/4	1/4 pol	1
R458E	E	1
R4586.4	6.40 mm	1
R4586.5	6.50 mm	1
R458F	F	1
R4586.6	6.60 mm	1
R458G	G	1
R4586.7	6.70 mm	1
R45817/64	17/64 pol	1
R458H	H	1
R4586.8	6.80 mm	1
R4586.9	6.90 mm	1
R458I	I	1
R4587.0	7.00 mm	1
R458J	J	1
R4587.1	7.10 mm	1
R4587.2	7.20 mm	1
R4589/32	9/32 pol	1
R458K	K	1
R4587.3	7.30 mm	1
R458L	L	1
R4587.4	7.40 mm	1
R458M	M	1
R4587.5	7.50 mm	1
R45819/64	19/64 pol	1
R4587.6	7.60 mm	1
R458N	N	1
R4587.7	7.70 mm	1
R4587.8	7.80 mm	1
R4587.9	7.90 mm	1
R4585/16	5/16 pol	1
R4588.0	8.00 mm	1
R458O	O	1
R4588.1	8.10 mm	1
R4588.2	8.20 mm	1
R4588.3	8.30 mm	1
R458P	P	1
R45821/64	21/64 pol	1
R4588.4	8.40 mm	1
R458Q	Q	1
R4588.5	8.50 mm	1
R4588.6	8.60 mm	1
R458R	R	1
R4588.7	8.70 mm	1
R45811/32	11/32 pol	1
R4588.8	8.80 mm	1
R4588.9	8.90 mm	1
R458S	S	1
R4589.0	9.00 mm	1
R458T	T	1
R4589.1	9.10 mm	1
R4589.2	9.20 mm	1
R45823/64	23/64 pol	1
R4589.3	9.30 mm	1
R458U	U	1
R4589.4	9.40 mm	1
R4589.5	9.50 mm	1
R4583/8	3/8 pol	1
R458V	V	1
R4589.6	9.60 mm	1
R4589.7	9.70 mm	1
R4589.8	9.80 mm	1
R458W	W	1
R4589.9	9.90 mm	1
R45825/64	25/64 pol	1
R45810.0	10.00 mm	1
R458X	X	1
R45810.1	10.10 mm	1
R45810.2	10.20 mm	1
R458Y	Y	1
R45810.3	10.30 mm	1
R45813/32	13/32 pol	1
R45810.4	10.40 mm	1
R458Z	Z	1
R45810.5	10.50 mm	1
R45810.6	10.60 mm	1
R45810.7	10.70 mm	1
R45827/64	27/64 pol	1
R45810.8	10.80 mm	1
R45810.9	10.90 mm	1
R45811.0	11.00 mm	1
R45811.1	11.10 mm	1
R4587/16	7/16 pol	1
R45811.2	11.20 mm	1
R45811.3	11.30 mm	1
R45811.4	11.40 mm	1
R45811.5	11.50 mm	1
R45829/64	29/64 pol	1
R45811.6	11.60 mm	1
R45811.7	11.70 mm	1
R45811.8	11.80 mm	1
R45811.9	11.90 mm	1
R45815/32	15/32 pol	1
R45812.0	12.00 mm	1
R45812.1	12.10 mm	1
R45812.2	12.20 mm	1
R45831/64	31/64 pol	1
R45812.5	12.50 mm	1
R4581/2	1/2 pol	1
R45812.7	12.70 mm	1
R45812.8	12.80 mm	1
R45813.0	13.00 mm	1
R45813.3	13.30 mm	1
R45833/64	33/64 pol	1
R45817/32	17/32 pol	1
R45813.5	13.50 mm	1
R45813.8	13.80 mm	1
R45835/64	35/64 pol	1
R45814.0	14.00 mm	1
R45814.25	14.25 mm	1
R4589/16	9/16 pol	1
R45814.5	14.50 mm	1
R45837/64	37/64 pol	1
R45814.8	14.80 mm	1
R45815.0	15.00 mm	1
R45819/32	19/32 pol	1
R45815.1	15.10 mm	1
R45815.3	15.30 mm	1
R45839/64	39/64 pol	1
R45815.5	15.50 mm	1
R45815.8	15.80 mm	1
R4585/8	5/8 pol	1
R45816.0	16.00 mm	1
R45841/64	41/64 pol	1
R45816.5	16.50 mm	1
R45821/32	21/32 pol	1
R45817.0	17.00 mm	1
R45843/64	43/64 pol	1
R45811/16	11/16 pol	1
R45817.5	17.50 mm	1
R45817.8	17.80 mm	1
R45845/64	45/64 pol	1
R45818.0	18.00 mm	1
R45823/32	23/32 pol	1
R45818.5	18.50 mm	1
R45847/64	47/64 pol	1
R45819.0	19.00 mm	1
R4583/4	3/4 pol	1
R45819.5	19.50 mm	1
R45819.8	19.80 mm	1
R45820.0	20.00 mm	1

R459

Broca Force X com refrigeração interna 8xD





e-Code	Descrição	M
R4593.0	3.00 mm	1
R4593.1	3.10 mm	1
R4591/8	1/8"	1
R4593.2	3.20 mm	1
R4593.3	3.30 mm	1
R4593.4	3.40 mm	1
R4593.5	3.50 mm	1
R4599/64	9/64"	1
R4593.6	3.60 mm	1
R4593.7	3.70 mm	1
R4593.8	3.80 mm	1
R4593.9	3.90 mm	1
R4595/32	5/32"	1
R4594.0	4.00 mm	1
R4594.1	4.10 mm	1
R4594.2	4.20 mm	1
R4594.3	4.30 mm	1
R45911/64	11/64"	1
R4594.4	4.40 mm	1
R4594.5	4.50 mm	1
R4594.6	4.60 mm	1
R4594.7	4.70 mm	1
R4593/16	3/16"	1
R4594.8	4.80 mm	1
R4594.9	4.90 mm	1
R4595.0	5.00 mm	1
R4595.1	5.10 mm	1
R45913/64	13/64"	1
R4595.2	5.20 mm	1
R4595.3	5.30 mm	1
R4595.4	5.40 mm	1
R4595.5	5.50 mm	1
R4597/32	7/32"	1
R4595.6	5.60 mm	1
R4595.7	5.70 mm	1
R4595.8	5.80 mm	1
R4595.9	5.90 mm	1
R45915/64	15/64"	1
R4596.0	6.00 mm	1
R4596.1	6.10 mm	1
R4596.2	6.20 mm	1
R4596.3	6.30 mm	1
R4591/4	1/4"	1
R4596.4	6.40 mm	1
R4596.5	6.50 mm	1
R4596.6	6.60 mm	1
R4596.7	6.70 mm	1
R45917/64	17/64"	1
R4596.8	6.80 mm	1
R4596.9	6.90 mm	1
R4597.0	7.00 mm	1
R4597.1	7.10 mm	1
R4599/32	9/32"	1
R4597.2	7.20 mm	1
R4597.3	7.30 mm	1

R4597.4	7.40 mm	1
R4597.5	7.50 mm	1
R45919/64	19/64"	1
R4597.6	7.60 mm	1
R4597.7	7.70 mm	1
R4597.8	7.80 mm	1
R4597.9	7.90 mm	1
R4595/16	5/16"	1
R4598.0	8.00 mm	1
R4598.1	8.10 mm	1
R4598.2	8.20 mm	1
R4598.3	8.30 mm	1
R45921/64	21/64"	1
R4598.4	8.40 mm	1
R4598.5	8.50 mm	1
R4598.6	8.60 mm	1
R4598.7	8.70 mm	1
R45911/32	11/32"	1
R4598.8	8.80 mm	1
R4598.9	8.90 mm	1
R4599.0	9.00 mm	1
R4599.1	9.10 mm	1
R45923/64	23/64"	1
R4599.2	9.20 mm	1
R4599.3	9.30 mm	1
R4599.4	9.40 mm	1
R4599.5	9.50 mm	1
R4593/8	3/8"	1
R4599.6	9.60 mm	1
R4599.7	9.70 mm	1
R4599.8	9.80 mm	1
R4599.9	9.90 mm	1
R45925/64	25/64"	1
R45910.0	10.00 mm	1
R45910.2	10.20 mm	1
R45910.3	10.30 mm	1
R45913/32	13/32"	1
R45910.4	10.40 mm	1
R45910.5	10.50 mm	1
R45927/64	27/64"	1
R45910.8	10.80 mm	1
R45911.0	11.00 mm	1
R4597/16	7/16"	1
R45911.2	11.20 mm	1
R45911.3	11.30 mm	1
R45911.5	11.50 mm	1
R45929/64	29/64"	1
R45911.8	11.80 mm	1
R45915/32	15/32"	1
R45912.0	12.00 mm	1
R45912.2	12.20 mm	1
R45931/64	31/64"	1
R45912.5	12.50 mm	1
R4591/2	1/2"	1
R45912.8	12.80 mm	1
R45913.0	13.00 mm	1
R45933/64	33/64"	1
R45917/32	17/32"	1
R45913.5	13.50 mm	1
R45935/64	35/64"	1
R45914.0	14.00 mm	1
R45914.25	14.25 mm	1
R4599/16	9/16"	1
R45914.5	14.50 mm	1
R45937/64	37/64"	1
R45915.0	15.00 mm	1
R45919/32	19/32"	1
R45915.1	15.10 mm	1
R45939/64	39/64"	1
R45915.5	15.50 mm	1

R4595/8	5/8"	1
R45916.0	16.00 mm	1



ALARGADORES

B100

Alargador manual

HSS | Bright ST | DIN 206 | R | B | H7



e-Code	Descrição	M
B1001.5	1.50 mm	1
B1001/16	1/16"	1
B1001.6	1.60 mm	1
B1005/64	5/64"	1
B1002.0	2.00 mm	1
B1003/32	3/32"	1
B1002.5	2.50 mm	1
B1007/64	7/64"	1
B1003.0	3.00 mm	1
B1001/8	1/8"	1
B1003.2	3.20 mm	1
B1003.5	3.50 mm	1
B1009/64	9/64"	1
B1005/32	5/32"	1
B1004.0	4.00 mm	1
B10011/64	11/64"	1
B1004.5	4.50 mm	1
B1003/16	3/16"	1
B1005.0	5.00 mm	1
B10013/64	13/64"	1
B1005.5	5.50 mm	1
B1007/32	7/32"	1
B10015/64	15/64"	1
B1006.0	6.00 mm	1
B1001/4	1/4"	1
B1006.5	6.50 mm	1
B10017/64	17/64"	1
B1007.0	7.00 mm	1
B1009/32	9/32"	1
B1007.5	7.50 mm	1
B10019/64	19/64"	1
B1005/16	5/16"	1
B1008.0	8.00 mm	1
B10021/64	21/64"	1
B1008.5	8.50 mm	1
B10011/32	11/32"	1
B1009.0	9.00 mm	1
B10023/64	23/64"	1
B1009.5	9.50 mm	1
B1003/8	3/8"	1
B10025/64	25/64"	1
B10010.0	10.00 mm	1
B10013/32	13/32"	1
B10010.5	10.50 mm	1
B10011.0	11.00 mm	1
B1007/16	7/16"	1
B10011.5	11.50 mm	1
B10012.0	12.00 mm	1
B10012.5	12.50 mm	1
B1001/2	1/2"	1
B10013.0	13.00 mm	1
B10017/32	17/32"	1
B10013.5	13.50 mm	1
B10014.0	14.00 mm	1
B1009/16	9/16"	1
B10014.5	14.50 mm	1
B10015.0	15.00 mm	1
B10019/32	19/32"	1
B1005/8	5/8"	1
B10016.0	16.00 mm	1
B10017.0	17.00 mm	1
B10011/16	11/16"	1
B10018.0	18.00 mm	1
B10019.0	19.00 mm	1
B1003/4	3/4"	1
B10020.0	20.00 mm	1
B10013/16	13/16"	1
B10021.0	21.00 mm	1
B10022.0	22.00 mm	1
B1007/8	7/8"	1
B10023.0	23.00 mm	1
B10024.0	24.00 mm	1
B10025.0	25.00 mm	1
B1001	1""	1
B10026.0	26.00 mm	1
B10027.0	27.00 mm	1
B10028.0	28.00 mm	1
B10029.0	29.00 mm	1
B10030.0	30.00 mm	1
B10031.0	31.00 mm	1
B10032.0	32.00 mm	1
B10033.0	33.00 mm	1
B10034.0	34.00 mm	1
B10035.0	35.00 mm	1
B10036.0	36.00 mm	1
B10037.0	37.00 mm	1
B10038.0	38.00 mm	1
B10039.0	39.00 mm	1
B10040.0	40.00 mm	1
B10045.0	45.00 mm	1
B10050.0	50.00 mm	1

B101

Alargador máquina com haste cônica

HSS-E | Bright ST | BS 328 | R | B | H7



e-Code	Descrição	M
B1013.0	3.00 mm	1
B1011/8	1/8"	1
B1013.5	3.50 mm	1
B1014.0	4.00 mm	1
B1014.5	4.50 mm	1
B1013/16	3/16"	1
B1015.0	5.00 mm	1
B1015.5	5.50 mm	1
B1016.0	6.00 mm	1
B1011/4	1/4"	1
B1016.5	6.50 mm	1
B1017.0	7.00 mm	1
B1015/16	5/16"	1
B1018.0	8.00 mm	1
B1018.5	8.50 mm	1
B1019.0	9.00 mm	1
B1019.5	9.50 mm	1
B1013/8	3/8"	1
B10110.0	10.00 mm	1
B10110.5	10.50 mm	1
B10111.0	11.00 mm	1
B1017/16	7/16"	1
B10112.0	12.00 mm	1
B10112.5	12.50 mm	1
B1011/2	1/2"	1
B10113.0	13.00 mm	1
B10113.5	13.50 mm	1
B10114.0	14.00 mm	1
B1019/16	9/16"	1
B10114.5	14.50 mm	1
B10115.0	15.00 mm	1
B10115.5	15.50 mm	1
B1015/8	5/8"	1
B10116.0	16.00 mm	1
B10116.5	16.50 mm	1
B10117.0	17.00 mm	1
B10118.0	18.00 mm	1
B10119.0	19.00 mm	1
B1013/4	3/4"	1
B10120.0	20.00 mm	1
B10113/16	13/16"	1
B10121.0	21.00 mm	1
B10122.0	22.00 mm	1
B1017/8	7/8"	1
B10123.0	23.00 mm	1
B10124.0	24.00 mm	1
B10125.0	25.00 mm	1
B1011	1"	1
B10126.0	26.00 mm	1
B10127.0	27.00 mm	1
B10128.0	28.00 mm	1
B1011.1/8	1.1/8"	1
B10129.0	29.00 mm	1
B10130.0	30.00 mm	1
B10131.0	31.00 mm	1
B1011.1/4	1.1/4"	1
B10132.0	32.00 mm	1
B10134.0	34.00 mm	1
B1011.3/8	1.3/8"	1
B10135.0	35.00 mm	1
B10136.0	36.00 mm	1
B10137.0	37.00 mm	1
B10138.0	38.00 mm	1
B1011.1/2	1.1/2"	1
B10139.0	39.00 mm	1
B10140.0	40.00 mm	1
B10141.0	41.00 mm	1
B10142.0	42.00 mm	1
B10143.0	43.00 mm	1
B10144.0	44.00 mm	1
B1011.3/4	1.3/4"	1
B10145.0	45.00 mm	1
B10146.0	46.00 mm	1
B10147.0	47.00 mm	1
B10148.0	48.00 mm	1
B10150.0	50.00 mm	1
B1012	2"	1

B121

Alargador máquina com haste cônica

HSS | Bright ST | DIN 311 | R | B | k11



e-Code	Descrição	M
B12110.0	10.0 mm	1
B12111.0	11.0 mm	1
B12112.0	12.0 mm	1
B12113.0	13.0 mm	1
B12114.0	14.0 mm	1
B12115.0	15.0 mm	1
B12116.0	16.0 mm	1

B12117.0	17.0 mm	1
B12118.0	18.0 mm	1
B12119.0	19.0 mm	1
B12120.0	20.0 mm	1
B12121.0	21.0 mm	1
B12122.0	22.0 mm	1
B12123.0	23.0 mm	1
B12124.0	24.0 mm	1
B12125.0	25.0 mm	1
B12126.0	26.0 mm	1
B12130.0	30.0 mm	1

B122

Alargador piloto canal helicoidal

HSS | ST Bronze | ANSI | R



e-Code	Descrição	M
B1223/8	3/8"	1
B1221/2	1/2"	1
B1229/16	9/16"	1
B1225/8	5/8"	1
B12211/16	11/16"	1
B1223/4	3/4"	1
B12213/16	13/16"	1
B1227/8	7/8"	1
B12215/16	15/16"	1
B1221	1"	1
B1221.1/16	1.1/16"	1

B157

Alargador máquina

HSS-E | Bright | DIN 212 | R | E | H7



e-Code	Descrição	M
B1572.0	2.0 mm	1
B1573.0	3.0 mm	1
B1574.0	4.0 mm	1
B1575.0	5.0 mm	1
B1576.0	6.0 mm	1
B1577.0	7.0 mm	1
B1578.0	8.0 mm	1
B1579.0	9.0 mm	1
B15710.0	10.0 mm	1
B15711.0	11.0 mm	1
B15712.0	12.0 mm	1
B15713.0	13.0 mm	1
B15714.0	14.0 mm	1
B15715.0	15.0 mm	1
B15716.0	16.0 mm	1
B15717.0	17.0 mm	1
B15718.0	18.0 mm	1
B15719.0	19.0 mm	1
B15720.0	20.0 mm	1

B161

Alargador máquina com haste cônica

HSS-E | Bright | DIN 208 | R | B | H7



e-Code	Descrição	M
B1613.0	3.0 mm	1
B1614.0	4.0 mm	1
B1615.0	5.0 mm	1
B1616.0	6.0 mm	1
B1617.0	7.0 mm	1
B1618.0	8.0 mm	1
B1619.0	9.0 mm	1
B16110.0	10.0 mm	1
B16111.0	11.0 mm	1
B16112.0	12.0 mm	1
B16113.0	13.0 mm	1
B16114.0	14.0 mm	1
B16115.0	15.0 mm	1
B16116.0	16.0 mm	1
B16117.0	17.0 mm	1
B16118.0	18.0 mm	1
B16119.0	19.0 mm	1
B16120.0	20.0 mm	1
B16121.0	21.0 mm	1
B16122.0	22.0 mm	1
B16123.0	23.0 mm	1
B16124.0	24.0 mm	1
B16125.0	25.0 mm	1
B16126.0	26.0 mm	1
B16127.0	27.0 mm	1
B16128.0	28.0 mm	1
B16129.0	29.0 mm	1
B16130.0	30.0 mm	1
B16131.0	31.0 mm	1
B16132.0	32.0 mm	1
B16133.0	33.0 mm	1
B16134.0	34.0 mm	1
B16135.0	35.0 mm	1
B16136.0	36.0 mm	1
B16138.0	38.0 mm	1
B16140.0	40.0 mm	1
B16142.0	42.0 mm	1
B16144.0	44.0 mm	1
B16145.0	45.0 mm	1
B16146.0	46.0 mm	1
B16147.0	47.0 mm	1
B16148.0	48.0 mm	1
B16150.0	50.0 mm	1

B170

Alargador máquina

HSS-E | Bright | DIN 212 | R | B | ø.95-5.5 +0.004 ø5.51-12 +0.005



e-Code	Descrição	M
B170.98	0.98 mm	1
B170.99	0.99 mm	1
B1701.0	1.00 mm	1
B1701.01	1.01 mm	1
B1701.02	1.02 mm	1
B1701.03	1.03 mm	1
B1701.04	1.04 mm	1
B1701.05	1.05 mm	1
B1701.49	1.49 mm	1
B1701.5	1.50 mm	1
B1701.51	1.51 mm	1
B1701.52	1.52 mm	1
B1701.98	1.98 mm	1
B1701.99	1.99 mm	1
B1702.0	2.00 mm	1
B1702.01	2.01 mm	1
B1702.02	2.02 mm	1
B1702.03	2.03 mm	1
B1702.04	2.04 mm	1
B1702.05	2.05 mm	1
B1702.49	2.49 mm	1
B1702.5	2.50 mm	1
B1702.51	2.51 mm	1
B1702.52	2.52 mm	1
B1702.98	2.98 mm	1
B1702.99	2.99 mm	1
B1703.0	3.00 mm	1
B1703.01	3.01 mm	1
B1703.02	3.02 mm	1
B1703.03	3.03 mm	1
B1703.04	3.04 mm	1
B1703.05	3.05 mm	1
B1703.49	3.49 mm	1
B1703.5	3.50 mm	1
B1703.51	3.51 mm	1
B1703.52	3.52 mm	1
B1703.98	3.98 mm	1
B1703.99	3.99 mm	1
B1704.0	4.00 mm	1
B1704.01	4.01 mm	1
B1704.02	4.02 mm	1
B1704.03	4.03 mm	1
B1704.04	4.04 mm	1
B1704.05	4.05 mm	1
B1704.49	4.49 mm	1
B1704.5	4.50 mm	1
B1704.51	4.51 mm	1
B1704.52	4.52 mm	1
B1704.98	4.98 mm	1
B1704.99	4.99 mm	1
B1705.0	5.00 mm	1
B1705.01	5.01 mm	1
B1705.02	5.02 mm	1
B1705.03	5.03 mm	1
B1705.04	5.04 mm	1
B1705.05	5.05 mm	1
B1705.49	5.49 mm	1
B1705.5	5.50 mm	1
B1705.51	5.51 mm	1
B1705.52	5.52 mm	1

B1705.98	5.98 mm	1
B1705.99	5.99 mm	1
B1706.0	6.00 mm	1
B1706.01	6.01 mm	1
B1706.02	6.02 mm	1
B1706.03	6.03 mm	1
B1706.04	6.04 mm	1
B1706.05	6.05 mm	1
B1706.49	6.49 mm	1
B1706.5	6.50 mm	1
B1706.51	6.51 mm	1
B1706.52	6.52 mm	1
B1706.98	6.98 mm	1
B1706.99	6.99 mm	1
B1707.0	7.00 mm	1
B1707.01	7.01 mm	1
B1707.02	7.02 mm	1
B1707.03	7.03 mm	1
B1707.04	7.04 mm	1
B1707.05	7.05 mm	1
B1707.49	7.49 mm	1
B1707.5	7.50 mm	1
B1707.51	7.51 mm	1
B1707.52	7.52 mm	1
B1707.98	7.98 mm	1
B1707.99	7.99 mm	1
B1708.0	8.00 mm	1
B1708.01	8.01 mm	1
B1708.02	8.02 mm	1
B1708.03	8.03 mm	1
B1708.04	8.04 mm	1
B1708.05	8.05 mm	1
B1708.49	8.49 mm	1
B1708.5	8.50 mm	1
B1708.51	8.51 mm	1
B1708.52	8.52 mm	1
B1708.98	8.98 mm	1
B1708.99	8.99 mm	1
B1709.0	9.00 mm	1
B1709.01	9.01 mm	1
B1709.02	9.02 mm	1
B1709.03	9.03 mm	1
B1709.04	9.04 mm	1
B1709.05	9.05 mm	1
B1709.49	9.49 mm	1
B1709.5	9.50 mm	1
B1709.51	9.51 mm	1
B1709.52	9.52 mm	1
B1709.98	9.98 mm	1
B1709.99	9.99 mm	1
B17010.0	10.00 mm	1
B17010.01	10.01 mm	1
B17010.02	10.02 mm	1
B17010.03	10.03 mm	1
B17010.04	10.04 mm	1
B17010.05	10.05 mm	1
B17010.49	10.49 mm	1
B17010.51	10.51 mm	1
B17010.52	10.52 mm	1
B17010.98	10.98 mm	1
B17010.99	10.99 mm	1
B17011.0	11.00 mm	1
B17011.01	11.01 mm	1
B17011.02	11.02 mm	1
B17011.03	11.03 mm	1
B17011.04	11.04 mm	1
B17011.05	11.05 mm	1
B17011.49	11.49 mm	1
B17011.5	11.50 mm	1
B17011.51	11.51 mm	1
B17011.52	11.52 mm	1
B17011.98	11.98 mm	1
B17011.99	11.99 mm	1
B17012.0	12.00 mm	1

B180

Alargador máquina

HSS-E | Bright | DIN 212 | R | DIN 6535HA | B | H7



e-Code	Descrição	M
B1801.5	1.5 mm	1
B1801.6	1.6 mm	1
B1801.7	1.7 mm	1
B1801.8	1.8 mm	1
B1801.9	1.9 mm	1
B1802.0	2.0 mm	1
B1802.1	2.1 mm	1
B1802.2	2.2 mm	1
B1802.3	2.3 mm	1
B1802.4	2.4 mm	1
B1802.5	2.5 mm	1
B1802.6	2.6 mm	1
B1802.7	2.7 mm	1
B1802.8	2.8 mm	1
B1802.9	2.9 mm	1
B1803.0	3.0 mm	1
B1803.1	3.1 mm	1
B1803.2	3.2 mm	1
B1803.3	3.3 mm	1
B1803.4	3.4 mm	1
B1803.5	3.5 mm	1
B1803.6	3.6 mm	1
B1803.7	3.7 mm	1
B1803.8	3.8 mm	1
B1803.9	3.9 mm	1
B1804.0	4.0 mm	1
B1804.1	4.1 mm	1
B1804.2	4.2 mm	1
B1804.3	4.3 mm	1
B1804.4	4.4 mm	1
B1804.5	4.5 mm	1
B1804.6	4.6 mm	1
B1804.7	4.7 mm	1
B1804.8	4.8 mm	1
B1804.9	4.9 mm	1
B1805.0	5.0 mm	1
B1805.1	5.1 mm	1
B1805.2	5.2 mm	1
B1805.3	5.3 mm	1
B1805.4	5.4 mm	1
B1805.5	5.5 mm	1
B1805.6	5.6 mm	1
B1805.7	5.7 mm	1
B1805.8	5.8 mm	1
B1805.9	5.9 mm	1
B1806.0	6.0 mm	1
B1806.1	6.1 mm	1
B1806.2	6.2 mm	1
B1806.3	6.3 mm	1
B1806.4	6.4 mm	1
B1806.5	6.5 mm	1
B1806.6	6.6 mm	1
B1806.7	6.7 mm	1
B1806.8	6.8 mm	1
B1806.9	6.9 mm	1
B1807.0	7.0 mm	1
B1807.1	7.1 mm	1
B1807.2	7.2 mm	1
B1807.3	7.3 mm	1
B1807.4	7.4 mm	1
B1807.5	7.5 mm	1
B1807.6	7.6 mm	1
B1807.7	7.7 mm	1
B1807.8	7.8 mm	1
B1807.9	7.9 mm	1
B1808.0	8.0 mm	1
B1808.1	8.1 mm	1
B1808.2	8.2 mm	1
B1808.3	8.3 mm	1
B1808.4	8.4 mm	1
B1808.5	8.5 mm	1
B1808.6	8.6 mm	1
B1808.7	8.7 mm	1
B1808.8	8.8 mm	1
B1808.9	8.9 mm	1
B1809.0	9.0 mm	1
B1809.1	9.1 mm	1
B1809.2	9.2 mm	1
B1809.3	9.3 mm	1
B1809.4	9.4 mm	1
B1809.5	9.5 mm	1
B1809.6	9.6 mm	1
B1809.7	9.7 mm	1
B1809.8	9.8 mm	1
B1809.9	9.9 mm	1
B18010.0	10.0 mm	1
B18011.0	11.0 mm	1
B18012.0	12.0 mm	1
B18013.0	13.0 mm	1
B18014.0	14.0 mm	1
B18015.0	15.0 mm	1
B18016.0	16.0 mm	1
B18017.0	17.0 mm	1
B18018.0	18.0 mm	1
B18019.0	19.0 mm	1
B18020.0	20.0 mm	1

B301

Alargador manual cônico

HSS | Bright ST | BS 328 | R | A | 1:48



e-Code	Descrição	M
B3011/16	1/16	1
B3015/64	5/64	1
B3013/32	3/32	1
B3017/64	7/64	1
B3011/8	1/8	1
B3019/64	9/64	1
B3015/32	5/32	1
B30111/64	11/64	1
B3013/16	3/16	1
B3017/32	7/32	1
B3011/4	1/4	1
B3019/32	9/32	1
B3015/16	5/16	1
B30111/32	11/32	1
B3013/8	3/8	1
B30113/32	13/32	1
B3017/16	7/16	1
B3011/2	1/2	1

B334

Alargador manual expansível

HSS | Bright | DORMER | R



e-Code	Descrição	M
B334000	000	1
B33400	00	1
B3340	0	1
B3341	N1	1
B3342	N2	1
B3343	N3	1
B3344	N4	1
B3345	N5	1
B3346	N6	1
B3347	N7	1
B3348	N8	1
B3349	N9	1
B33410	N10	1
B33411	N11	1
B33412	N12	1
B33413	N13	1
B33414	N14	1
B33415	N15	1
B33416	N16	1

B335

Acessórios de substituição para alargador manual

HSS | DORMER



e-Code	Descrição	M
B335000BLADES	000 BLADES	1
B335000NUT	000 NUT	1
B33500BLADES	00 BLADES	1
B33500NUT	00 NUT	1
B3350BLADES	0 BLADES	1
B3350NUT	0 NUT	1
B3351BLADES	1 BLADES	1
B3351NUT	1 NUT	1
B3352BLADES	2 BLADES	1
B3352NUT	2 NUT	1
B3353BLADES	3 BLADES	1
B3353NUT	3 NUT	1
B3354BLADES	4 BLADES	1
B3354NUT	4 NUT	1
B3355BLADES	5 BLADES	1
B3355NUT	5 NUT	1
B3356BLADES	6 BLADES	1
B3356NUT	6 NUT	1
B3357BLADES	7 BLADES	1
B3357NUT	7 NUT	1
B3358BLADES	8 BLADES	1
B3358NUT	8 NUT	1
B3359BLADES	9 BLADES	1
B3359NUT	9 NUT	1
B33510BLADES	10 BLADES	1
B33510NUT	10 NUT	1
B33511BLADES	11 BLADES	1
B33511NUT	11 NUT	1
B33512BLADES	12 BLADES	1
B33512NUT	12 NUT	1
B33513BLADES	13 BLADES	1
B33513NUT	13 NUT	1
B33514BLADES	14 BLADES	1
B33514NUT	14 NUT	1
B33515BLADES	15 BLADES	1
B33515NUT	15 NUT	1
B33516BLADES	16 BLADES	1
B33516NUT	16 NUT	1

B481

NC - Alargador centesimal para porta

HM | Bright | DIN 8093 | R | DIN 6535HA | B | ø.95-5.5 +0.004 ø5.51-12 +0.005



e-Code	Descrição	M
B4810.98	0.98 mm	1
B4810.99	0.99 mm	1
B4811.00	1 mm	1
B4811.01	1.01 mm	1
B4811.02	1.02 mm	1
B4811.03	1.03 mm	1
B4811.48	1.48 mm	1
B4811.49	1.49 mm	1
B4811.50	1.5 mm	1
B4811.51	1.51 mm	1
B4811.52	1.52 mm	1
B4811.53	1.53 mm	1
B4811.98	1.98 mm	1
B4811.99	1.99 mm	1
B4812.00	2 mm	1
B4812.01	2.01 mm	1
B4812.02	2.02 mm	1
B4812.03	2.03 mm	1
B4812.48	2.48 mm	1
B4812.49	2.49 mm	1
B4812.50	2.5 mm	1
B4812.51	2.51 mm	1
B4812.52	2.52 mm	1
B4812.53	2.53 mm	1
B4812.97	2.97 mm	1
B4812.98	2.98 mm	1
B4812.99	2.99 mm	1
B4813.00	3 mm	1
B4813.01	3.01 mm	1
B4813.02	3.02 mm	1
B4813.03	3.03 mm	1
B4813.97	3.97 mm	1
B4813.98	3.98 mm	1
B4813.99	3.99 mm	1
B4814.00	4 mm	1
B4814.01	4.01 mm	1
B4814.02	4.02 mm	1
B4814.03	4.03 mm	1
B4814.97	4.97 mm	1
B4814.98	4.98 mm	1
B4814.99	4.99 mm	1
B4815.00	5 mm	1
B4815.01	5.01 mm	1
B4815.02	5.02 mm	1
B4815.03	5.03 mm	1
B4815.97	5.97 mm	1
B4815.98	5.98 mm	1
B4815.99	5.99 mm	1
B4816.00	6 mm	1
B4816.01	6.01 mm	1
B4816.02	6.02 mm	1
B4816.03	6.03 mm	1
B4817.97	7.97 mm	1
B4817.98	7.98 mm	1
B4817.99	7.99 mm	1
B4818.00	8 mm	1
B4818.01	8.01 mm	1
B4818.02	8.02 mm	1
B4818.03	8.03 mm	1
B4818.04	8.04 mm	1
B4819.97	9.97 mm	1
B4819.98	9.98 mm	1
B4819.99	9.99 mm	1
B48110.00	10 mm	1
B48110.01	10.01 mm	1
B48110.02	10.02 mm	1
B48110.03	10.03 mm	1
B48110.04	10.04 mm	1
B48110.05	10.05 mm	1
B48111.97	11.97 mm	1
B48111.98	11.98 mm	1
B48111.99	11.99 mm	1
B48112.00	12 mm	1
B48112.01	12.01 mm	1
B48112.02	12.02 mm	1
B48112.03	12.03 mm	1
B48112.04	12.04 mm	1
B48112.05	12.05 mm	1

B901

Alargador máquina

HSS-E | Bright ST | BS 328 | R | B | H7



e-Code	Descrição	M
B9011.5	1,5 mm	1
B9011/16	1/16"	1
B9012.0	2 mm	1
B9013/32	3/32"	1
B9012.5	2,5 mm	1
B9013.0	3 mm	1
B9011/8	1/8"	1
B9013.5	3,5 mm	1
B9015/32	5/32"	1
B9014.0	4 mm	1
B9014.5	4,5 mm	1
B9013/16	3/16"	1
B9015.0	5 mm	1
B90113/64	13/64"	1
B9015.5	5,5 mm	1
B9017/32	7/32"	1
B90115/64	15/64"	1
B9016.0	6 mm	1
B9011/4	1/4"	1
B9017.0	7 mm	1
B9019/32	9/32"	1
B9015/16	5/16"	1
B9018.0	8 mm	1
B9019.0	9 mm	1
B9013/8	3/8"	1
B90110.0	10 mm	1
B90111.0	11 mm	1
B9017/16	7/16"	1
B90112.0	12 mm	1
B9011/2	1/2 mm	1

B903

Alargador manual para pino cônico

HSS | Bright ST | DIN 9 | R | A | 1:50



e-Code	Descrição	M
B9031.5	1.5 mm	1
B9032.0	2.0 mm	1
B9032.5	2.5 mm	1
B9033.0	3.0 mm	1
B9034.0	4.0 mm	1
B9035.0	5.0 mm	1
B9036.0	6.0 mm	1
B9038.0	8.0 mm	1
B90310.0	10.0 mm	1
B90312.0	12.0 mm	1
B90313.0	13.0 mm	1
B90314.0	14.0 mm	1
B90316.0	16.0 mm	1
B90320.0	20.0 mm	1

B952

Alargador manual para pino cônico

HSS | Bright | DIN 9 | R | B | 1:50



e-Code	Descrição	M
B9521.2	1.2 mm	1
B9521.5	1.5 mm	1
B9522.0	2.0 mm	1
B9522.5	2.5 mm	1
B9523.0	3.0 mm	1
B9523.5	3.5 mm	1
B9524.0	4.0 mm	1
B9524.5	4.5 mm	1
B9525.0	5.0 mm	1
B9525.5	5.5 mm	1
B9526.0	6.0 mm	1
B9526.5	6.5 mm	1
B9527.0	7.0 mm	1
B9528.0	8.0 mm	1
B9529.0	9.0 mm	1
B95210.0	10.0 mm	1
B95212.0	12.0 mm	1
B95213.0	13.0 mm	1
B95214.0	14.0 mm	1
B95216.0	16.0 mm	1
B95220.0	20.0 mm	1
B95225.0	25.5 mm	1
B95230.0	30.0 mm	1
B95240.0	40.0 mm	1
B95250.0	50.0 mm	1

B953

Alargador máquina para pinos cônicos - hélice 45°

HSS-E | Bright | DIN 2179 | R | 1:50



e-Code	Descrição	M
B9531.0	1.0 mm	1
B9531.5	1.5 mm	1
B9532.0	2.0 mm	1
B9532.5	2.5 mm	1
B9533.0	3.0 mm	1
B9534.0	4.0 mm	1
B9535.0	5.0 mm	1
B9536.0	6.0 mm	1
B9536.5	6.5 mm	1
B9538.0	8.0 mm	1
B95310.0	10.0 mm	1
B95312.0	12.0 mm	1

B954

Alargador haste cônica para pino - hélice rápida

HSS-E | Bright | DIN 2180 | R | 1:50



e-Code	Descrição	M
B9545.0	5.0 mm	1
B9546.0	6.0 mm	1
B9548.0	8.0 mm	1
B95410.0	10.0 mm	1
B95412.0	12.0 mm	1
B95413.0	13.0 mm	1
B95414.0	14.0mm	1
B95416.0	16.0 mm	1
B95420.0	20.0 mm	1
B95425.0	25.0 mm	1
B95430.0	30.0 mm	1

B955

Alargador intercambiável

HSS-E | Bright ST | DIN 219 | R | B | H7



e-Code	Descrição	M
B95525.0	25.0 mm	1
B95526.0	26.0 mm	1
B95527.0	27.0 mm	1
B95528.0	28.0 mm	1
B95529.0	29.0 mm	1
B95530.0	30.0 mm	1
B95531.0	31.0 mm	1
B95532.0	32.0 mm	1
B95534.0	34.0 mm	1
B95535.0	35.0 mm	1
B95536.0	36.0 mm	1
B95537.0	37.0 mm	1
B95538.0	38.0 mm	1
B95540.0	40.0 mm	1
B95542.0	42.0 mm	1
B95544.0	44.0 mm	1
B95545.0	45.0 mm	1
B95548.0	48.0 mm	1
B95550.0	50.0 mm	1
B95552.0	52.0 mm	1
B95555.0	55.0 mm	1
B95558.0	58.0 mm	1
B95560.0	60.0 mm	1
B95565.0	65.0 mm	1
B95570.0	70.0 mm	1
B95575.0	75.0 mm	1
B95580.0	80.0 mm	1

B956

Alargador caracol B955

HSS-E | Bright | DIN 217



e-Code	Descrição	M
B95613.0	13.0 mm	1
B95616.0	16.0 mm	1
B95619.0	19.0 mm	1
B95622.0	22.0 mm	1
B95627.0	27.0 mm	1
B95632.0	32.0 mm	1
B95640.0	40.0 mm	1

B957

Componentes haste B956



e-Code	Descrição	M
B957N3DRIVER	N3 DRIVER	1
B957N3NUT	N3 NUT	1
B957N3WASHER	N3 WASHER	1
B957N4DRIVER	N4 DRIVER	1
B957N4NUT	N4 NUT	1
B957N4WASHER	N4 WASHER	1
B957N5DRIVER	N5 DRIVER	1
B957N5NUT	N5 NUT	1
B957N5WASHER	N5 WASHER	1
B957N6DRIVER	N6 DRIVER	1
B957N6NUT	N6 NUT	1
B957N6WASHER	N6 WASHER	1
B957N7DRIVER	N7 DRIVER	1
B957N7NUT	N7 NUT	1
B957N7WASHER	N7 WASHER	1
B957N8DRIVER	N8 DRIVER	1
B957N8NUT	N8 NUT	1
B957N8WASHER	N8 WASHER	1
B957N9DRIVER	N9 DRIVER	1
B957N9NUT	N9 NUT	1
B957N9WASHER	N9 WASHER	1



ESCAREADORES

G106

Escareador com haste de 3 faces planas

HSS Bright | DIN 335C | R



e-Code	Descrição	M
G1066.3	6.3 mm	1
G1068.3	8.3 mm	1
G10610.4	10.4 mm	1
G10612.4	12.4 mm	1
G10616.5	16.5 mm	1
G10620.5	20.5 mm	1
G10625.0	25.0 mm	1
G10631.0	31.0 mm	1
G10634.0	34.0 mm	1
G10637.0	37.0 mm	1
G10640.0	40.0 mm	1
G10650.0	50.0 mm	1

G107

Escareador com haste sextavada

HSS-E Bright | DORMER | R



e-Code	Descrição	M
G1076.3	6.3 mm	1
G1078.3	8.3 mm	1
G10710.4	10.4 mm	1
G10712.4	12.4 mm	1
G10716.5	16.5 mm	1
G10720.5	20.5 mm	1

G125

Escareador - 180°

HSS Bright | DIN 373 | R | 180°



e-Code	Descrição	M
G1256.5X2.5	6.50 mm x 2.5 mm	1
G1256.5X3.2	6.50 mm x 3.2 mm	1
G1256.5X3.4	6.50 mm x 3.4 mm	1
G1258.0X3.3	8.00 mm x 3.3 mm	1
G1258.0X4.3	8.00 mm x 4.3 mm	1
G1258.0X4.5	8.00 mm x 4.5 mm	1
G12510.0X4.2	10.00 mm x 4.2 mm	1
G12510.0X5.3	10.00 mm x 5.3 mm	1
G12510.0X5.5	10.00 mm x 5.5 mm	1
G12511.0X5.0	11.00 mm x 5.0 mm	1
G12511.0X6.4	11.00 mm x 6.4 mm	1
G12511.0X6.6	11.00 mm x 6.6 mm	1
G12515.0X6.8	15.00 mm x 6.8 mm	1
G12515.0X8.4	15.00 mm x 8.4 mm	1
G12515.0X9.0	15.00 mm x 9.0 mm	1
G12518.0X8.5	18.00 mm x 8.5 mm	1
G12518.0X10.5	18.00 mm x 10.5 mm	1
G12518.0X11.0	18.00 mm x 11.0 mm	1
G12520.0X10.2	20.00 mm x 10.2 mm	1
G12520.0X13.0	20.00 mm x 13.0 mm	1
G12520.0X13.5	20.00 mm x 13.5 mm	1

G129

Escareador - 90°

HSS Bright | DORMER | R



e-Code	Descrição	M
G1296.0	6.00 mm	1
G1298.0	8.00 mm	1
G12910.0	10.00 mm	1
G12912.5	12.50 mm	1
G12916.0	16.00 mm	1
G12920.0	20.00 mm	1
G12925.0	25.00 mm	1
G12931.5	31.50 mm	1

G132

Escareador - 90°

HSS Bright | DIN 335A | R



e-Code	Descrição	M
G1328.0	8.00 mm	1
G13212.5	12.50 mm	1
G13216.0	16.00 mm	1
G13220.0	20.00 mm	1

G135

Escareador - 60°

HSS Bright | DIN 334C | R



e-Code	Descrição	M
G1356.3	6.30 mm	1
G1358.0	8.00 mm	1
G13510.0	10.00 mm	1
G13512.5	12.50 mm	1
G13516.0	16.00 mm	1
G13520.0	20.00 mm	1
G13525.0	25.00 mm	1

G136

Escareador - 90°

HSS Bright | DIN 335C | R



e-Code	Descrição	M
G1364.3	4.30 mm	1
G1365.0	5.00 mm	1
G1365.3	5.30 mm	1
G1365.8	5.80 mm	1
G1366.0	6.00 mm	1
G1366.3	6.30 mm	1
G1367.0	7.00 mm	1
G1367.3	7.30 mm	1
G1368.0	8.00 mm	1
G1368.3	8.30 mm	1
G1369.4	9.40 mm	1
G13610.0	10.00 mm	1
G13610.4	10.40 mm	1
G13611.5	11.50 mm	1
G13612.4	12.40 mm	1
G13613.4	13.40 mm	1
G13615.0	15.00 mm	1
G13616.5	16.50 mm	1
G13619.0	19.00 mm	1
G13620.5	20.50 mm	1
G13623.0	23.00 mm	1
G13625.0	25.00 mm	1
G13626.0	26.00 mm	1
G13628.0	28.00 mm	1
G13630.0	30.00 mm	1
G13631.0	31.00 mm	1

G137

Escareador de haste cônica - 60°

HSS Bright | DIN 334D | R



e-Code	Descrição	M
G13716.0	16.00 mm	1
G13720.0	20.00 mm	1
G13725.0	25.00 mm	1
G13731.5	31.50 mm	1
G13740.0	40.00 mm	1
G13750.0	50.00 mm	1
G13763.0	63.00 mm	1
G13780.0	80.00 mm	1

G138

Escareador de haste cônica - 90°

HSS | Bright | DIN 335D | R



e-Code	Descrição	M
G13825.0	25.00 mm	1
G13830.0	30.00 mm	1
G13831.0	31.00 mm	1
G13834.0	34.00 mm	1
G13837.0	37.00 mm	1
G13840.0	40.00 mm	1
G13850.0	50.00 mm	1
G13863.0	63.00 mm	1
G13880.0	80.00 mm	1

G142

Escareador com alívio radial extra - 90°

HSS | Bright | DIN 335C | R



e-Code	Descrição	M
G1424.8	4.80 mm	1
G1425.0	5.00 mm	1
G1426.0	6.00 mm	1
G1426.3	6.30 mm	1
G1427.0	7.00 mm	1
G1427.3	7.30 mm	1
G1428.0	8.00 mm	1
G1428.3	8.30 mm	1
G14210.0	10.00 mm	1
G14210.4	10.40 mm	1
G14211.5	11.50 mm	1
G14212.4	12.40 mm	1
G14215.0	15.00 mm	1
G14216.5	16.50 mm	1
G14219.0	19.00 mm	1
G14220.5	20.50 mm	1
G14223.0	23.00 mm	1
G14225.0	25.00 mm	1
G14231.0	31.00 mm	1

G149

Escareador - 90°

HSS-E | Bright | DORMER | R



e-Code	Descrição	M
G1495	5.00 mm	1
G14910	10.00 mm	1
G14915	15.00 mm	1
G14920	20.00 mm	1
G14925	25.00 mm	1
G14930	30.00 mm	1
G14935	35.00 mm	1
G14940	40.00 mm	1
G14950	50.00 mm	1

G154

Escareador - 82°

HSS | Bright | DIN 335C | R | 82°



e-Code	Descrição	M
G1546.3	6.30 mm	1
G1548.3	8.30 mm	1
G15410.4	10.40 mm	1
G15412.4	12.40 mm	1
G15416.5	16.50 mm	1
G15420.5	20.50 mm	1
G15425.0	25.00 mm	1

G171

Escareador - 100°

HSS | TiAlN | DIN 335D | R | 100°



e-Code	Descrição	M
G1716.3	6.30 mm	1
G1718.3	8.30 mm	1
G17110.4	10.40 mm	1
G17112.4	12.40 mm	1
G17116.5	16.50 mm	1
G17120.5	20.50 mm	1
G17125.0	25.00 mm	1

G236

Jogo de escareadores



e-Code	Descrição	M
G2361	Set 1 (G136 x 6)	1
G2362	Set 2 (G136 x 4)	1
G2363	Set 3 (G560 x 6)	1
G2364	Set 4 (G560 x 6)	1
G2365	Set 5 (G560 x 6)	1

G314

Broca escalonada

HSS | Bright | DORMER | R | 20°



e-Code	Descrição	M
G314412	4.00 mm - 12.00 mm	1
G314420	4.00 mm - 20.00 mm	1
G314630	6.00 mm - 30.00 mm	1
G314M	9.00 mm - 36.00 mm	1
G3141220	12.00 mm - 20.00 mm	1
G3142030	20.00 mm - 30.00 mm	1
G3143040	30.00 mm - 40.00 mm	1

G335

Escareador - 60°

HSS | TiN | DIN 334C | R



e-Code	Descrição	M
G3356.3	6.30 mm	1
G3358.0	8.00 mm	1
G33510.0	10.00 mm	1
G33512.5	12.50 mm	1
G33516.0	16.00 mm	1
G33520.0	20.00 mm	1
G33525.0	25.00 mm	1

G338

Escareador de haste cônica - 90°

HSS | TiN | DIN 335D | R



e-Code	Descrição	M
G33825.0	25.00 mm	1
G33831.0	31.00 mm	1
G33837.0	37.00 mm	1
G33840.0	40.00 mm	1
G33850.0	50.00 mm	1
G33863.0	63.00 mm	1

G570

Escareador - 90°

HSS-E | AlTiCN | DIN 335C | R



e-Code	Descrição	M
G5706.3	6.30 mm	1
G5708.3	8.30 mm	1
G57010.4	10.40 mm	1
G57012.4	12.40 mm	1
G57016.5	16.50 mm	1
G57020.5	20.50 mm	1
G57025.0	25.00 mm	1
G57031.0	31.00 mm	1

G506

Escareador - 90°

HSS | TiAlN | DIN 335C | R



e-Code	Descrição	M
G5066.3	6.3 mm	1
G5068.3	8.3 mm	1
G50610.4	10.4 mm	1
G50612.4	12.4 mm	1
G50616.5	16.5 mm	1
G50620.5	20.5 mm	1
G50625.0	25.0 mm	1
G50631.0	31.0 mm	1
G50634.0	34.0 mm	1
G50637.0	37.0 mm	1
G50640.0	40.0 mm	1
G50650.0	50.0 mm	1

G600

Escareador extra longo - 90°

HSS | Bright | DORMER | R



e-Code	Descrição	M
G6006.3	6.30 mm	1
G6008.3	8.30 mm	1
G60010.4	10.40 mm	1
G60012.4	12.40 mm	1
G60015.0	15.00 mm	1
G60016.5	16.50 mm	1
G60020.5	20.50 mm	1
G60025.0	25.00 mm	1

G560

Escareador - 90°

HSS | TiAlN | DIN 335C | R



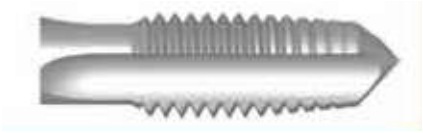
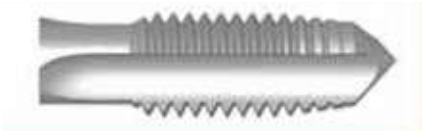
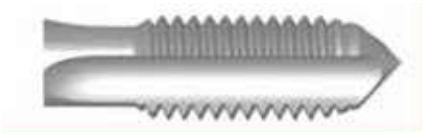
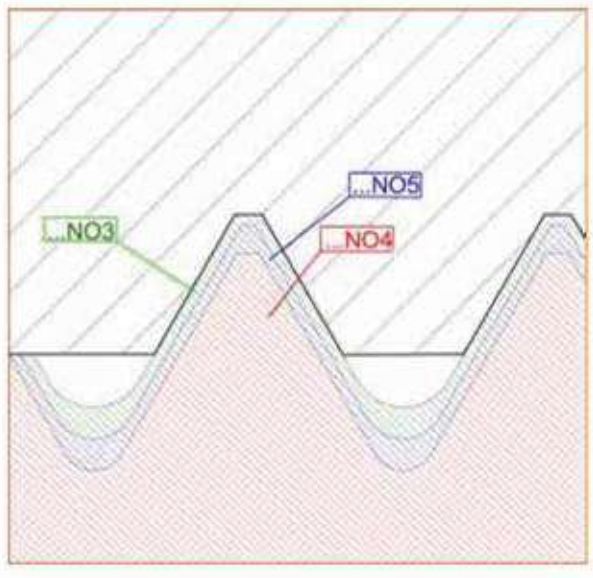
e-Code	Descrição	M
G5606.3	6.30 mm	1
G5608.0	8.00 mm	1
G5608.3	8.30 mm	1
G56010.0	10.00 mm	1
G56010.4	10.40 mm	1
G56012.4	12.40 mm	1
G56016.5	16.50 mm	1
G56020.5	20.50 mm	1
G56025.0	25.00 mm	1
G56031.0	31.00 mm	1



MACHOS

DORMER

DENOMINAÇÕES NO1 - NO9

N01		A 6-8 C 2-3	
N02		B 3.5-5	
N03		C 2-3	
ISO	**NO6** = NO1 + NO2 + NO3 **NO7** = NO1 + NO3		
ANSI	**NO6** = NO1 (cônico) + NO2 (meio cônico) + NO3 (final)		
N04		A 6-8 C 2-3	
N05		B 3.5-5	
ANSI	**NO8** = NO3 + NO4 + NO5 **NO9** = NO3 + NO4		
***E550** **E710**	**NO7** = NO3 (truncated) + NO3		

E000

M Macho máquina ponta helicoidal

M | HSS-E PM | Bright | ISO 529 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
E000M1.6	M1.6 x 0.35 mm	1
E000M2	M2 x 0.40 mm	1
E000M2.5	M2.5 x 0.45 mm	1
E000M3	M3 x 0.50 mm	1
E000M3.5	M3.5 x 0.60 mm	1
E000M4	M4 x 0.70 mm	1
E000M5	M5 x 0.80 mm	1
E000M6	M6 x 1.00 mm	1
E000M8	M8 x 1.25 mm	1
E000M10	M10 x 1.50 mm	1
E000M12	M12 x 1.75 mm	1
E000M14	M14 x 2.00 mm	1
E000M16	M16 x 2.00 mm	1
E000M18	M18 x 2.50 mm	1
E000M20	M20 x 2.50 mm	1
E000M22	M22 x 2.50 mm	1
E000M24	M24 x 3.00 mm	1

E000TIN

M Macho máquina ponta helicoidal

M | HSS-E PM | TiN | ISO 529 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
E000TINM3	M3 x 0.50 mm	1
E000TINM4	M4 x 0.70 mm	1
E000TINM5	M5 x 0.80 mm	1
E000TINM6	M6 x 1.00 mm	1
E000TINM8	M8 x 1.25 mm	1
E000TINM10	M10 x 1.50 mm	1
E000TINM12	M12 x 1.75 mm	1
E000TINM16	M16 x 2.00 mm	1
E000TINM20	M20 x 2.50 mm	1

E001

M Macho máquina ponta helicoidal

M | HSS-E PM | ST | ISO 529 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
E001M1.6	M1.6 x 0.35 mm	1
E001M2	M2 x 0.40 mm	1
E001M2.5	M2.5 x 0.45 mm	1
E001M3	M3 x 0.50 mm	1
E001M3.5	M3.5 x 0.60 mm	1
E001M4	M4 x 0.70 mm	1
E001M5	M5 x 0.80 mm	1
E001M6	M6 x 1.00 mm	1
E001M8	M8 x 1.25 mm	1
E001M10	M10 x 1.50 mm	1
E001M12	M12 x 1.75 mm	1
E001M14	M14 x 2.00 mm	1
E001M16	M16 x 2.00 mm	1
E001M18	M18 x 2.50 mm	1
E001M20	M20 x 2.50 mm	1
E001M22	M22 x 2.50 mm	1
E001M24	M24 x 3.00 mm	1

E002

M Macho máquina canal helicoidal 45°

M | HSS-E PM | Bright | ISO 529 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
E002M2	M2 x 0.40 mm	1
E002M2.5	M2.5 x 0.45 mm	1
E002M3	M3 x 0.50 mm	1
E002M4	M4 x 0.70 mm	1
E002M5	M5 x 0.80 mm	1
E002M6	M6 x 1.00 mm	1
E002M8	M8 x 1.25 mm	1
E002M10	M10 x 1.50 mm	1
E002M12	M12 x 1.75 mm	1
E002M14	M14 x 2.00 mm	1
E002M16	M16 x 2.00 mm	1
E002M18	M18 x 2.50 mm	1
E002M20	M20 x 2.50 mm	1
E002M22	M22 x 2.50 mm	1
E002M24	M24 x 3.00 mm	1

E002TIN

M Macho máquina canal helicoidal 45°

M | HSS-E PM | TiN | ISO 529 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
E002TINM3	M3 x 0.50 mm	1
E002TINM4	M4 x 0.70 mm	1
E002TINM5	M5 x 0.80 mm	1
E002TINM6	M6 x 1.00 mm	1
E002TINM8	M8 x 1.25 mm	1
E002TINM10	M10 x 1.50 mm	1
E002TINM12	M12 x 1.75 mm	1
E002TINM16	M16 x 2.00 mm	1
E002TINM20	M20 x 2.50 mm	1

E003

M Macho máquina canal helicoidal 45°

M | HSS-E PM | ST | ISO 529 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
E003M2	M2 x 0.40 mm	1
E003M2.5	M2.5 x 0.45 mm	1
E003M3	M3 x 0.50 mm	1
E003M4	M4 x 0.70 mm	1
E003M5	M5 x 0.80 mm	1
E003M6	M6 x 1.00 mm	1
E003M8	M8 x 1.25 mm	1
E003M10	M10 x 1.50 mm	1
E003M12	M12 x 1.75 mm	1
E003M14	M14 x 2.00 mm	1
E003M16	M16 x 2.00 mm	1
E003M18	M18 x 2.50 mm	1
E003M20	M20 x 2.50 mm	1
E003M22	M22 x 2.50 mm	1
E003M24	M24 x 3.00 mm	1

E011

MF Macho máquina ponta helicoidal

MF | HSS-E PM | ST | ISO 529 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
E011M4X.5	M4 x 0.50 mm	1
E011M5X.5	M5 x 0.50 mm	1
E011M6X.5	M6 x 0.50 mm	1
E011M6X.75	M6 x 0.75 mm	1
E011M8X.75	M8 x 0.75 mm	1
E011M8X1.0	M8 x 1.00 mm	1
E011M10X1.0	M10 x 1.00 mm	1
E011M10X1.25	M10 x 1.25 mm	1
E011M12X1.0	M12 x 1.00 mm	1
E011M12X1.25	M12 x 1.25 mm	1
E011M12X1.5	M12 x 1.50 mm	1
E011M14X1.0	M14 x 1.00 mm	1
E011M14X1.25	M14 x 1.25 mm	1
E011M14X1.5	M14x 1.50 mm	1
E011M16X1.0	M16 x 1.00 mm	1
E011M16X1.5	M16 x 1.50 mm	1
E011M18X1.0	M18 x 1.00 mm	1
E011M18X1.5	M18 x 1.50 mm	1
E011M20X1.0	M20 x 1.00 mm	1
E011M20X1.5	M20 x 1.50 mm	1
E011M20X2.0	M20 x 2.00 mm	1
E011M22X1.5	M22 x 1.50 mm	1
E011M24X1.5	M24 x 1.50 mm	1
E011M24X2.0	M24 x 2.00 mm	1

E013

MF Macho máquina canal helicoidal 45°

MF | HSS-E PM | ST | ISO 529 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
E013M4X.5	M4 x 0.50 mm	1
E013M5X.5	M5 x 0.50 mm	1
E013M6X.5	M6 x 0.50 mm	1
E013M6X.75	M6 x 0.75 mm	1
E013M8X.75	M8 x 0.75 mm	1
E013M8X1.0	M8 x 1.00 mm	1
E013M10X1.0	M10 x 1.00 mm	1
E013M10X1.25	M10 x 1.25 mm	1
E013M12X1.0	M12 x 1.00 mm	1
E013M12X1.25	M12 x 1.25 mm	1
E013M12X1.5	M12 x 1.50 mm	1
E013M14X1.5	M14 x 1.50 mm	1
E013M16X1.0	M16 x 1.00 mm	1
E013M16X1.5	M16 x 1.50 mm	1
E013M18X1.5	M18 x 1.50 mm	1
E013M20X1.5	M20 x 1.50 mm	1
E013M22X1.5	M22 x 1.50 mm	1

E021

UNC Macho máquina ponta helicoidal

UNC | HSS-E PM ST | ISO 529 | R | 2.5×D | 2B | B 3.5-5



e-Code	Descrição	M
E0212-56	No.2 x 56	1
E0214-40	No.4 x 40	1
E0215-40	No.5 x 40	1
E0216-32	No.6 x 32	1
E0218-32	No.8 x 32	1
E02110-24	No.10 x 24	1
E02112-24	No.12 x 24	1
E0211/4	1/4" x 20	1
E0215/16	5/16" x 18	1
E0213/8	3/8" x 16	1
E0217/16	7/16" x 14	1
E0211/2	1/2" x 13	1
E0215/8	5/8" x 11	1
E0213/4	3/4" x 10	1
E0217/8	7/8" x 9	1
E0211	1" x 8	1

E023

UNC Macho máquina canal helicoidal 45°

UNC | HSS-E PM ST | ISO 529 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
E0232-56	No.2 x 56	1
E0234-40	No.4 x 40	1
E0235-40	No.5 x 40	1
E0236-32	No.6 x 32	1
E0238-32	No.8 x 32	1
E02310-24	No.10 x 24	1
E02312-24	No.12 x 24	1
E0231/4	1/4" x 20	1
E0235/16	5/16" x 18	1
E0233/8	3/8" x 16	1
E0237/16	7/16" x 14	1
E0231/2	1/2" x 13	1
E0235/8	5/8" x 11	1
E0233/4	3/4" x 10	1
E0237/8	7/8" x 9	1
E0231	1" x 8	1

E031

UNF Macho máquina ponta helicoidal

UNF | HSS-E PM ST | ISO 529 | R | 2.5×D | 2B | B 3.5-5



e-Code	Descrição	M
E0318-36	No.8 x 36	1
E03110-32	No.10 x 32	1
E0311/4	1/4" x 28	1
E0315/16	5/16" x 24	1
E0313/8	3/8" x 24	1
E0317/16	7/16" x 20	1
E0311/2	1/2" x 20	1
E0319/16	9/16 x 18	1
E0315/8	5/8" x 18	1
E0313/4	3/4" x 16	1
E0317/8	7/8" x 14	1
E0311	1" x 12	1

E033

UNF Macho máquina canal helicoidal 45°

UNF | HSS-E PM ST | ISO 529 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
E0338-36	No.8 x 36	1
E03310-32	No.10 x 32	1
E0331/4	1/4" x 28	1
E0335/16	5/16" x 24	1
E0333/8	3/8" x 24	1
E0337/16	7/16" x 20	1
E0331/2	1/2" x 20	1
E0339/16	9/16" x 18	1
E0335/8	5/8" x 18	1
E0333/4	3/4" x 16	1
E0337/8	7/8" x 14	1
E0331	1" x 12	1

E041

G(BSP) Macho máquina ponta helicoidal

G | HSS-E PM ST | ISO DORMER | R | 2.5×D | Normal | B 3.5-5



e-Code	Descrição	M
E0411/8	1/8" x 28	1
E0411/4	1/4" x 19	1
E0413/8	3/8" x 19	1
E0411/2	1/2" x 14	1
E0413/4	3/4" x 14	1

E043

G(BSP) Macho máquina canal helicoidal 45°

G | HSS-E PM ST | ISO DORMER | R | 2.5×D | Normal | C 2-3



e-Code	Descrição	M
E0431/8	1/8" x 28	1
E0431/4	1/4" x 19	1
E0433/8	3/8" x 19	1
E0431/2	1/2" x 14	1
E0433/4	3/4" x 14	1

E100

M Macho Manual Canal Reto

PRIMEIRA ESCOLHA DESTAQUE

M | HSS Bright | DIN 352 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E100M1.6NO3	M1.6 x 0.35 mm	1
E100M1.6NO8	M1.6 x 0.35 mm	1
E100M2NO3	M2 x 0.40 mm	1
E100M2NO8	M2 x 0.40 mm	1
E100M2.5NO3	M2.5 x 0.45 mm	1
E100M2.5NO8	M2.5 x 0.45 mm	1
E100M3NO3	M3 x 0.50 mm	1
E100M3NO8	M3 x 0.50 mm	1
E100M3NO9	M3 x 0.50 mm	1
E100M3.5NO3	M3.5 x 0.60 mm	1
E100M3.5NO8	M3.5 x 0.60 mm	1
E100M3.5NO9	M3.5 x 0.60 mm	1
E100M4NO3	M4 x 0.70 mm	1
E100M4NO8	M4 x 0.70 mm	1
E100M4NO9	M4 x 0.70 mm	1
E100M4.5NO9	M4.5 x 0.75 mm	1
E100M5NO3	M5 x 0.80 mm	1
E100M5NO8	M5 x 0.80 mm	1
E100M5NO9	M5 x 0.80 mm	1
E100M6NO3	M6 x 1.00 mm	1
E100M6NO8	M6 x 1.00 mm	1
E100M6NO9	M6 x 1.00 mm	1
E100M7NO3	M7 x 1.00 mm	1
E100M7NO8	M7 x 1.00 mm	1
E100M7NO9	M7 x 1.00 mm	1
E100M8NO3	M8 x 1.25 mm	1
E100M8NO8	M8 x 1.25 mm	1
E100M8NO9	M8 x 1.25 mm	1
E100M9NO3	M9 x 1.25 mm	1
E100M9NO8	M9 x 1.25 mm	1
E100M9NO9	M9 x 1.25 mm	1
E100M10NO3	M10 x 1.50 mm	1
E100M10NO8	M10 x 1.50 mm	1
E100M10NO9	M10 x 1.50 mm	1
E100M12NO3	M12 x 1.75 mm	1
E100M12NO8	M12 x 1.75 mm	1
E100M12NO9	M12 x 1.75 mm	1
E100M14NO3	M14 x 2.00 mm	1
E100M14NO8	M14 x 2.00 mm	1
E100M14NO9	M14 x 2.00 mm	1
E100M16NO3	M16 x 2.00 mm	1
E100M16NO8	M16 x 2.00 mm	1
E100M16NO9	M16 x 2.00 mm	1
E100M18NO3	M18 x 2.50 mm	1
E100M18NO8	M18 x 2.50 mm	1
E100M18NO9	M18 x 2.50 mm	1
E100M20NO3	M20 x 2.50 mm	1
E100M20NO8	M20 x 2.50 mm	1
E100M20NO9	M20 x 2.50 mm	1
E100M22NO3	M22 x 2.50 mm	1
E100M22NO8	M22 x 2.50 mm	1
E100M22NO9	M22 x 2.50 mm	1
E100M24NO3	M24 x 3.00 mm	1
E100M24NO8	M24 x 3.00 mm	1
E100M24NO9	M24 x 3.00 mm	1
E100M27NO3	M27 x 3.00 mm	1
E100M27NO8	M27 x 3.00 mm	1
E100M30NO3	M30 x 3.50 mm	1
E100M30NO8	M30 x 3.50 mm	1

E100M30NO9	M30 x 3.50 mm	1
E100M33NO3	M33 x 3.50 mm	1
E100M33NO8	M33 x 3.50 mm	1
E100M36NO3	M36 x 4.00 mm	1
E100M36NO8	M36 x 4.00 mm	1
E100M39NO3	M39 x 4.00 mm	1
E100M39NO8	M39 x 4.00 mm	1
E100M42NO3	M42 x 4.50 mm	1
E100M42NO8	M42 x 4.50 mm	1
E100M45NO3	M45 x 4.50 mm	1
E100M45NO8	M45 x 4.50 mm	1
E100M48NO3	M48 x 5.00 mm	1
E100M48NO8	M48 x 5.00 mm	1
E100M52NO3	M52 x 5.00 mm	1
E100M52NO8	M52 x 5.00 mm	1

E101

M Macho Manual Canal Reto

M | HSS | Bright | DIN 352 | L | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E101M4NO3	M4 x 0.70 mm	1
E101M4NO8	M4 x 0.70 mm	1
E101M5NO3	M5 x 0.80 mm	1
E101M5NO8	M5 x 0.80 mm	1
E101M6NO3	M6 x 1.00 mm	1
E101M6NO8	M6 x 1.00 mm	1
E101M8NO3	M8 x 1.25 mm	1
E101M8NO8	M8 x 1.25 mm	1
E101M10NO3	M10 x 1.50 mm	1
E101M10NO8	M10 x 1.50 mm	1
E101M12NO3	M12 x 1.75 mm	1
E101M12NO8	M12 x 1.75 mm	1
E101M14NO3	M14 x 2.00 mm	1
E101M14NO8	M14 x 2.00 mm	1
E101M16NO3	M16 x 2.00 mm	1
E101M16NO8	M16 x 2.00 mm	1

E102

M Macho Manual Canal Reto

M | HSS-E | ST | DIN 352 | R | 1.5×D | 6HX | C 2-3



e-Code	Descrição	M
E102M3NO8	M3 x 0.50 mm	1
E102M4NO8	M4 x 0.70 mm	1
E102M5NO8	M5 x 0.80 mm	1
E102M6NO8	M6 x 1.00 mm	1
E102M8NO8	M8 x 1.25 mm	1
E102M10NO8	M10 x 1.50 mm	1
E102M12NO8	M12 x 1.75 mm	1
E102M14NO8	M14 x 2.00 mm	1
E102M16NO8	M16 x 2.00 mm	1
E102M18NO8	M18 x 2.50 mm	1
E102M20NO8	M20 x 2.50 mm	1
E102M24NO8	M24 x 3.00 mm	1
E102M27NO8	M27 x 3.00 mm	1
E102M30NO8	M30 x 3.50 mm	1

E105

MF Macho Manual Canal Reto

PRIMEIRA ESCOLHA DESTAQUE

MF | HSS | Bright | DIN 2181 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E105M2.5X.35NO3	M2.5 x 0.35 mm	1
E105M2.5X.35NO9	M2.5 x 0.35 mm	1
E105M3X.35NO3	M3 x 0.35 mm	1
E105M3X.35NO9	M3 x 0.35 mm	1
E105M3.5X.35NO3	M3.5 x 0.35 mm	1
E105M3.5X.35NO9	M3.5 x 0.35 mm	1
E105M4X.5NO3	M4 x 0.50 mm	1
E105M4X.5NO9	M4 x 0.50 mm	1
E105M5X.5NO3	M5 x 0.50 mm	1
E105M5X.5NO9	M5 x 0.50 mm	1
E105M5.5X.5NO9	M5.5 x 0.50 mm	1
E105M6X.75NO3	M6 x 0.75 mm	1
E105M6X.75NO9	M6 x 0.75 mm	1
E105M7X.75NO3	M7 x 0.75 mm	1
E105M7X.75NO9	M7 x 0.75 mm	1
E105M8X.75NO3	M8 x 0.75 mm	1
E105M8X.75NO9	M8 x 0.75 mm	1
E105M8X1.0NO3	M8 x 1.00 mm	1
E105M8X1.0NO9	M8 x 1.00 mm	1
E105M9X.75NO3	M9 x 0.75 mm	1
E105M9X.75NO9	M9 x 0.75 mm	1
E105M9X1.0NO3	M9 x 1.00 mm	1
E105M9X1.0NO9	M9 x 1.00 mm	1
E105M10X.75NO3	M10 x 0.75 mm	1
E105M10X.75NO9	M10 x 0.75 mm	1
E105M10X1.0NO3	M10 x 1.00 mm	1
E105M10X1.0NO9	M10 x 1.00 mm	1
E105M10X1.25NO3	M10 x 1.25 mm	1
E105M10X1.25NO9	M10 x 1.25 mm	1
E105M11X.75NO3	M11 x 0.75 mm	1
E105M11X.75NO9	M11 x 0.75 mm	1
E105M11X1.0NO3	M11 x 1.00 mm	1
E105M11X1.0NO9	M11 x 1.00 mm	1
E105M12X1.0NO3	M12 x 1.00 mm	1
E105M12X1.0NO9	M12 x 1.00 mm	1
E105M12X1.25NO3	M12 x 1.25 mm	1
E105M12X1.25NO9	M12 x 1.25 mm	1
E105M12X1.5NO3	M12 x 1.50 mm	1
E105M12X1.5NO9	M12 x 1.50 mm	1
E105M14X1.0NO3	M14 x 1.00 mm	1
E105M14X1.0NO9	M14 x 1.00 mm	1
E105M14X1.25NO3	M14 x 1.25 mm	1
E105M14X1.25NO9	M14 x 1.25 mm	1
E105M14X1.5NO3	M14 x 1.50 mm	1
E105M14X1.5NO9	M14 x 1.50 mm	1
E105M15X1.0NO3	M15 x 1.00 mm	1
E105M15X1.0NO9	M15 x 1.00 mm	1
E105M15X1.5NO3	M15 x 1.50 mm	1
E105M15X1.5NO9	M15 x 1.50 mm	1
E105M16X1.0NO3	M16 x 1.00 mm	1
E105M16X1.0NO9	M16 x 1.00 mm	1
E105M16X1.5NO3	M16 x 1.50 mm	1
E105M16X1.5NO9	M16 x 1.50 mm	1
E105M18X1.0NO3	M18 x 1.00 mm	1
E105M18X1.0NO9	M18 x 1.00 mm	1
E105M18X1.5NO3	M18 x 1.50 mm	1
E105M18X1.5NO9	M18 x 1.50 mm	1
E105M18X2.0NO9	M18 x 2.00 mm	1
E105M20X1.0NO3	M20 x 1.00 mm	1
E105M20X1.0NO9	M20 x 1.00 mm	1
E105M20X1.5NO3	M20 x 1.50 mm	1
E105M20X1.5NO9	M20 x 1.50 mm	1
E105M20X2.0NO9	M20 x 2.00 mm	1
E105M22X1.0NO3	M22 x 1.00 mm	1
E105M22X1.0NO9	M22 x 1.00 mm	1
E105M22X1.5NO3	M22 x 1.50 mm	1
E105M22X1.5NO9	M22 x 1.50 mm	1
E105M22X2.0NO9	M22 x 2.00 mm	1
E105M24X1.0NO3	M24 x 1.00 mm	1
E105M24X1.0NO9	M24 x 1.00 mm	1
E105M24X1.5NO3	M24 x 1.50 mm	1
E105M24X1.5NO9	M24 x 1.50 mm	1
E105M24X2.0NO3	M24 x 2.00 mm	1
E105M24X2.0NO9	M24 x 2.00 mm	1
E105M25X1.5NO3	M25 x 1.50 mm	1
E105M25X1.5NO9	M25 x 1.50 mm	1
E105M25X2.0NO3	M25 x 2.00 mm	1
E105M25X2.0NO9	M25 x 2.00 mm	1
E105M27X1.5NO3	M27 x 1.50 mm	1
E105M27X1.5NO9	M27 x 1.50 mm	1
E105M27X2.0NO3	M27 x 2.00 mm	1
E105M27X2.0NO9	M27 x 2.00 mm	1
E105M28X1.5NO3	M28 x 1.50 mm	1
E105M28X1.5NO9	M28 x 1.50 mm	1
E105M28X2.0NO3	M28 x 2.00 mm	1
E105M28X2.0NO9	M28 x 2.00 mm	1
E105M30X1.5NO3	M30 x 1.50 mm	1
E105M30X1.5NO9	M30 x 1.50 mm	1
E105M30X2.0NO3	M30 x 2.00 mm	1
E105M30X2.0NO9	M30 x 2.00 mm	1
E105M32X1.5NO3	M32 x 1.50 mm	1
E105M32X1.5NO9	M32 x 1.50 mm	1
E105M32X2.0NO3	M32 x 2.00 mm	1
E105M32X2.0NO9	M32 x 2.00 mm	1
E105M36X1.5NO3	M36 x 1.50 mm	1
E105M36X1.5NO9	M36 x 1.50 mm	1
E105M36X2.0NO3	M36 x 2.00 mm	1
E105M36X2.0NO9	M36 x 2.00 mm	1
E105M36X3.0NO3	M36 x 3.00 mm	1
E105M36X3.0NO9	M36 x 3.00 mm	1
E105M40X1.5NO3	M40 x 1.50 mm	1
E105M40X1.5NO9	M40 x 1.50 mm	1
E105M40X2.0NO3	M40 x 2.00 mm	1
E105M40X2.0NO9	M40 x 2.00 mm	1
E105M40X3.0NO3	M40 x 3.00 mm	1
E105M40X3.0NO9	M40 x 3.00 mm	1
E105M42X1.5NO3	M42 x 1.50 mm	1
E105M42X1.5NO9	M42 x 1.50 mm	1
E105M42X2.0NO3	M42 x 2.00 mm	1
E105M42X2.0NO9	M42 x 2.00 mm	1
E105M42X3.0NO3	M42 x 3.00 mm	1
E105M42X3.0NO9	M42 x 3.00 mm	1
E105M45X1.5NO3	M45 x 1.50 mm	1
E105M45X1.5NO9	M45 x 1.50 mm	1
E105M45X2.0NO3	M45 x 2.00 mm	1
E105M45X2.0NO9	M45 x 2.00 mm	1
E105M45X3.0NO3	M45 x 3.00 mm	1
E105M45X3.0NO9	M45 x 3.00 mm	1
E105M48X1.5NO3	M48 x 1.50 mm	1
E105M48X1.5NO9	M48 x 1.50 mm	1
E105M48X2.0NO3	M48 x 2.00 mm	1
E105M48X2.0NO9	M48 x 2.00 mm	1
E105M48X3.0NO3	M48 x 3.00 mm	1
E105M48X3.0NO9	M48 x 3.00 mm	1
E105M50X1.5NO3	M50 x 1.50 mm	1
E105M50X1.5NO9	M50 x 1.50 mm	1
E105M50X2.0NO3	M50 x 2.00 mm	1
E105M50X2.0NO9	M50 x 2.00 mm	1
E105M50X3.0NO3	M50 x 3.00 mm	1
E105M50X3.0NO9	M50 x 3.00 mm	1

E108

UNC Macho manual canal reto

UNC | HSS | Bright | DIN 352 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E1085-40NO3	No.5 x 40	1
E1085-40NO8	No.5 x 40	1
E1085-40NO9	No.5 x 40	1
E1086-32NO3	No.6 x 32	1
E1086-32NO8	No.6 x 32	1
E1086-32NO9	No.6 x 32	1
E1088-32NO3	No.8 x 32	1
E1088-32NO8	No.8 x 32	1
E1088-32NO9	No.8 x 32	1
E10810-24NO3	No.10 x 24	1
E10810-24NO8	No.10 x 24	1
E10810-24NO9	No.10 x 24	1
E10812-24NO3	No.12 x 24	1
E10812-24NO8	No.12 x 24	1
E10812-24NO9	No.12 x 24	1
E1081/4NO3	1/4" x 20	1
E1081/4NO8	1/4" x 20	1
E1081/4NO9	1/4" x 20	1
E1085/16NO3	5/16" x 18	1
E1085/16NO8	5/16" x 18	1
E1085/16NO9	5/16" x 18	1
E1083/8NO3	3/8" x 16	1
E1083/8NO8	3/8" x 16	1
E1083/8NO9	3/8" x 16	1
E1087/16NO3	7/16" x 14	1
E1087/16NO8	7/16" x 14	1
E1087/16NO9	7/16" x 14	1
E1081/2NO3	1/2" x 13	1
E1081/2NO8	1/2" x 13	1
E1081/2NO9	1/2" x 13	1
E1089/16NO3	9/16" x 12	1
E1089/16NO8	9/16" x 12	1
E1089/16NO9	9/16" x 12	1
E1085/8NO3	5/8" x 11	1
E1085/8NO8	5/8" x 11	1
E1085/8NO9	5/8" x 11	1
E1083/4NO3	3/4" x 10	1
E1083/4NO8	3/4" x 10	1
E1083/4NO9	3/4" x 10	1
E1087/8NO3	7/8" x 9	1
E1087/8NO8	7/8" x 9	1
E1087/8NO9	7/8" x 9	1
E1081NO8	1" x 8	1
E1081NO9	1" x 8	1

E111

UNF Macho manual canal reto

UNF | HSS | Bright | DIN 2181 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E1115-44NO3	No.5 x 44	1
E1115-44NO9	No.5 x 44	1
E1116-40NO3	No.6 x 40	1
E1116-40NO9	No.6 x 40	1
E1118-36NO3	No.8 x 36	1
E1118-36NO9	No.8 x 36	1
E11110-32NO3	No.10 x 32	1
E11110-32NO9	No.10 x 32	1
E1111/4NO3	1/4" x 28	1
E1111/4NO9	1/4" x 28	1
E1115/16NO3	5/16" x 24	1
E1115/16NO9	5/16" x 24	1
E1113/8NO3	3/8" x 24	1
E1113/8NO9	3/8" x 24	1
E1117/16NO3	7/16" x 20	1
E1117/16NO9	7/16" x 20	1
E1111/2NO3	1/2" x 20	1
E1111/2NO9	1/2" x 20	1
E1119/16NO3	9/16" x 18	1
E1119/16NO9	9/16" x 18	1
E1115/8NO3	5/8" x 18	1
E1115/8NO9	5/8" x 18	1
E1113/4NO3	3/4" x 16	1
E1113/4NO9	3/4" x 16	1
E1117/8NO3	7/8" x 14	1
E1117/8NO9	7/8" x 14	1
E1111NO3	1" x 12	1
E1111NO9	1" x 12	1

E115

BSW Macho manual canal reto

BSW | HSS | Bright | DIN 351 | R | 1.5×D | Medium | C 2-3



e-Code	Descrição	M
E1151/8NO3	1/8" x 40	1
E1151/8NO8	1/8" x 40	1
E1151/8NO9	1/8" x 40	1
E1155/32NO3	5/32" x 32	1
E1155/32NO8	5/32" x 32	1
E1155/32NO9	5/32" x 32	1
E1153/16NO3	3/16" x 24	1
E1153/16NO8	3/16" x 24	1
E1153/16NO9	3/16" x 24	1
E1151/4NO3	1/4" x 20	1
E1151/4NO8	1/4" x 20	1
E1151/4NO9	1/4" x 20	1
E1155/16NO3	5/16" x 18	1
E1155/16NO8	5/16" x 18	1
E1155/16NO9	5/16" x 18	1
E1153/8NO3	3/8" x 16	1
E1153/8NO8	3/8" x 16	1
E1153/8NO9	3/8" x 16	1
E1157/16NO3	7/16" x 14	1
E1157/16NO8	7/16" x 14	1
E1157/16NO9	7/16" x 14	1
E1157/32NO8	7/16" x 14	1
E1157/32NO9	7/16" x 14	1
E1151/2NO3	1/2" x 12	1
E1151/2NO8	1/2" x 12	1
E1151/2NO9	1/2" x 12	1
E1159/16NO3	9/16" x 12	1
E1159/16NO8	9/16" x 12	1
E1159/16NO9	9/16" x 12	1
E1155/8NO3	5/8" x 11	1
E1155/8NO8	5/8" x 11	1
E1155/8NO9	5/8" x 11	1
E1153/4NO3	3/4" x 10	1
E1153/4NO8	3/4" x 10	1
E1153/4NO9	3/4" x 10	1
E1157/8NO3	7/8" x 9	1
E1157/8NO8	7/8" x 9	1
E1157/8NO9	7/8" x 9	1
E1151NO3	1" x 8	1
E1151NO8	1" x 8	1
E1151NO9	1" x 8	1

E119

G(BSP) Macho manual canal reto

G | HSS | Bright | DIN 5157 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E1191/8NO3	1/8" x 28	1
E1191/8NO9	1/8" x 28	1
E1191/4NO3	1/4" x 19	1
E1191/4NO9	1/4" x 19	1
E1193/8NO3	3/8" x 19	1
E1193/8NO9	3/8" x 19	1
E1191/2NO3	1/2" x 14	1
E1191/2NO9	1/2" x 14	1
E1195/8NO3	5/8" x 14	1
E1195/8NO9	5/8" x 14	1
E1193/4NO3	3/4" x 14	1
E1193/4NO9	3/4" x 14	1
E1197/8NO3	7/8" x 14	1
E1197/8NO9	7/8" x 14	1
E1191NO3	1" x 11	1
E1191NO9	1" x 11	1
E1191.1/8NO3	1.1/8" x 11	1
E1191.1/8NO9	1.1/8" x 11	1
E1191.1/4NO3	1.1/4" x 11	1
E1191.1/4NO9	1.1/4" x 11	1
E1191.1/2NO3	1.1/2" x 11	1
E1191.1/2NO9	1.1/2" x 11	1
E1191.3/4NO3	1.3/4" x 11	1
E1191.3/4NO9	1.3/4" x 11	1
E1192NO3	2" x 11	1
E1192NO9	2" x 11	1
E1192.1/4NO3	2.1/4" x 11	1
E1192.1/4NO9	2.1/4" x 11	1
E1192.1/2NO3	2.1/2" x 11	1
E1192.1/2NO9	2.1/2" x 11	1
E1192.3/4NO3	2.3/4" x 11	1
E1192.3/4NO9	2.3/4" x 11	1
E1193NO3	3" x 11	1
E1193NO9	3" x 11	1

E130

Macho máquina - canal helicoidal

BSW | HSS-E | Bright | DIN 371 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
E1301/8	1/8"	1
E1305/32	5/32"	1
E1303/16	3/16"	1
E1301/4	1/4"	1
E1305/16	5/16"	1
E1303/8	3/8"	1

E133

Macho máquina - ponta helicoidal

BSW | HSS-E Bright | DIN 371 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
E1331/8	1/8" x 40	1
E1335/32	5/32" x 32	1
E1333/16	3/16" x 24	1
E1331/4	1/4" x 20	1
E1335/16	5/16" x 18	1
E1333/8	3/8" x 16	1

E139

Macho máquina - canal helicoidal

BSW | HSS-E Bright | DIN 376 | R | 2×D | 6H | C 2-3



e-Code	Descrição	M
E1391/8	1/8" x 40	1
E1395/32	5/32" x 32	1
E1393/16	3/16" x 24	1
E1391/4	1/4" x 20	1
E1395/16	5/16" x 18	1
E1393/8	3/8" x 16	1
E1397/16	7/16" x 14	1
E1391/2	1/2" x 12	1
E1395/8	5/8" x 11	1
E1393/4	3/4" x 10	1
E1391	1" x 7	1

E200

M Macho máquina canal reto

M | HSS-E PM Bright | DIN 371 | R | 1.5×D | 6H | A 6-8 C 2-3



e-Code	Descrição	M
E200M2	M2 x 0.40 mm	1
E200M2.5	M2.5 x 0.45 mm	1
E200M3	M3 x 0.50 mm	1
E200M3NO1	M3 x 0.50 mm	1
E200M4	M4 x 0.70 mm	1
E200M4NO1	M4 x 0.70 mm	1
E200M5	M5 x 0.80 mm	1
E200M5NO1	M5 x 0.80 mm	1
E200M6	M6 x 1.00 mm	1
E200M6NO1	M6 x 1.00 mm	1
E200M8	M8 x 1.25 mm	1
E200M8NO1	M8 x 1.25 mm	1
E200M10	M10 x 1.50 mm	1
E200M10NO1	M10 x 1.50 mm	1

E207

M Macho máquina canal helicoidal 15°

M | HSS-E PM Bright | DIN 371 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E207M2	M2 x 0.40 mm	1
E207M2.5	M2.5 x 0.45 mm	1
E207M3	M3 x 0.50 mm	1
E207M4	M4 x 0.70 mm	1
E207M5	M5 x 0.80 mm	1
E207M6	M6 x 1.00 mm	1
E207M8	M8 x 1.25 mm	1
E207M10	M10 x 1.50 mm	1

E212

M Macho máquina canal helicoidal 15°

M | HSS-E TiN | DIN 371 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E212M3	M3 x 0.50 mm	1
E212M4	M4 x 0.70 mm	1
E212M5	M5 x 0.80 mm	1
E212M6	M6 x 1.00 mm	1
E212M8	M8 x 1.25 mm	1
E212M10	M10 x 1.50 mm	1

E216

M Macho máquina ponta helicoidal - rosca interrompida

M | HSS-E Bright | DIN 371 | R | 3×D | 6H | B 3.5-5



e-Code	Descrição	M
E216M3	M3 x 0.50 mm	1
E216M4	M4 x 0.70 mm	1
E216M5	M5 x 0.80 mm	1
E216M6	M6 x 1.00 mm	1
E216M8	M8 x 1.25 mm	1
E216M10	M10 x 1.50 mm	1

E225

UNC Macho máquina canal reto

UNC | HSS-E PM Bright | DIN 371 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E2254-40	No.4 x 40	1
E2255-40	No.5 x 40	1
E2256-32	No.6 x 32	1
E2258-32	No.8 x 32	1
E22510-24	No.10 x 24	1
E22512-24	No.12 x 24	1
E2251/4	1/4" x 20	1

E229

UNF Macho máquina canal reto

UNF | HSS-E PM Bright | DIN 371 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E2292-64	No.2 x 64	1
E2293-56	No.3 x 56	1
E2294-48	No.4 x 48	1
E2295-44	No.5 x 44	1
E2296-40	No.6 x 40	1
E2298-36	No.8 x 36	1
E2291/4	1/4" x 28	1
E22910-32	No.10 x 32	1
E22912-28	No.12 x 28	1

E237

M Macho máquina canal reto

M | HSS-E PM Bright | DIN 371 | L | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E237M3	M3 x 0.50 mm	1
E237M4	M4 x 0.70 mm	1
E237M5	M5 x 0.80 mm	1
E237M6	M6 x 1.00 mm	1
E237M8	M8 x 1.25 mm	1
E237M10	M10 x 1.50 mm	1

E242

MF Macho máquina canal reto

MF | HSS-E PM Bright | DIN 371 | L | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E242M8X1.0	M8 x 1.00 mm	1
E242M10X1.0	M10 x 1.00 mm	1

E243

PG Macho máquina canal reto

PG | HSS Bright | DIN 40432 | R | 1.5×D | Normal



e-Code	Descrição	M
E243PG7NO2	PG7	1
E243PG7NO3	PG7	1
E243PG9NO2	PG9	1
E243PG9NO3	PG9	1
E243PG11NO2	PG11	1
E243PG11NO3	PG11	1
E243PG13.5NO2	PG13.5	1
E243PG13.5NO3	PG13.5	1
E243PG16NO2	PG16	1

E243PG16NO3	PG16	1
E243PG21NO2	PG21	1
E243PG21NO3	PG21	1
E243PG29NO2	PG29	1
E243PG29NO3	PG29	1
E243PG36NO2	PG36	1
E243PG36NO3	PG36	1

E250

M Macho máquina canal reto

M | HSS-E PM | Bright | DIN 376 | R | 1.5×D | 6H | A 6-8 C 2-3



e-Code	Descrição	M
E250M3	M3 x 0.50 mm	1
E250M4	M4 x 0.70 mm	1
E250M5	M5 x 0.80 mm	1
E250M6	M6 x 1.00 mm	1
E250M6NO1	M6 x 1.00 mm	1
E250M8	M8 x 1.25 mm	1
E250M8NO1	M8 x 1.25 mm	1
E250M10	M10 x 1.50 mm	1
E250M12	M12 x 1.75 mm	1
E250M12NO1	M12 x 1.75 mm	1
E250M14	M14 x 2.00 mm	1
E250M14NO1	M14 x 2.00 mm	1
E250M16	M16 x 2.00 mm	1
E250M16NO1	M16 x 2.00 mm	1
E250M18	M18 x 2.50 mm	1
E250M18NO1	M18 x 2.50 mm	1
E250M20	M20 x 2.50 mm	1
E250M20NO1	M20 x 2.50 mm	1
E250M22	M22 x 2.50 mm	1
E250M22NO1	M22 x 2.50 mm	1
E250M24	M24 x 3.00 mm	1
E250M27	M27 x 3.00 mm	1
E250M30	M30 x 3.50 mm	1
E250M33	M33 x 3.50 mm	1
E250M36	M36 x 4.00 mm	1
E250M39	M39 x 4.00 mm	1
E250M42	M42 x 4.50 mm	1
E250M45	M45 x 4.50 mm	1
E250M48	M48 x 5.00 mm	1
E250M52	M52 x 5.00 mm	1

E251

M Macho máquina canal reto

M | HSS-E PM | Bright | DIN 376 | L | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E251M12	M12 x 1.75 mm	1
E251M14	M14 x 2.00 mm	1
E251M16	M16 x 2.00 mm	1
E251M18	M18 x 2.50 mm	1
E251M20	M20 x 2.50 mm	1
E251M22	M22 x 2.50 mm	1
E251M24	M24 x 3.00 mm	1

E258

M Macho máquina canal helicoidal 15°

M | HSS-E PM | Bright | DIN 376 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E258M4	M4 x 0.70 mm	1
E258M5	M5 x 0.80 mm	1
E258M6	M6 x 1.00 mm	1
E258M8	M8 x 1.25 mm	1
E258M10	M10 x 1.50 mm	1
E258M12	M12 x 1.75 mm	1
E258M14	M14 x 2.00 mm	1
E258M16	M16 x 2.00 mm	1
E258M18	M18 x 2.50 mm	1
E258M20	M20 x 2.50 mm	1
E258M22	M22 x 2.50 mm	1
E258M24	M24 x 3.00 mm	1
E258M27	M27 x 3.00 mm	1
E258M30	M30 x 3.50 mm	1
E258M36	M36 x 4.00 mm	1

E263

M Macho máquina canal helicoidal 15°

M | HSS-E PM | TiN | DIN 376 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E263M12	M12 x 1.75 mm	1
E263M14	M14 x 2.00 mm	1
E263M16	M16 x 2.00 mm	1
E263M18	M18 x 2.50 mm	1
E263M20	M20 x 2.50 mm	1
E263M22	M22 x 2.50 mm	1
E263M24	M24 x 3.00 mm	1
E263M27	M27 x 3.00 mm	1
E263M30	M30 x 3.50 mm	1
E263M36	M36 x 4.00 mm	1

E266

M Macho máquina ponta helicoidal - rosca interrompida

M | HSS-E PM | Bright | DIN 376 | R | 3×D | 6H | B 3.5-5



e-Code	Descrição	M
E266M12	M12 x 1.75 mm	1
E266M14	M14 x 2.00 mm	1
E266M16	M16 x 2.00 mm	1
E266M20	M20 x 2.50 mm	1
E266M24	M24 x 3.00 mm	1

E268

MF Macho máquina canal reto

MF | HSS-E PM | Bright | DIN 374 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E268M4X.5	M4 x 0.50 mm	1
E268M5X.5	M5 x 0.50 mm	1
E268M6X.75	M6 x 0.75 mm	1
E268M7X.75	M7 x 0.75 mm	1
E268M8X.75	M8 x 0.75 mm	1
E268M8X1.0	M8 x 1.00 mm	1
E268M9X1.0	M9 x 1.00 mm	1
E268M10X.75	M10 x 0.75 mm	1
E268M10X1.0	M10 x 1.00 mm	1
E268M10X1.25	M10 x 1.25 mm	1
E268M11X1.0	M11 x 1.00 mm	1
E268M12X1.0	M12 x 1.00 mm	1
E268M12X1.25	M12 x 1.25 mm	1
E268M12X1.5	M12 x 1.50 mm	1
E268M14X1.0	M14 x 1.00 mm	1
E268M14X1.25	M14 x 1.25 mm	1
E268M14X1.5	M14 x 1.50 mm	1
E268M15X1.5	M15 x 1.50 mm	1
E268M16X1.0	M16 x 1.00 mm	1
E268M16X1.5	M16 x 1.50 mm	1
E268M18X1.0	M18 x 1.00 mm	1
E268M18X1.5	M18 x 1.50 mm	1
E268M20X1.0	M20 x 1.00 mm	1
E268M20X1.5	M20 x 1.50 mm	1
E268M22X1.0	M22 x 1.00 mm	1
E268M22X1.5	M22 x 1.50 mm	1
E268M24X1.0	M24 x 1.00 mm	1
E268M24X1.5	M24 x 1.50 mm	1
E268M24X2.0	M24 x 2.00 mm	1
E268M25X1.5	M25 x 1.50 mm	1
E268M25X2.0	M25 x 2.00 mm	1
E268M26X1.5	M26 x 1.50 mm	1
E268M26X2.0	M26 x 2.00 mm	1
E268M27X1.5	M27 x 1.50 mm	1
E268M27X2.0	M27 x 2.00 mm	1
E268M28X1.5	M28 x 1.50 mm	1
E268M28X2.0	M28 x 2.00 mm	1
E268M30X1.5	M30 x 1.50 mm	1
E268M30X2.0	M30 x 2.00 mm	1
E268M32X1.5	M32 x 1.50 mm	1
E268M32X2.0	M32 x 2.00 mm	1
E268M33X1.5	M33 x 1.50 mm	1
E268M34X1.5	M34 x 1.50 mm	1
E268M35X1.5	M35 x 1.50 mm	1
E268M36X1.5	M36 x 1.50 mm	1
E268M36X2.0	M36 x 2.00 mm	1
E268M36X3.0	M36 x 3.00 mm	1
E268M40X1.5	M40 x 1.50 mm	1
E268M40X2.0	M40 x 2.00 mm	1
E268M40X3.0	M40 x 3.00 mm	1
E268M42X1.5	M42 x 1.50 mm	1
E268M42X2.0	M42 x 2.00 mm	1
E268M42X3.0	M42 x 3.00 mm	1
E268M45X1.5	M45 x 1.50 mm	1
E268M45X2.0	M45 x 2.00 mm	1
E268M45X3.0	M45 x 3.00 mm	1
E268M48X1.5	M48 x 1.50 mm	1
E268M48X2.0	M48 x 2.00 mm	1
E268M48X3.0	M48 x 3.00 mm	1
E268M50X1.5	M50 x 1.50 mm	1
E268M50X2.0	M50 x 2.00 mm	1
E268M50X3.0	M50 x 3.00 mm	1

E275

UNC Macho máquina canal reto

UNC | HSS-E PM | Bright | DIN 376 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E2755/16	5/16" x 18	1
E2753/8	3/8" x 16	1
E2757/16	7/16" x 14	1
E2751/2	1/2" x 13	1
E2759/16	9/16" x 12	1
E2755/8	5/8" x 11	1
E2753/4	3/4" x 10	1
E2757/8	7/8" x 9	1
E2751	1" x 8	1
E2751.1/8	1.1/8" x 7	1
E2751.1/4	1.1/4" x 7	1
E2751.1/2	1.1/2" x 6	1

E278

UNF Macho máquina canal reto

UNF | HSS-E PM | Bright | DIN 374 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E2785/16	5/16" x 24	1
E2783/8	3/8" x 24	1
E2787/16	7/16" x 20	1
E2781/2	1/2" x 20	1
E2789/16	9/16" x 18	1
E2785/8	5/8" x 18	1
E2783/4	3/4" x 16	1
E2787/8	7/8" x 14	1
E2781	1" x 12	1
E2781.1/8	1.1/8" x 12	1
E2781.1/4	1.1/4" x 12	1
E2781.3/8	1.3/8" x 12	1
E2781.1/2	1.1/2" x 12	1

E282

G(BSP) Macho máquina canal reto

G | HSS-E PM | Bright | DIN 5156 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E2821/8	1/8" x 28	1
E2821/4	1/4" x 19	1
E2823/8	3/8" x 19	1
E2821/2	1/2" x 14	1
E2823/4	3/4" x 14	1
E2821	1" x 11	1
E2821.1/4	1.1/4" x 11	1
E2821.1/2	1.1/2" x 11	1

E286

UNF Macho máquina de laminação

UNF | HSS-E | TiN | DIN 2184-1 | R | 3.5×D | 2BX | C 2-3.5



e-Code	Descrição	M
E2864-48	No. 4 x 48	1
E2866-40	No. 6 x 40	1
E2868-36	No. 8 x 36	1
E28610-32	No. 10 x 32	1
E2861/4	1/4" x 28	1
E2865/16	5/16" x 24	1
E2863/8	3/8" x 24	1
E2867/16	7/16" x 20	1
E2861/2	1/2" x 20	1

E287

UNC Macho máquina de laminação

UNC | HSS-E | TiN | DIN 2184-1 | R | 3.5×D | 2BX | C 2-3.5



e-Code	Descrição	M
E2874-40	No. 4 x 40	1
E2876-32	No. 6 x 32	1
E2878-32	No. 8 x 32	1
E28710-24	No. 10 x 24	1
E2871/4	1/4" x 20	1
E2875/16	5/16" x 18	1
E2873/8	3/8" x 16	1
E2877/16	7/16" x 14	1
E2871/2	1/2" x 13	1

E288

MF Macho máquina de laminação

MF | HSS-E | TiN | DIN 2174 | R | 3×D | 6HX | C 2-3.5



e-Code	Descrição	M
E288M5X.5	M5 x 0.50 mm	1
E288M6X.75	M6 x 0.50 mm	1
E288M8X1.0	M8 x 1.00 mm	1
E288M10X1.0	M10 x 1.00 mm	1
E288M10X1.25	M10 x 1.25 mm	1
E288M12X1.5	M12 x 1.50 mm	1

E289

M Macho máquina de laminação

M | HSS-E | TiN | DIN 2174 | R | 3.5×D | 6HX | C 2-3.5



e-Code	Descrição	M
E289M5	M5 X 0.80 mm	1
E289M6	M6 X 1.00 mm	1
E289M8	M8 X 1.25 mm	1
E289M10	M10 X 1.50 mm	1
E289M12	M12 X 1.75 mm	1

E290

MF Macho máquina canal reto

MF | HSS-E PM | Bright | DIN 374 | L | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E290M12X1.0	M12 x 1.00 mm	1
E290M12X1.5	M12 x 1.50 mm	1
E290M14X1.0	M14 x 1.00 mm	1
E290M14X1.5	M14 x 1.50 mm	1
E290M16X1.0	M16 x 1.00 mm	1
E290M16X1.5	M16 x 1.50 mm	1
E290M18X1.5	M18 x 1.50 mm	1
E290M20X1.5	M20 x 1.50 mm	1
E290M22X1.5	M22 x 1.50 mm	1
E290M24X1.5	M24 x 1.50 mm	1

E291

M Macho máquina de laminação

M | HSS-E | Bright | DIN 2174 | R | 3×D | 6HX | C 2-3.5



e-Code	Descrição	M
E291M1.6	M1.6 x 0.35 mm	1
E291M2	M2 x 0.40 mm	1
E291M2.5	M2.5 x 0.45 mm	1
E291M3	M3 x 0.50 mm	1
E291M3.5	M3.5 x 0.60 mm	1
E291M4	M4 x 0.70 mm	1
E291M5	M5 x 0.80 mm	1
E291M6	M6 x 1.00 mm	1
E291M8	M8 x 1.25 mm	1
E291M10	M10 x 1.50 mm	1
E291M12	M12 x 1.75 mm	1
E291M16	M16 x 2.00 mm	1

E292

M Macho máquina de laminação

M | HSS-E | TiN | DIN 2174 | R | 3×D | 6HX | C 2-3.5



e-Code	Descrição	M
E292M1.6	M1.6 x 0.35 mm	1
E292M2	M2 x 0.40 mm	1
E292M2.5	M2.5 x 0.45 mm	1
E292M3	M3 x 0.50 mm	1
E292M3.5	M3.5 x 0.60 mm	1
E292M4	M4 x 0.70 mm	1
E292M5	M5 x 0.80 mm	1
E292M6	M6 x 1.00 mm	1
E292M8	M8 x 1.25 mm	1
E292M10	M10 x 1.50 mm	1
E292M12	M12 x 1.75 mm	1
E292M16	M16 x 2.00 mm	1

E293

M Macho máquina de laminação

M | HSS-E TiN | DIN 2174 | R | 3×D | 6HX | E 1.5-2



e-Code	Descrição	M
E293M3	M3 x 0.50 mm	1
E293M4	M4 x 0.70 mm	1
E293M5	M5 x 0.80 mm	1
E293M6	M6 x 1.00 mm	1
E293M8	M8 x 1.25 mm	1
E293M10	M10 x 1.50 mm	1
E293M12	M12 x 1.75 mm	1
E293M16	M16 x 2.00 mm	1

E294

M Macho máquina de laminação com ranhuras para lubrificação

M | HSS-E TiN | DIN 2174 | R | 3.5×D | 6HX | C 2-3.5



e-Code	Descrição	M
E294M3	M3 x 0.50 mm	1
E294M4	M4 x 0.70 mm	1
E294M5	M5 x 0.80 mm	1
E294M6	M6 x 1.00 mm	1
E294M8	M8 x 1.25 mm	1
E294M10	M10 x 1.50 mm	1
E294M12	M12 x 1.75 mm	1
E294M14	M14 x 2.00 mm	1
E294M16	M16 x 2.00 mm	1

E295

M Macho máquina de laminação

M | HSS-E TiN | DIN 2174 | R | 3×D | 6GX | C 2-3.5



e-Code	Descrição	M
E295M3	M3 x 0.50 mm	1
E295M3.5	M3.5 x 0.60 mm	1
E295M4	M4 x 0.70 mm	1
E295M5	M5 x 0.80 mm	1
E295M6	M6 x 1.00 mm	1
E295M8	M8 x 1.25 mm	1
E295M10	M10 x 1.50 mm	1
E295M12	M12 x 1.75 mm	1

E296

M Macho máquina de laminação

M | HSS-E TiN | DIN 2174 | R | 3×D | 6GX | E 1.5-2



e-Code	Descrição	M
E296M3	M3 x 0.50 mm	1
E296M4	M4 x 0.70 mm	1
E296M5	M5 x 0.80 mm	1
E296M6	M6 x 1.00 mm	1
E296M8	M8 x 1.25 mm	1
E296M10	M10 x 1.50 mm	1

E303

M Macho máquina canal reto

M | HSS-E Bright | DIN 357 | R | 2×D | 6H | C 2-3 D 18-20



e-Code	Descrição	M
E303M3NO1	M3 x 0.50 mm	1
E303M3NO3	M3 x 0.50 mm	1
E303M4NO1	M4 x 0.70 mm	1
E303M4NO3	M4 x 0.70 mm	1
E303M5NO1	M5 x 0.80 mm	1
E303M5NO3	M5 x 0.80 mm	1
E303M6NO1	M6 x 1.00 mm	1
E303M6NO3	M6 x 1.00 mm	1
E303M8NO1	M8 x 1.25 mm	1
E303M8NO3	M8 x 1.25 mm	1
E303M10NO1	M10 x 1.50 mm	1
E303M10NO3	M10 x 1.50 mm	1
E303M12NO1	M12 x 1.75 mm	1
E303M12NO3	M12 x 1.75 mm	1
E303M14NO1	M14 x 2.00 mm	1
E303M14NO3	M14 x 2.00 mm	1
E303M16NO1	M16 x 2.00 mm	1
E303M16NO3	M16 x 2.00 mm	1
E303M20NO1	M20 x 2.50 mm	1
E303M20NO3	M20 x 2.50 mm	1

E422

M Macho máquina ponta helicoidal - rosca interrompida

M | HSS-E PM TiN | DIN 371 | R | 3×D | 6H | B 3.5-5



e-Code	Descrição	M
E422M3	M3 x 0.50 mm	1
E422M4	M4 x 0.70 mm	1
E422M5	M5 x 0.80 mm	1
E422M6	M6 x 1.00 mm	1
E422M8	M8 x 1.25 mm	1
E422M10	M10 x 1.50 mm	1

E423

M Macho máquina ponta helicoidal - rosca interrompida

M | HSS-E PM TiN | DIN 376 | R | 3×D | 6H | B 3.5-5



e-Code	Descrição	M
E423M12	M12 x 1.75 mm	1
E423M14	M14 x 2.00 mm	1
E423M16	M16 x 2.00 mm	1
E423M20	M20 x 2.50 mm	1
E423M24	M24 x 3.00 mm	1

E500

M Macho manual de perfil completo

M | HSS Bright | ISO 529 | R | 1.5×D | 6H



e-Code	Descrição	M
E500M1NO1	M1 x 0.25 mm	1
E500M1NO2	M1 x 0.25 mm	1
E500M1NO3	M1 x 0.25 mm	1
E500M1.2NO1	M1.2 x 0.25 mm	1
E500M1.2NO2	M1.2 x 0.25 mm	1
E500M1.2NO3	M1.2 x 0.25 mm	1
E500M1.4NO1	M1.4 x 0.30 mm	1
E500M1.4NO2	M1.4 x 0.30 mm	1
E500M1.4NO3	M1.4 x 0.30 mm	1
E500M1.6NO1	M1.6 x 0.35 mm	1
E500M1.6NO2	M1.6 x 0.35 mm	1
E500M1.6NO3	M1.6 x 0.35 mm	1
E500M1.6NO6	M1.6 x 0.35 mm	1
E500M1.7NO1	M1.7 x 0.35 mm	1
E500M1.7NO2	M1.7 x 0.35 mm	1
E500M1.7NO3	M1.7 x 0.35 mm	1
E500M1.7NO6	M1.7 x 0.35 mm	1
E500M1.7NO8	M1.7 x 0.35 mm	1
E500M1.8NO1	M1.8 x 0.35 mm	1
E500M1.8NO2	M1.8 x 0.35 mm	1
E500M1.8NO3	M1.8 x 0.35 mm	1
E500M2NO1	M2 x 0.40 mm	1
E500M2NO2	M2 x 0.40 mm	1
E500M2NO3	M2 x 0.40 mm	1
E500M2NO6	M2 x 0.40 mm	1
E500M2NO8	M2 x 0.40 mm	1
E500M2X.45NO1	M2 x 0.45 mm	1
E500M2X.45NO2	M2 x 0.45 mm	1
E500M2X.45NO3	M2 x 0.45 mm	1
E500M2.2NO1	M2.2 x 0.45 mm	1
E500M2.2NO2	M2.2 x 0.45 mm	1
E500M2.2NO3	M2.2 x 0.45 mm	1
E500M2.3NO1	M2.3 x 0.45 mm	1
E500M2.3NO2	M2.3 x 0.45 mm	1
E500M2.3NO3	M2.3 x 0.45 mm	1
E500M2.5NO1	M2.5 x 0.45 mm	1
E500M2.5NO2	M2.5 x 0.45 mm	1
E500M2.5NO3	M2.5 x 0.45 mm	1
E500M2.5NO6	M2.5 x 0.45 mm	1
E500M2.5NO8	M2.5 x 0.45 mm	1
E500M2.6NO1	M2.6 x 0.45 mm	1
E500M2.6NO2	M2.6 x 0.45 mm	1

E500M2.6NO3	M2.6 x 0.45 mm	1
E500M3NO1	M3 x 0.50 mm	1
E500M3NO2	M3 x 0.50 mm	1
E500M3NO3	M3 x 0.50 mm	1
E500M3NO6	M3 x 0.50 mm	1
E500M3NO7	M3 x 0.50 mm	1
E500M3NO8	M3 x 0.50 mm	1
E500M3X.6NO1	M3 x 0.60 mm	1
E500M3X.6NO2	M3 x 0.60 mm	1
E500M3X.6NO3	M3 x 0.60 mm	1
E500M3.5NO1	M3.5 x 0.60 mm	1
E500M3.5NO2	M3.5 x 0.60 mm	1
E500M3.5NO3	M3.5 x 0.60 mm	1
E500M3.5NO6	M3.5 x 0.60 mm	1
E500M4NO1	M4 x 0.70 mm	1
E500M4NO2	M4 x 0.70 mm	1
E500M4NO3	M4 x 0.70 mm	1
E500M4NO6	M4 x 0.70 mm	1
E500M4NO7	M4 x 0.70 mm	1
E500M4NO8	M4 x 0.70 mm	1
E500M4X.75NO1	M4 x 0.75 mm	1
E500M4X.75NO2	M4 x 0.75 mm	1
E500M4X.75NO3	M4 x 0.75 mm	1
E500M4.5NO1	M4.5 x 0.75 mm	1
E500M4.5NO2	M4.5 x 0.75 mm	1
E500M4.5NO3	M4.5 x 0.75 mm	1
E500M4.5NO6	M4.5 x 0.75 mm	1
E500M5NO1	M5 x 0.80 mm	1
E500M5NO2	M5 x 0.80 mm	1
E500M5NO3	M5 x 0.80 mm	1
E500M5NO6	M5 x 0.80 mm	1
E500M5NO7	M5 x 0.80 mm	1
E500M5NO8	M5 x 0.80 mm	1
E500M5X.9NO1	M5 x 0.90 mm	1
E500M5X.9NO2	M5 x 0.90 mm	1
E500M5X.9NO3	M5 x 0.90 mm	1
E500M5.5X.9NO1	M5.5 x 0.90 mm	1
E500M5.5X.9NO2	M5.5 x 0.90 mm	1
E500M5.5X.9NO3	M5.5 x 0.90 mm	1
E500M6NO1	M6 x 1.00 mm	1
E500M6NO2	M6 x 1.00 mm	1
E500M6NO3	M6 x 1.00 mm	1
E500M6NO6	M6 x 1.00 mm	1
E500M6NO7	M6 x 1.00 mm	1
E500M6NO8	M6 x 1.00 mm	1
E500M7NO1	M7 x 1.00 mm	1
E500M7NO2	M7 x 1.00 mm	1
E500M7NO3	M7 x 1.00 mm	1
E500M7NO6	M7 x 1.00 mm	1
E500M8NO1	M8 x 1.25 mm	1
E500M8NO2	M8 x 1.25 mm	1
E500M8NO3	M8 x 1.25 mm	1
E500M8NO6	M8 x 1.25 mm	1
E500M8NO7	M8 x 1.25 mm	1
E500M8NO8	M8 x 1.25 mm	1
E500M9NO1	M9 x 1.25 mm	1
E500M9NO2	M9 x 1.25 mm	1
E500M9NO3	M9 x 1.25 mm	1
E500M9NO6	M9 x 1.25 mm	1
E500M10NO1	M10 x 1.50 mm	1
E500M10NO2	M10 x 1.50 mm	1
E500M10NO3	M10 x 1.50 mm	1
E500M10NO6	M10 x 1.50 mm	1
E500M10NO7	M10 x 1.50 mm	1
E500M10NO8	M10 x 1.50 mm	1
E500M11NO1	M11 x 1.50 mm	1
E500M11NO2	M11 x 1.50 mm	1
E500M11NO3	M11 x 1.50 mm	1
E500M11NO6	M11 x 1.50 mm	1
E500M12NO1	M12 x 1.75 mm	1
E500M12NO2	M12 x 1.75 mm	1
E500M12NO3	M12 x 1.75 mm	1
E500M12NO6	M12 x 1.75 mm	1
E500M12NO7	M12 x 1.75 mm	1
E500M12NO8	M12 x 1.75 mm	1
E500M14NO1	M14 x 2.00 mm	1
E500M14NO2	M14 x 2.00 mm	1
E500M14NO3	M14 x 2.00 mm	1
E500M14NO6	M14 x 2.00 mm	1
E500M14NO7	M14 x 2.00 mm	1
E500M14NO8	M14 x 2.00 mm	1
E500M16NO1	M16 x 2.00 mm	1
E500M16NO2	M16 x 2.00 mm	1
E500M16NO3	M16 x 2.00 mm	1
E500M16NO6	M16 x 2.00 mm	1
E500M16NO7	M16 x 2.00 mm	1
E500M16NO8	M16 x 2.00 mm	1
E500M18NO1	M18 x 2.50 mm	1
E500M18NO2	M18 x 2.50 mm	1
E500M18NO3	M18 x 2.50 mm	1
E500M18NO6	M18 x 2.50 mm	1
E500M20NO1	M20 x 2.50 mm	1
E500M20NO2	M20 x 2.50 mm	1
E500M20NO3	M20 x 2.50 mm	1
E500M20NO6	M20 x 2.50 mm	1
E500M20NO7	M20 x 2.50 mm	1
E500M20NO8	M20 x 2.50 mm	1
E500M22NO1	M22 x 2.50 mm	1
E500M22NO2	M22 x 2.50 mm	1
E500M22NO3	M22 x 2.50 mm	1
E500M22NO6	M22 x 2.50 mm	1
E500M24NO1	M24 x 3.00 mm	1
E500M24NO2	M24 x 3.00 mm	1
E500M24NO3	M24 x 3.00 mm	1
E500M24NO6	M24 x 3.00 mm	1
E500M24NO7	M24 x 3.00 mm	1
E500M27NO1	M27 x 3.00 mm	1
E500M27NO2	M27 x 3.00 mm	1
E500M27NO3	M27 x 3.00 mm	1
E500M30NO1	M30 x 3.50 mm	1
E500M30NO2	M30 x 3.50 mm	1
E500M30NO3	M30 x 3.50 mm	1
E500M33NO1	M33 x 3.50 mm	1
E500M33NO2	M33 x 3.50 mm	1
E500M33NO3	M33 x 3.50 mm	1
E500M36NO1	M36 x 4.00 mm	1
E500M36NO2	M36 x 4.00 mm	1
E500M36NO3	M36 x 4.00 mm	1
E500M39NO1	M39 x 4.00 mm	1
E500M39NO2	M39 x 4.00 mm	1
E500M39NO3	M39 x 4.00 mm	1
E500M42NO1	M42 x 4.50 mm	1
E500M42NO2	M42 x 4.50 mm	1
E500M42NO3	M42 x 4.50 mm	1
E500M45NO1	M45 x 4.50 mm	1
E500M45NO2	M45 x 4.50 mm	1
E500M45NO3	M45 x 4.50 mm	1
E500M48NO1	M48 x 5.00 mm	1
E500M48NO2	M48 x 5.00 mm	1
E500M48NO3	M48 x 5.00 mm	1
E500M52NO3	M52 x 5.00 mm	1
E500M56NO3	M56 x 5.50 mm	1

E501

M Macho manual de perfil completo

M | HSS | Bright | ISO 529 | L | 1.5×D | 6H



e-Code	Descrição	M
E501M3NO1	M3 x 0.50 mm	1
E501M3NO2	M3 x 0.50 mm	1
E501M3NO3	M3 x 0.50 mm	1
E501M4NO1	M4 x 0.70 mm	1
E501M4NO2	M4 x 0.70 mm	1
E501M4NO3	M4 x 0.70 mm	1
E501M5NO2	M5 x 0.80 mm	1
E501M5NO3	M5 x 0.80 mm	1
E501M6NO1	M6 x 1.00 mm	1
E501M6NO2	M6 x 1.00 mm	1
E501M6NO3	M6 x 1.00 mm	1
E501M8NO1	M8 x 1.25 mm	1
E501M8NO2	M8 x 1.25 mm	1
E501M8NO3	M8 x 1.25 mm	1
E501M10NO1	M10 x 1.50 mm	1
E501M10NO2	M10 x 1.50 mm	1
E501M10NO3	M10 x 1.50 mm	1
E501M12NO1	M12 x 1.75 mm	1
E501M12NO2	M12 x 1.75 mm	1
E501M12NO3	M12 x 1.75 mm	1
E501M14NO1	M14 x 2.00 mm	1
E501M14NO2	M14 x 2.00 mm	1
E501M14NO3	M14 x 2.00 mm	1
E501M16NO1	M16 x 2.00 mm	1
E501M16NO2	M16 x 2.00 mm	1
E501M16NO3	M16 x 2.00 mm	1
E501M18NO3	M18 x 2.50 mm	1
E501M20NO1	M20 x 2.50 mm	1
E501M20NO2	M20 x 2.50 mm	1
E501M20NO3	M20 x 2.50 mm	1
E501M22NO3	M22 x 2.50 mm	1
E501M24NO2	M24 x 3.00 mm	1
E501M24NO3	M24 x 3.00 mm	1

E504

M Macho manual de perfil completo

M | HSS | TiN | ISO 529 | R | 1.5×D | 6H



e-Code	Descrição	M
E504M3NO3	M3 x 0.50 mm	1
E504M4NO3	M4 x 0.70 mm	1
E504M5NO3	M5 x 0.80 mm	1
E504M6NO3	M6 x 1.00 mm	1
E504M8NO3	M8 x 1.25 mm	1
E504M10NO3	M10 x 1.50 mm	1

E513

MF Macho manual de perfil completo

MF | HSS | Bright | ISO 529 | R | 1.5×D | 6H



e-Code	Descrição	M
E513M3X.35NO1	M3 x 0.35 mm	1
E513M3X.35NO2	M3 x 0.35 mm	1
E513M3X.35NO3	M3 x 0.35 mm	1
E513M3.5X.35NO3	M3.5 x 0.35 mm	1
E513M4X.5NO1	M4 x 0.50 mm	1
E513M4X.5NO2	M4 x 0.50 mm	1
E513M4X.5NO3	M4 x 0.50 mm	1
E513M4X.5NO7	M4 x 0.50 mm	1
E513M5X.5NO1	M5 x 0.50 mm	1
E513M5X.5NO2	M5 x 0.50 mm	1
E513M5X.5NO3	M5 x 0.50 mm	1
E513M5X.5NO7	M5 x 0.50 mm	1
E513M5X.75NO1	M5 x 0.75 mm	1
E513M5X.75NO2	M5 x 0.75 mm	1
E513M5X.75NO3	M5 x 0.75 mm	1
E513M6X.5NO1	M6 x 0.50 mm	1
E513M6X.5NO2	M6 x 0.50 mm	1
E513M6X.5NO3	M6 x 0.50 mm	1
E513M6X.75NO1	M6 x 0.75 mm	1
E513M6X.75NO2	M6 x 0.75 mm	1
E513M6X.75NO3	M6 x 0.75 mm	1
E513M6X.75NO7	M6 x 0.75 mm	1
E513M7X.75NO1	M7 x 0.75 mm	1
E513M7X.75NO2	M7 x 0.75 mm	1
E513M7X.75NO3	M7 x 0.75 mm	1
E513M8X.5NO1	M8 x 0.50 mm	1
E513M8X.5NO2	M8 x 0.50 mm	1
E513M8X.5NO3	M8 x 0.50 mm	1
E513M8X.75NO1	M8 x 0.75 mm	1
E513M8X.75NO2	M8 x 0.75 mm	1
E513M8X.75NO3	M8 x 0.75 mm	1
E513M8X.75NO7	M8 x 0.75 mm	1
E513M8X1.0NO1	M8 x 1.00 mm	1
E513M8X1.0NO2	M8 x 1.00 mm	1
E513M8X1.0NO3	M8 x 1.00 mm	1
E513M8X1.0NO7	M8 x 1.00 mm	1
E513M9X.75NO3	M9 x 0.75 mm	1
E513M9X1.0NO1	M9 x 1.00 mm	1
E513M9X1.0NO2	M9 x 1.00 mm	1
E513M9X1.0NO3	M9 x 1.00 mm	1
E513M10X.5NO3	M10 x 0.50 mm	1
E513M10X.75NO1	M10 x 0.75 mm	1
E513M10X.75NO2	M10 x 0.75 mm	1
E513M10X.75NO3	M10 x 0.75 mm	1
E513M10X1.0NO1	M10 x 1.00 mm	1
E513M10X1.0NO2	M10 x 1.00 mm	1
E513M10X1.0NO3	M10 x 1.00 mm	1
E513M10X1.0NO6	M10 x 1.00 mm	1
E513M10X1.0NO7	M10 x 1.00 mm	1
E513M10X1.25NO1	M10 x 1.25 mm	1
E513M10X1.25NO2	M10 x 1.25 mm	1
E513M10X1.25NO3	M10 x 1.25 mm	1
E513M10X1.25NO6	M10 x 1.25 mm	1
E513M10X1.25NO7	M10 x 1.25 mm	1
E513M11X.75NO1	M11 x 0.75 mm	1
E513M11X.75NO2	M11 x 0.75 mm	1
E513M11X.75NO3	M11 x 0.75 mm	1
E513M11X1.0NO1	M11 x 1.00 mm	1
E513M11X1.0NO2	M11 x 1.00 mm	1
E513M11X1.0NO3	M11 x 1.00 mm	1
E513M11X1.25NO3	M11 x 1.25 mm	1
E513M12X.75NO3	M12 x 0.75 mm	1
E513M12X1.0NO1	M12 x 1.00 mm	1
E513M12X1.0NO2	M12 x 1.00 mm	1
E513M12X1.0NO3	M12 x 1.00 mm	1
E513M12X1.0NO7	M12 x 1.00 mm	1
E513M12X1.25NO1	M12 x 1.25 mm	1
E513M12X1.25NO2	M12 x 1.25 mm	1
E513M12X1.25NO3	M12 x 1.25 mm	1
E513M12X1.25NO6	M12 x 1.25 mm	1
E513M12X1.25NO7	M12 x 1.25 mm	1
E513M12X1.5NO1	M12 x 1.50 mm	1
E513M12X1.5NO2	M12 x 1.50 mm	1
E513M12X1.5NO3	M12 x 1.50 mm	1
E513M12X1.5NO6	M12 x 1.50 mm	1
E513M12X1.5NO7	M12 x 1.50 mm	1
E513M13X1.5NO3	M13 x 1.50 mm	1
E513M14X1.0NO1	M14 x 1.00 mm	1
E513M14X1.0NO2	M14 x 1.00 mm	1
E513M14X1.0NO3	M14 x 1.00 mm	1
E513M14X1.0NO7	M14 x 1.00 mm	1
E513M14X1.25NO1	M14 x 1.25 mm	1
E513M14X1.25NO2	M14 x 1.25 mm	1
E513M14X1.25NO3	M14 x 1.25 mm	1
E513M14X1.25NO6	M14 x 1.25 mm	1
E513M14X1.5NO1	M14 x 1.50 mm	1
E513M14X1.5NO2	M14 x 1.50 mm	1
E513M14X1.5NO3	M14 x 1.50 mm	1
E513M14X1.5NO6	M14 x 1.50 mm	1
E513M14X1.5NO7	M14 x 1.50 mm	1
E513M15X1.5NO2	M15 x 1.50 mm	1
E513M15X1.5NO3	M15 x 1.50 mm	1
E513M16X1.0NO1	M16 x 1.00 mm	1
E513M16X1.0NO2	M16 x 1.00 mm	1
E513M16X1.0NO3	M16 x 1.00 mm	1
E513M16X1.0NO7	M16 x 1.00 mm	1
E513M16X1.25NO3	M16 x 1.25 mm	1
E513M16X1.5NO1	M16 x 1.50 mm	1
E513M16X1.5NO2	M16 x 1.50 mm	1
E513M16X1.5NO3	M16 x 1.50 mm	1
E513M16X1.5NO6	M16 x 1.50 mm	1
E513M16X1.5NO7	M16 x 1.50 mm	1
E513M18X1.0NO1	M18 x 1.00 mm	1
E513M18X1.0NO2	M18 x 1.00 mm	1
E513M18X1.0NO3	M18 x 1.00 mm	1
E513M18X1.0NO7	M18 x 1.00 mm	1
E513M18X1.5NO1	M18 x 1.50 mm	1
E513M18X1.5NO2	M18 x 1.50 mm	1
E513M18X1.5NO3	M18 x 1.50 mm	1
E513M18X1.5NO6	M18 x 1.50 mm	1
E513M18X1.5NO7	M18 x 1.50 mm	1
E513M18X2.0NO1	M18 x 2.00 mm	1
E513M18X2.0NO2	M18 x 2.00 mm	1
E513M18X2.0NO3	M18 x 2.00 mm	1
E513M18X2.0NO7	M18 x 2.00 mm	1
E513M20X1.0NO1	M20 x 1.00 mm	1
E513M20X1.0NO2	M20 x 1.00 mm	1
E513M20X1.0NO3	M20 x 1.00 mm	1
E513M20X1.0NO7	M20 x 1.00 mm	1
E513M20X1.5NO1	M20 x 1.50 mm	1
E513M20X1.5NO2	M20 x 1.50 mm	1
E513M20X1.5NO3	M20 x 1.50 mm	1
E513M20X1.5NO6	M20 x 1.50 mm	1
E513M20X1.5NO7	M20 x 1.50 mm	1
E513M20X2.0NO1	M20 x 2.00 mm	1
E513M20X2.0NO2	M20 x 2.00 mm	1
E513M20X2.0NO3	M20 x 2.00 mm	1
E513M20X2.0NO7	M20 x 2.00 mm	1
E513M22X1.0NO2	M22 x 1.00 mm	1
E513M22X1.0NO3	M22 x 1.00 mm	1
E513M22X1.0NO7	M22 x 1.00 mm	1
E513M22X1.5NO1	M22 x 1.50 mm	1
E513M22X1.5NO2	M22 x 1.50 mm	1
E513M22X1.5NO3	M22 x 1.50 mm	1
E513M22X1.5NO7	M22 x 1.50 mm	1
E513M22X2.0NO1	M22 x 2.00 mm	1
E513M22X2.0NO2	M22 x 2.00 mm	1
E513M22X2.0NO3	M22 x 2.00 mm	1
E513M22X2.0NO7	M22 x 2.00 mm	1
E513M24X1.0NO2	M24 x 1.00 mm	1
E513M24X1.0NO3	M24 x 1.00 mm	1
E513M24X1.5NO1	M24 x 1.50 mm	1
E513M24X1.5NO2	M24 x 1.50 mm	1
E513M24X1.5NO3	M24 x 1.50 mm	1
E513M24X1.5NO7	M24 x 1.50 mm	1
E513M24X2.0NO1	M24 x 2.00 mm	1
E513M24X2.0NO2	M24 x 2.00 mm	1
E513M24X2.0NO3	M24 x 2.00 mm	1
E513M24X2.0NO7	M24 x 2.00 mm	1
E513M25X1.5NO1	M25 x 1.50 mm	1
E513M25X1.5NO2	M25 x 1.50 mm	1
E513M25X1.5NO3	M25 x 1.50 mm	1
E513M25X1.5NO6	M25 x 1.50 mm	1
E513M25X1.5NO7	M25 x 1.50 mm	1
E513M26X1.5NO2	M26 x 1.50 mm	1
E513M26X1.5NO3	M26 x 1.50 mm	1
E513M27X1.5NO2	M27 x 1.50 mm	1
E513M27X1.5NO3	M27 x 1.50 mm	1
E513M27X2.0NO3	M27 x 2.00 mm	1
E513M28X1.5NO2	M28 x 1.50 mm	1
E513M28X1.5NO3	M28 x 1.50 mm	1
E513M30X1.5NO2	M30 x 1.50 mm	1
E513M30X1.5NO3	M30 x 1.50 mm	1
E513M30X2.0NO2	M30 x 2.00 mm	1
E513M30X2.0NO3	M30 x 2.00 mm	1
E513M32X1.5NO1	M32 x 1.50 mm	1
E513M32X1.5NO2	M32 x 1.50 mm	1
E513M32X1.5NO3	M32 x 1.50 mm	1
E513M33X2.0NO2	M33 x 2.00 mm	1
E513M33X2.0NO3	M33 x 2.00 mm	1
E513M35X1.5NO2	M35 x 1.50 mm	1
E513M35X1.5NO3	M35 x 1.50 mm	1
E513M36X1.5NO3	M36 x 1.50 mm	1
E513M36X2.0NO2	M36 x 2.00 mm	1
E513M36X2.0NO3	M36 x 2.00 mm	1
E513M36X3.0NO2	M36 x 3.00 mm	1
E513M36X3.0NO3	M36 x 3.00 mm	1
E513M39X3.0NO2	M39 x 3.00 mm	1
E513M39X3.0NO3	M39 x 3.00 mm	1
E513M40X1.5NO2	M40 x 1.50 mm	1
E513M40X1.5NO3	M40 x 1.50 mm	1
E513M42X1.5NO2	M42 x 1.50 mm	1
E513M42X1.5NO3	M42 x 1.50 mm	1
E513M42X3.0NO3	M42 x 3.00 mm	1
E513M45X1.5NO2	M45 x 1.50 mm	1
E513M45X1.5NO3	M45 x 1.50 mm	1
E513M48X1.5NO3	M48 x 1.50 mm	1
E513M48X2.0NO3	M48 x 2.00 mm	1
E513M48X3.0NO3	M48 x 3.00 mm	1
E513M50X1.5NO2	M50 x 1.50 mm	1
E513M50X1.5NO3	M50 x 1.50 mm	1

E515

UNC Macho manual de perfil completo

UNC | HSS | Bright | ISO 529 | R | 1.5×D | 2B



e-Code	Descrição	M
E5151-64NO1	No.1 x 64	1
E5151-64NO2	No.1 x 64	1
E5151-64NO3	No.1 x 64	1
E5151-64NO6	No.1 x 64	1
E5152-56NO1	No.2 x 56	1
E5152-56NO2	No.2 x 56	1
E5152-56NO3	No.2 x 56	1
E5152-56NO6	No.2 x 56	1
E5153-48NO1	No.3 x 48	1
E5153-48NO2	No.3 x 48	1
E5153-48NO3	No.3 x 48	1
E5153-48NO6	No.3 x 48	1
E5154-40NO1	No.4 x 40	1
E5154-40NO2	No.4 x 40	1
E5154-40NO3	No.4 x 40	1
E5154-40NO6	No.4 x 40	1
E5155-40NO1	No.5 x 40	1
E5155-40NO2	No.5 x 40	1
E5155-40NO3	No.5 x 40	1
E5155-40NO6	No.5 x 40	1
E5156-32NO1	No.6 x 32	1
E5156-32NO2	No.6 x 32	1
E5156-32NO3	No.6 x 32	1
E5156-32NO6	No.6 x 32	1
E5158-32NO1	No.8 x 32	1
E5158-32NO2	No.8 x 32	1
E5158-32NO3	No.8 x 32	1
E5158-32NO6	No.8 x 32	1
E51510-24NO1	No.10 x 24	1
E51510-24NO2	No.10 x 24	1
E51510-24NO3	No.10 x 24	1
E51510-24NO6	No.10 x 24	1
E51512-24NO1	No.12 x 24	1
E51512-24NO2	No.12 x 24	1
E51512-24NO3	No.12 x 24	1
E51512-24NO6	No.12 x 24	1
E5151/4NO1	1/4" x 20	1
E5151/4NO2	1/4" x 20	1
E5151/4NO3	1/4" x 20	1
E5151/4NO6	1/4" x 20	1
E5155/16NO1	5/16" x 18	1
E5155/16NO2	5/16" x 18	1
E5155/16NO3	5/16" x 18	1
E5155/16NO6	5/16" x 18	1
E5153/8NO1	3/8" x 16	1
E5153/8NO2	3/8" x 16	1
E5153/8NO3	3/8" x 16	1
E5153/8NO6	3/8" x 16	1
E5157/16NO1	7/16" x 14	1
E5157/16NO2	7/16" x 14	1
E5157/16NO3	7/16" x 14	1
E5157/16NO6	7/16" x 14	1
E5151/2NO1	1/2" x 13	1
E5151/2NO2	1/2" x 13	1
E5151/2NO3	1/2" x 13	1
E5151/2NO6	1/2" x 13	1
E5159/16NO1	9/16 x 12	1
E5159/16NO2	9/16 x 12	1
E5159/16NO3	9/16 x 12	1
E5159/16NO6	9/16 x 12	1
E5155/8NO1	5/8" x 11	1
E5155/8NO2	5/8" x 11	1
E5155/8NO3	5/8" x 11	1
E5155/8NO6	5/8" x 11	1
E5153/4NO1	3/4" x 10	1
E5153/4NO2	3/4" x 10	1
E5153/4NO3	3/4" x 10	1
E5153/4NO6	3/4" x 10	1
E5157/8NO1	7/8" x 9	1
E5157/8NO2	7/8" x 9	1
E5157/8NO3	7/8" x 9	1
E5157/8NO6	7/8" x 9	1
E5151NO1	1" x 8	1
E5151NO2	1" x 8	1
E5151NO3	1" x 8	1
E5151NO6	1" x 8	1
E5151.1/8NO1	1.1/8" x 7	1
E5151.1/8NO2	1.1/8" x 7	1
E5151.1/8NO3	1.1/8" x 7	1
E5151.1/4NO1	1.1/4" x 7	1
E5151.1/4NO2	1.1/4" x 7	1
E5151.1/4NO3	1.1/4" x 7	1
E5151.3/8NO1	1.3/8" x 6	1
E5151.3/8NO2	1.3/8" x 6	1
E5151.3/8NO3	1.3/8" x 6	1
E5151.1/2NO1	1.1/2" x 6	1
E5151.1/2NO2	1.1/2" x 6	1
E5151.1/2NO3	1.1/2" x 6	1
E5151.3/4NO1	1.3/4" x 5	1
E5151.3/4NO2	1.3/4" x 5	1
E5151.3/4NO3	1.3/4" x 5	1
E5152NO1	2" x 4.5	1
E5152NO2	2" x 4.5	1
E5152NO3	2" x 4.5	1

E524

UNF Macho manual de perfil completo

UNF | HSS | Bright | ISO 529 | R | 1.5×D | 2B



e-Code	Descrição	M
E5240-80NO1	No.0 x 80	1
E5240-80NO2	No.0 x 80	1
E5240-80NO3	No.0 x 80	1
E5241-72NO1	No.1 x 72	1
E5241-72NO2	No.1 x 72	1
E5241-72NO3	No.1 x 72	1
E5242-64NO1	No.2 x 64	1
E5242-64NO2	No.2 x 64	1
E5242-64NO3	No.2 x 64	1
E5244-48NO1	No.4 x 48	1
E5244-48NO2	No.4 x 48	1
E5244-48NO3	No.4 x 48	1
E5245-44NO1	No.5 x 44	1
E5245-44NO2	No.5 x 44	1
E5245-44NO3	No.5 x 44	1
E5246-40NO1	No.6 x 40	1
E5246-40NO2	No.6 x 40	1
E5246-40NO3	No.6 x 40	1
E5248-36NO1	No.8 x 36	1
E5248-36NO2	No.8 x 36	1
E5248-36NO3	No.8 x 36	1
E52410-32NO1	No.10 x 32	1
E52410-32NO2	No.10 x 32	1
E52410-32NO3	No.10 x 32	1
E52410-32NO6	No.10 x 32	1
E52412-28NO1	No.12 x 28	1
E52412-28NO2	No.12 x 28	1
E52412-28NO3	No.12 x 28	1
E52412-28NO6	No.12 x 28	1
E5241/4NO1	1/4" x 28	1
E5241/4NO2	1/4" x 28	1
E5241/4NO3	1/4" x 28	1
E5241/4NO6	1/4" x 28	1
E5245/16NO1	5/16" x 24	1
E5245/16NO2	5/16" x 24	1
E5245/16NO3	5/16" x 24	1
E5245/16NO6	5/16" x 24	1
E5243/8NO1	3/8" x 24	1
E5243/8NO2	3/8" x 24	1
E5243/8NO3	3/8" x 24	1
E5243/8NO6	3/8" x 24	1
E5247/16NO1	7/16" x 20	1
E5247/16NO2	7/16" x 20	1
E5247/16NO3	7/16" x 20	1
E5247/16NO6	7/16" x 20	1
E5241/2NO1	1/2" x 20	1
E5241/2NO2	1/2" x 20	1
E5241/2NO3	1/2" x 20	1
E5241/2NO6	1/2" x 20	1
E5249/16NO1	9/16" x 18	1
E5249/16NO2	9/16" x 18	1
E5249/16NO3	9/16" x 18	1
E5249/16NO6	9/16" x 18	1
E5245/8NO1	5/8" x 18	1
E5245/8NO2	5/8" x 18	1
E5245/8NO3	5/8" x 18	1
E5245/8NO6	5/8" x 18	1
E5243/4NO1	3/4" x 16	1
E5243/4NO2	3/4" x 16	1
E5243/4NO3	3/4" x 16	1
E5243/4NO6	3/4" x 16	1
E5247/8NO1	7/8" x 14	1
E5247/8NO2	7/8" x 14	1
E5247/8NO3	7/8" x 14	1
E5247/8NO6	7/8" x 14	1
E5241NO1	1" x 12	1
E5241NO2	1" x 12	1
E5241NO3	1" x 12	1
E5241NO6	1" x 12	1
E5241.1/8NO1	1.1/8" x 12	1
E5241.1/8NO2	1.1/8" x 12	1
E5241.1/8NO3	1.1/8" x 12	1
E5241.1/4NO1	1.1/4" x 12	1
E5241.1/4NO2	1.1/4" x 12	1
E5241.1/4NO3	1.1/4" x 12	1
E5241.3/8NO1	1.3/8" x 12	1
E5241.3/8NO2	1.3/8" x 12	1
E5241.3/8NO3	1.3/8" x 12	1
E5241.1/2NO1	1.1/2" x 12	1
E5241.1/2NO2	1.1/2" x 12	1
E5241.1/2NO3	1.1/2" x 12	1

E531

BSW Macho manual de perfil completo

BSW | HSS | Bright | ISO 529 | R | 1.5×D | Medium



e-Code	Descrição	M
E5311/8NO1	1/8" x 40	1
E5311/8NO2	1/8" x 40	1
E5311/8NO3	1/8" x 40	1
E5311/8NO6	1/8" x 40	1
E5315/32NO1	5/32" x 32	1
E5315/32NO2	5/32" x 32	1
E5315/32NO3	5/32" x 32	1
E5315/32NO6	5/32" x 32	1
E5313/16NO1	3/16" x 24	1
E5313/16NO2	3/16" x 24	1
E5313/16NO3	3/16" x 24	1
E5313/16NO6	3/16" x 24	1
E5311/4NO1	1/4" x 20	1
E5311/4NO2	1/4" x 20	1
E5311/4NO3	1/4" x 20	1
E5311/4NO6	1/4" x 20	1
E5315/16NO1	5/16" x 18	1
E5315/16NO2	5/16" x 18	1
E5315/16NO3	5/16" x 18	1
E5315/16NO6	5/16" x 18	1
E5313/8NO1	3/8" x 16	1
E5313/8NO2	3/8" x 16	1
E5313/8NO3	3/8" x 16	1
E5313/8NO6	3/8" x 16	1
E5317/16NO1	7/16" x 14	1
E5317/16NO2	7/16" x 14	1
E5317/16NO3	7/16" x 14	1
E5317/16NO6	7/16" x 14	1
E5311/2NO1	1/2" x 12	1
E5311/2NO2	1/2" x 12	1
E5311/2NO3	1/2" x 12	1
E5311/2NO6	1/2" x 12	1
E5315/8NO1	5/8" x 11	1
E5315/8NO2	5/8" x 11	1
E5315/8NO3	5/8" x 11	1
E5315/8NO6	5/8" x 11	1
E5313/4NO1	3/4" x 10	1
E5313/4NO2	3/4" x 10	1
E5313/4NO3	3/4" x 10	1
E5313/4NO6	3/4" x 10	1
E5311NO1	1" x 8	1
E5311NO2	1" x 8	1
E5311NO3	1" x 8	1
E5311NO6	1" x 8	1

E533

BSW Macho máquina canal helicoidal 40°

BSW | HSS | Bright ST | ISO 529 | R | 1.5×D | Medium



e-Code	Descrição	M
E5331/8	1/8" x 40	1
E5331/8BLUE	1/8" x 40	1
E5333/16	3/16" x 24	1
E5333/16BLUE	3/16" x 24	1
E5331/4	1/4" x 20	1
E5331/4BLUE	1/4" x 20	1
E5335/16	5/16" x 18	1
E5335/16BLUE	5/16" x 18	1
E5333/8	3/8" x 16	1
E5333/8BLUE	3/8" x 16	1
E5331/2	1/2" x 12	1
E5331/2BLUE	1/2" x 12	1
E5335/8	5/8" x 11	1
E5335/8BLUE	5/8" x 11	1
E5333/4	3/4" x 10	1
E5333/4BLUE	3/4" x 10	1

E534

BSW Macho máquina ponta helicoidal 40°

BSW | HSS | ST | ISO 529 | R | 2.5×D | Medium | B 3.5-5



e-Code	Descrição	M
E5341/8	1/8" x 40	1
E5345/32	5/32" x 32	1
E5343/16	3/16" x 24	1
E5341/4	1/4" x 20	1
E5345/16	5/16" x 18	1
E5343/8	3/8" x 16	1
E5347/16	7/16" x 14	1
E5341/2	1/2" x 12	1
E5345/8	5/8" x 11	1
E5343/4	3/4" x 10	1

E536

BSF Macho manual de perfil completo

BSF | HSS | Bright | ISO 529 | R | 1.5×D | Medium



e-Code	Descrição	M
E5363/16NO1	3/16" x 32	1
E5363/16NO2	3/16" x 32	1
E5363/16NO3	3/16" x 32	1
E5363/16NO6	3/16" x 32	1
E5361/4NO1	1/4" x 26	1
E5361/4NO2	1/4" x 26	1
E5361/4NO3	1/4" x 26	1
E5361/4NO6	1/4" x 26	1
E5365/16NO1	5/16" x 22	1
E5365/16NO2	5/16" x 22	1
E5365/16NO3	5/16" x 22	1
E5365/16NO6	5/16" x 22	1
E5363/8NO1	3/8" x 20	1
E5363/8NO2	3/8" x 20	1
E5363/8NO3	3/8" x 20	1
E5363/8NO6	3/8" x 20	1
E5367/16NO1	7/16" x 18	1
E5367/16NO2	7/16" x 18	1
E5367/16NO3	7/16" x 18	1
E5361/2NO1	1/2" x 16	1
E5361/2NO2	1/2" x 16	1
E5361/2NO3	1/2" x 16	1
E5361/2NO6	1/2" x 16	1
E5369/16NO1	9/16" x 16	1
E5369/16NO2	9/16" x 16	1
E5369/16NO3	9/16" x 16	1
E5365/8NO1	5/8" x 14	1
E5365/8NO2	5/8" x 14	1
E5365/8NO3	5/8" x 14	1
E5363/4NO1	3/4" x 12	1
E5363/4NO2	3/4" x 12	1
E5363/4NO3	3/4" x 12	1
E5367/8NO1	7/8" x 11	1
E5367/8NO2	7/8" x 11	1
E5367/8NO3	7/8" x 11	1
E5367/8NO6	7/8" x 11	1
E5361NO1	1" x 10	1
E5361NO2	1" x 10	1
E5361NO3	1" x 10	1

E538

BSF Macho máquina canal helicoidal 40°

BSF | HSS | Bright ST | ISO 529 | R | 2×D | Medium | C 2-3



e-Code	Descrição	M
E5381/4	1/4" x 26	1
E5381/4BLUE	1/4" x 26	1
E5385/16	5/16" x 22	1
E5385/16BLUE	5/16" x 22	1
E5383/8	3/8" x 20	1
E5383/8BLUE	3/8" x 20	1
E5381/2	1/2" x 16	1
E5381/2BLUE	1/2" x 16	1

E539

BSF Macho máquina ponta helicoidal

BSF | HSS | ST | ISO 529 | R | 2.5×D | Medium | B 3.5-5



e-Code	Descrição	M
E5391/4	1/4" x 26	1
E5393/8	3/8" x 20	1
E5395/16	5/16" x 22	1
E5391/2	1/2" x 16	1

E542

BA Macho manual de perfil completo

BA | HSS | Bright | ISO 529 | R | 1.5×D | Normal



e-Code	Descrição	M
E542BA10NO1	No.10	1
E542BA10NO2	No.10	1
E542BA10NO3	No.10	1
E542BA10NO6	No.10	1
E542BA8NO1	No.8	1
E542BA8NO2	No.8	1
E542BA8NO3	No.8	1
E542BA8NO6	No.8	1
E542BA6NO1	No.6	1
E542BA6NO2	No.6	1
E542BA6NO3	No.6	1
E542BA6NO6	No.6	1
E542BA5NO1	No.5	1
E542BA5NO2	No.5	1
E542BA5NO3	No.5	1
E542BA5NO6	No.5	1

E542BA4NO1	No.4	1
E542BA4NO2	No.4	1
E542BA4NO3	No.4	1
E542BA4NO6	No.4	1
E542BA3NO1	No.3	1
E542BA3NO2	No.3	1
E542BA3NO3	No.3	1
E542BA3NO6	No.3	1
E542BA2NO1	No.2	1
E542BA2NO2	No.2	1
E542BA2NO3	No.2	1
E542BA2NO6	No.2	1
E542BA0NO1	No.0	1
E542BA0NO2	No.0	1
E542BA0NO3	No.0	1
E542BA0NO6	No.0	1

E544

BA Macho máquina canal helicoidal 40°

BA | HSS | Bright ST | ISO 529 | R | 2×D | Normal | C 2-3



e-Code	Descrição	M
E544BA8	No.8	1
E544BA8BLUE	No.8	1
E544BA6	No.6	1
E544BA6BLUE	No.6	1
E544BA4	No.4	1
E544BA4BLUE	No.4	1
E544BA2	No.2	1
E544BA2BLUE	No.2	1

E545

BA Macho máquina ponta helicoidal

BA | HSS | ST | ISO 529 | R | 2.5×D | Normal | B 3.5-5



e-Code	Descrição	M
E545BA10	No.10	1
E545BA8	No.8	1
E545BA6	No.6	1
E545BA4	No.4	1
E545BA2	No.2	1

E547

G(BSP) Macho manual de perfil completo

G | HSS | Bright | ISO 2284 | R | 1.5×D | Normal



e-Code	Descrição	M
E5471/8NO1	1/8" x 28	1
E5471/8NO2	1/8" x 28	1
E5471/8NO3	1/8" x 28	1
E5471/8NO7	1/8" x 28	1
E5471/4NO1	1/4" x 19	1
E5471/4NO2	1/4" x 19	1
E5471/4NO3	1/4" x 19	1
E5471/4NO7	1/4" x 19	1
E5473/8NO1	3/8" x 19	1
E5473/8NO2	3/8" x 19	1
E5473/8NO3	3/8" x 19	1
E5473/8NO7	3/8" x 19	1
E5471/2NO1	1/2" x 14	1
E5471/2NO2	1/2" x 14	1
E5471/2NO3	1/2" x 14	1
E5471/2NO7	1/2" x 14	1
E5475/8NO1	5/8" x 14	1
E5475/8NO2	5/8" x 14	1
E5475/8NO3	5/8" x 14	1
E5475/8NO7	5/8" x 14	1
E5473/4NO1	3/4" x 14	1
E5473/4NO2	3/4" x 14	1
E5473/4NO3	3/4" x 14	1
E5473/4NO7	3/4" x 14	1
E5477/8NO1	7/8" x 14	1
E5477/8NO2	7/8" x 14	1
E5477/8NO3	7/8" x 14	1
E5471NO1	1" x 11	1
E5471NO2	1" x 11	1
E5471NO3	1" x 11	1
E5471.1/4NO1	1.1/4" x 11	1
E5471.1/4NO2	1.1/4" x 11	1
E5471.1/4NO3	1.1/4" x 11	1
E5471.1/2NO1	1.1/2" x 11	1
E5471.1/2NO2	1.1/2" x 11	1
E5471.1/2NO3	1.1/2" x 11	1
E5472NO1	2" x 11	1
E5472NO2	2" x 11	1
E5472NO3	2" x 11	1

E550

Rc Macho máquina canal reto

Rc | HSS | Bright | ISO 2284 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E5501/8	1/8" x 28	1
E5501/8NO7	1/8" x 28	1
E5501/4	1/4" x 19	1
E5501/4NO7	1/4" x 19	1
E5503/8	3/8" x 19	1
E5503/8NO7	3/8" x 19	1
E5501/2	1/2" x 14	1
E5501/2NO7	1/2" x 14	1
E5503/4	3/4" x 14	1
E5503/4NO7	3/4" x 14	1
E5501	1" x 11	1
E5501.1/4	1.1/4" x 11	1
E5501.1/2	1.1/2" x 11	1
E5502	2" x 11	1

E570

UN Macho máquina canal reto

UN | HSS | Bright | ISO 529 | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E5701/4X32NO3	1/4" x 32	1
E5701/4X36NO3	1/4" x 36	1
E5701/4X40NO3	1/4" x 40	1
E5705/16X32NO3	5/16" x 32	1
E5703/8X32NO3	3/8" x 32	1
E5707/16X24NO3	7/16" x 24	1
E5707/16X28NO3	7/16" x 28	1
E5701/2X28NO3	1/2" x 28	1
E5709/16X24NO3	9/16" x 24	1
E5705/8X24NO3	5/8" x 24	1
E5703/4X20NO3	3/4" x 20	1
E5707/8X20NO3	7/8" x 20	1
E5701X14NO3	1" x 14	1
E5701.1/16X12NO3	1.1/16" x 12	1
E5701.1/8X8NO3	1.1/8" x 8	1
E5701.3/16X12NO3	1.3/16" x 12	1
E5701.1/4X8NO3	1.1/4" x 8	1
E5701.5/16X12NO3	1.5/16" x 12	1

E600

M Macho máquina extra longo canal reto

M | HSS-E PM | Bright | ISO 2283 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E600M3NO3	M3 x 0.50 mm	1
E600M4NO1	M4 x 0.70 mm	1
E600M4NO2	M4 x 0.70 mm	1
E600M4NO3	M4 x 0.70 mm	1
E600M5NO1	M5 x 0.80 mm	1
E600M5NO2	M5 x 0.80 mm	1
E600M5NO3	M5 x 0.80 mm	1
E600M6NO1	M6 x 1.00 mm	1
E600M6NO2	M6 x 1.00 mm	1
E600M6NO3	M6 x 1.00 mm	1
E600M8NO1	M8 x 1.25 mm	1
E600M8NO2	M8 x 1.25 mm	1
E600M8NO3	M8 x 1.25 mm	1
E600M10NO1	M10 x 1.50 mm	1
E600M10NO2	M10 x 1.50 mm	1
E600M10NO3	M10 x 1.50 mm	1
E600M12NO1	M12 x 1.75 mm	1
E600M12NO2	M12 x 1.75 mm	1
E600M12NO3	M12 x 1.75 mm	1
E600M16NO3	M16 x 2.00 mm	1
E600M20NO3	M20 x 2.50 mm	1

E605

M Macho máquina extra longo canal helicoidal 40°

M | HSS-E PM | Bright | ISO 2283 | R | 2×D | 6H | C 2-3



e-Code	Descrição	M
E605M3	M3 x 0.50 mm	1
E605M4	M4 x 0.70 mm	1
E605M5	M5 x 0.80 mm	1
E605M6	M6 x 1.00 mm	1
E605M8	M8 x 1.25 mm	1
E605M10	M10 x 1.50 mm	1
E605M12	M12 x 1.75 mm	1
E605M14	M14 x 2.00 mm	1
E605M16	M16 x 2.00 mm	1
E605M20	M20 x 2.50 mm	1

E606

M Macho máquina extra longo ponta helicoidal

M | HSS-E PM | Bright | ISO 2283 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
E606M3	M3 x 0.50 mm	1
E606M4	M4 x 0.70 mm	1
E606M5	M5 x 0.80 mm	1
E606M6	M6 x 1.00 mm	1
E606M8	M8 x 1.25 mm	1
E606M10	M10 x 1.50 mm	1
E606M12	M12 x 1.75 mm	1
E606M14	M14 x 2.00 mm	1
E606M16	M16 x 2.00 mm	1
E606M20	M20 x 2.50 mm	1
E606M24	M24 x 3.00 mm	1

E610

M Macho máquina extra longo canal reto

M | HSS-E PM | TiN | ISO 2283 | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E610M3NO3	M3 x 0.50 mm	1
E610M4NO3	M4 x 0.70 mm	1
E610M5NO3	M5 x 0.80 mm	1
E610M6NO3	M6 x 1.00 mm	1
E610M8NO3	M8 x 1.25 mm	1
E610M10NO3	M10 x 1.50 mm	1
E610M12NO3	M12 x 1.75 mm	1
E610M16NO3	M16 x 2.00 mm	1

E620

EGM Macho máquina canal reto

EGM | HSS | Bright | ISO DORMER | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E620M3	M3 x 0.50 mm	1
E620M4	M4 x 0.70 mm	1
E620M5	M5 x 0.80 mm	1
E620M6	M6 x 1.00 mm	1
E620M8	M8 x 1.25 mm	1
E620M10	M10 x 1.50 mm	1
E620M12	M12 x 1.75 mm	1
E620M14	M14 x 2.00 mm	1
E620M16	M16 x 2.00 mm	1

E621

EGM Macho máquina canal helicoidal 40°

EGM | HSS | Bright | ISO DORMER | R | 2×D | 6H | C 2-3



e-Code	Descrição	M
E621M3	M3 x 0.50 mm	1
E621M4	M4 x 0.70 mm	1
E621M5	M5 x 0.80 mm	1
E621M6	M6 x 1.00 mm	1
E621M8	M8 x 1.25 mm	1
E621M10	M10 x 1.50 mm	1
E621M12	M12 x 1.75 mm	1
E621M14	M14 x 2.00 mm	1
E621M16	M16 x 2.00 mm	1

E650

M Broca-macho canal helicoidal 30°

M | HSS | ST | ISO DORMER | R | 1.5×D | 6H | C 2-3



e-Code	Descrição	M
E650M3	M3 x 0.50 mm	1
E650M4	M4 x 0.70 mm	1
E650M5	M5 x 0.80 mm	1
E650M6	M6 x 1.00 mm	1
E650M8	M8 x 1.25 mm	1
E650M10	M10 x 1.50 mm	1
E650M12	M12 x 1.75 mm	1
E650M14	M14 x 2.00 mm	1
E650M16	M16 x 2.00 mm	1

E651

UNC Broca-macho canal helicoidal 30°

UNC | HSS | ST | DIN DORMER | R | 1.5×D | 2B | C 2-3



e-Code	Descrição	M
E6516-32	No.6 x 32	1
E6518-32	No.8 x 32	1
E65110-24	No.10 x 24	1
E65112-24	No.12 x 24	1
E6511/4	1/4" x 20	1
E6515/16	5/16" x 18	1
E6513/8	3/8" x 16	1
E6517/16	7/16" x 14	1
E6511/2	1/2" x 13	1
E6519/16	9/16" x 12	1
E6515/8	5/8" x 11	1

E652

Broca-macho revenida

BSW | HSS | ST | DIN DORMER | R | 1.5×D | C 2-3



e-Code	Descrição	M
E6525/32	5/32" x 32	1
E6523/16	3/16" x 24	1
E6521/4	1/4" x 20	1
E6525/16	5/16" x 18	1
E6523/8	3/8" x 16	1
E6521/2	1/2" x 12	1

E653

NPT Broca-macho canal helicoidal 27°

NPT | HSS | Bright | ANSI | R | 1.5×D | Normal



e-Code	Descrição	M
E6531/8	1/8" x 27	1
E6531/4	1/4" x 18	1
E6533/8	3/8" x 18	1
E6531/2	1/2" x 14	1
E6533/4	3/4" x 14	1
E6531	1" x 11.5	1

E654

UNF Broca-macho canal helicoidal 30°

UNF | HSS | ST | DIN DORMER | R | 1.5×D | Medium | C 2-3



e-Code	Descrição	M
E6548-36	No.8 x 36	1
E65410-32	No.10 x 32	1
E65412-28	No.12 x 28	1
E6541/4	1/4" x 28	1
E6545/16	5/16" x 24	1
E6543/8	3/8" x 24	1
E6547/16	7/16" x 20	1
E6541/2	1/2" x 20	1
E6545/8	5/8" x 18	1

E708

NPSM Macho máquina canal reto

NPSM | HSS | Bright | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7081/8	1/8" x 27	1
E7081/4	1/4" x 18	1
E7083/8	3/8" x 18	1
E7081/2	1/2" x 14	1
E7083/4	3/4" x 14	1
E7081	1" x 11.5	1

E709

NPSF Macho máquina canal reto

NPSF | HSS | Bright | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7091/8	1/8" x 27	1
E7091/4	1/4" x 18	1
E7093/8	3/8" x 18	1
E7091/2	1/2" x 14	1
E7093/4	3/4" x 14	1

E710

NPT Macho máquina canal reto

NPT | HSS | Bright | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7101/16NO3	1/16" x 27	1
E7101/8	1/8" x 27	1
E7101/8NO7	1/8" x 27	1
E7101/4	1/4" x 18	1
E7101/4NO7	1/4" x 18	1
E7103/8	3/8" x 18	1
E7103/8NO7	3/8" x 18	1
E7101/2	1/2" x 14	1
E7101/2NO7	1/2" x 14	1
E7103/4	3/4" x 14	1
E7103/4NO7	3/4" x 14	1
E7101	1" x 11.5	1
E7101.1/4	1.1/4" x 11.5	1
E7101.1/2	1.1/2" x 11.5	1
E7102	2" x 11.5	1

E711

NPT Macho máquina canal reto - rosca interrompida

NPT | HSS | Bright | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7111/8	1/8" x 27	1
E7111/4	1/4" x 18	1
E7113/8	3/8" x 18	1
E7111/2	1/2" x 14	1
E7113/4	3/4" x 14	1
E7111	1" x 11.5	1
E7111.1/2	1.1/2" x 11.5	1

E712

NPTF Macho máquina canal reto

NPTF | HSS | Bright | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7121/16	1/16" x 27	1
E7121/8	1/8" x 27	1
E7121/4	1/4" x 18	1
E7123/8	3/8" x 18	1
E7121/2	1/2" x 14	1
E7123/4	3/4" x 14	1
E7121	1" x 11.5	1
E7121.1/4	1.1/4" x 11.5	1

E714

NPT Macho máquina canal reto

NPT | HSS-E PM | Bright | ANSI DORMER | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7141/8	1/8" x 27	1
E7141/4	1/4" x 18	1
E7143/8	3/8" x 18	1
E7141/2	1/2" x 14	1
E7143/4	3/4" x 14	1
E7141	1" x 11.5	1

E720

NPSF Macho máquina canal reto

NPSF | HSS | TiN | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7201/8NO3	1/8" x 27	1
E7201/4NO3	1/4" x 18	1
E7203/8NO3	3/8" x 18	1
E7201/2NO3	1/2" x 14	1
E7203/4NO3	3/4" x 14	1

E721

NPT Macho máquina canal reto - rosca interrompida

NPT | HSS | TiN | ANSI B94.9 | R | 1.5×D | Normal | C 2-3



e-Code	Descrição	M
E7211/8	1/8" x 27	1
E7211/4	1/4" x 18	1
E7213/8	3/8" x 18	1
E7211/2	1/2" x 14	1
E7213/4	3/4" x 14	1
E7211	1" x 11.5	1

EP006G

M Macho máquina ponta helicoidal

M | HSS-E PM | Bright | DIN 371/376 | R | 2.5×D | 6G | B 3.5-5





e-Code	Descrição	M
EP006GM3	M3 x 0.50 mm	1
EP006GM4	M4 x 0.70 mm	1
EP006GM5	M5 x 0.80 mm	1
EP006GM6	M6 x 1.00 mm	1
EP006GM8	M8 x 1.25 mm	1
EP006GM10	M10 x 1.50 mm	1
EP006GM12	M12 x 1.75 mm	1
EP006GM16	M16 x 2.00 mm	1
EP006GM20	M20 x 2.50 mm	1

EP006H

M Macho máquina ponta helicoidal

M | HSS-E PM | Bright | DIN 371/376 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
EP00M2	M2 x 0.40 mm	1
EP00M2.5	M2.5 x 0.45 mm	1
EP00M3	M3 x 0.50 mm	1
EP00M3DIN376	M3 x 0.50 mm	1
EP00M3.5	M3.5 x 0.60 mm	1
EP00M4	M4 x 0.70 mm	1
EP00M4DIN376	M4 x 0.70 mm	1
EP00M4.5	M4.5 x 0.75 mm	1
EP00M5	M5 x 0.80 mm	1
EP00M5DIN376	M5 x 0.80 mm	1
EP00M6	M6 x 1.00 mm	1
EP00M6DIN376	M6 x 1.00 mm	1
EP00M7	M7 x 1.00 mm	1
EP00M8	M8 x 1.25 mm	1
EP00M8DIN376	M8 x 1.25 mm	1
EP00M10	M10 x 1.50 mm	1
EP00M10DIN376	M10 x 1.50 mm	1
EP00M12	M12 x 1.75 mm	1
EP00M14	M14 x 2.00 mm	1
EP00M16	M16 x 2.00 mm	1
EP00M18	M18 x 2.50 mm	1
EP00M20	M20 x 2.50 mm	1
EP00M22	M22 x 2.50 mm	1
EP00M24	M24 x 3.00 mm	1
EP00M27	M27 x 3.00 mm	1
EP00M30	M30 x 3.50 mm	1

EP00TIN

M Macho máquina ponta helicoidal

M | HSS-E PM | TiN | DIN 371/376 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
EP00TINM3	M3 x 0.50 mm	1
EP00TINM4	M4 x 0.70 mm	1
EP00TINM5	M5 x 0.80 mm	1
EP00TINM6	M6 x 1.00 mm	1
EP00TINM8	M8 x 1.25 mm	1
EP00TINM10	M10 x 1.50 mm	1
EP00TINM12	M12 x 1.75 mm	1
EP00TINM14	M14 x 2.00 mm	1
EP00TINM16	M16 x 2.00 mm	1
EP00TINM18	M18 x 2.50 mm	1
EP00TINM20	M20 x 2.50 mm	1
EP00TINM22	M22 x 2.50 mm	1
EP00TINM24	M24 x 3.00 mm	1
EP00TINM27	M27 x 3.00 mm	1
EP00TINM30	M30 x 3.50 mm	1

EP016H

M Macho máquina ponta helicoidal

M | HSS-E PM | ST | DIN 371/376 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
EP01M2	M2 x 0.40 mm	1
EP01M2.5	M2.5 x 0.45 mm	1
EP01M3	M3 x 0.50 mm	1
EP01M3DIN376	M3 x 0.50 mm	1
EP01M3.5	M3.5 x 0.60 mm	1
EP01M4	M4 x 0.70 mm	1
EP01M4DIN376	M4 x 0.70 mm	1
EP01M4.5	M4.5 x 0.75 mm	1
EP01M5	M5 x 0.80 mm	1
EP01M5DIN376	M5 x 0.80 mm	1
EP01M6	M6 x 1.00 mm	1
EP01M6DIN376	M6 x 1.00 mm	1
EP01M7	M7 x 1.00 mm	1
EP01M8	M8 x 1.25 mm	1
EP01M8DIN376	M8 x 1.25 mm	1
EP01M10	M10 x 1.50 mm	1
EP01M10DIN376	M10 x 1.50 mm	1
EP01M12	M12 x 1.75 mm	1
EP01M14	M14 x 2.00 mm	1
EP01M16	M16 x 2.00 mm	1
EP01M18	M18 x 2.50 mm	1
EP01M20	M20 x 2.50 mm	1
EP01M22	M22 x 2.50 mm	1
EP01M24	M24 x 3.00 mm	1
EP01M27	M27 x 3.00 mm	1
EP01M30	M30 x 3.50 mm	1

EP10

MF Macho máquina ponta helicoidal

MF | HSS-E PM | Bright | DIN 374 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
EP10M4X.5	M4 x 0.50 mm	1
EP10M5X.5	M5 x 0.50 mm	1
EP10M6X.75	M6 x 0.75 mm	1
EP10M8X.75	M8 x 0.75 mm	1
EP10M8X1.0	M8 x 1.00 mm	1
EP10M10X.75	M10 x 0.75 mm	1
EP10M10X1.0	M10 x 1.00 mm	1
EP10M10X1.25	M10 x 1.25 mm	1
EP10M12X1.0	M12 x 1.00 mm	1
EP10M12X1.25	M12 x 1.25 mm	1
EP10M12X1.5	M12 x 1.50 mm	1
EP10M14X1.0	M14 x 1.00 mm	1
EP10M14X1.25	M14 x 1.25 mm	1
EP10M14X1.5	M14 x 1.50 mm	1
EP10M16X1.0	M16 x 1.00 mm	1
EP10M16X1.5	M16 x 1.50 mm	1
EP10M18X1.0	M18 x 1.00 mm	1
EP10M18X1.5	M18 x 1.50 mm	1
EP10M20X1.0	M20 x 1.00 mm	1
EP10M20X1.5	M20 x 1.50 mm	1
EP10M22X1.5	M22 x 1.50 mm	1
EP10M24X1.5	M24 x 1.50 mm	1
EP10M24X2.0	M24 x 2.00 mm	1
EP10M25X1.5	M25 x 1.50 mm	1
EP10M26X1.5	M26 x 1.50 mm	1
EP10M27X1.5	M27 x 1.50 mm	1
EP10M27X2.0	M27 x 2.00 mm	1
EP10M28X1.5	M28 x 1.50 mm	1
EP10M30X1.5	M30 x 1.50 mm	1
EP10M30X2.0	M30 x 2.00 mm	1

EP10TIN

MF Macho máquina ponta helicoidal

MF | HSS-E PM | TiN | DIN 374 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
EP10TINM8X1.0	M8 x 1.00 mm	1
EP10TINM10X1.0	M10 x 1.00 mm	1
EP10TINM10X1.25	M10 x 1.25 mm	1
EP10TINM12X1.0	M12 x 1.00 mm	1
EP10TINM12X1.25	M12 x 1.25 mm	1
EP10TINM12X1.5	M12 x 1.50 mm	1
EP10TINM14X1.5	M14 x 1.50 mm	1
EP10TINM16X1.5	M16 x 1.50 mm	1
EP10TINM18X1.5	M18 x 1.50 mm	1
EP10TINM20X1.5	M20 x 1.50 mm	1

EP11

MF Macho máquina ponta helicoidal

MF | HSS-E PM | ST | DIN 374 | R | 2.5×D | 6H | B 3.5-5



e-Code	Descrição	M
EP11M4X.5	M4 x 0.50 mm	1
EP11M5X.5	M5 x 0.50 mm	1
EP11M6X.75	M6 x 0.75 mm	1
EP11M8X.75	M8 x 0.75 mm	1
EP11M8X1.0	M8 x 1.00 mm	1
EP11M10X.75	M10 x 0.75 mm	1
EP11M10X1.0	M10 x 1.00 mm	1
EP11M10X1.25	M10 x 1.25 mm	1
EP11M12X1.0	M12 x 1.00 mm	1
EP11M12X1.25	M12 x 1.25 mm	1
EP11M12X1.5	M12 x 1.50 mm	1
EP11M14X1.0	M14 x 1.00 mm	1
EP11M14X1.25	M14 x 1.25 mm	1
EP11M14X1.5	M14 x 1.50 mm	1
EP11M16X1.0	M16 x 1.00 mm	1
EP11M16X1.5	M16 x 1.50 mm	1
EP11M18X1.0	M18 x 1.00 mm	1
EP11M18X1.5	M18 x 1.50 mm	1
EP11M20X1.0	M20 x 1.00 mm	1
EP11M20X1.5	M20 x 1.50 mm	1
EP11M22X1.5	M22 x 1.50 mm	1
EP11M24X1.5	M24 x 1.50 mm	1
EP11M24X2.0	M24 x 2.00 mm	1
EP11M25X1.5	M25 x 1.50 mm	1
EP11M26X1.5	M26 x 1.50 mm	1
EP11M27X1.5	M27 x 1.50 mm	1
EP11M27X2.0	M27 x 2.00 mm	1
EP11M28X1.5	M28 x 1.50 mm	1
EP11M30X1.5	M30 x 1.50 mm	1
EP11M30X2.0	M30 x 2.00 mm	1

EP20

UNC Macho máquina ponta helicoidal

UNC | HSS-E PM | Bright | DIN 2184-1 | R | 2.5×D | 2B | B 3.5-5



e-Code	Descrição	M
EP204-40	No.4 x 40	1
EP205-40	No.5 x 40	1
EP206-32	No.6 x 32	1
EP208-32	No.8 x 32	1
EP2010-24	No.10 x 24	1
EP2012-24	No.12 x 24	1
EP201/4	1/4" x 20	1
EP205/16	5/16" x 18	1
EP203/8	3/8" x 16	1
EP207/16	7/16" x 14	1
EP201/2	1/2" x 13	1
EP205/8	5/8" x 11	1
EP203/4	3/4" x 10	1
EP207/8	7/8" x 9	1
EP201	1" x 8	1

EP21

UNC Macho máquina ponta helicoidal

UNC | HSS-E PM | ST | DIN 2184-1 | R | 2.5×D | 2B | B 3.5-5



e-Code	Descrição	M
EP214-40	No.4 x 40	1
EP215-40	No.5 x 40	1
EP216-32	No.6 x 32	1
EP218-32	No.8 x 32	1
EP2110-24	No.10 x 24	1
EP2112-24	No.12 x 24	1
EP211/4	1/4" x 20	1
EP215/16	5/16" x 18	1
EP213/8	3/8" x 16	1
EP217/16	7/16" x 14	1
EP211/2	1/2" x 13	1
EP215/8	5/8" x 11	1
EP213/4	3/4" x 10	1
EP217/8	7/8" x 9	1
EP211	1" x 8	1

EP30

UNF Macho máquina ponta helicoidal

UNF | HSS-E PM | Bright | DIN 2184-1 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
EP308-36	No.8 x 36	1
EP3010-32	No.10 x 32	1
EP301/4	1/4" x 28	1
EP305/16	5/16" x 24	1
EP303/8	3/8" x 24	1
EP307/16	7/16" x 20	1
EP301/2	1/2" x 20	1
EP305/8	5/8" x 18	1
EP303/4	3/4" x 16	1
EP307/8	7/8" x 14	1
EP301	1" x 12	1

EP31

UNF Macho máquina ponta helicoidal

UNF | HSS-E PM | ST | DIN 2184-1 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
EP318-36	No.8 x 36	1
EP3110-32	No.10 x 32	1
EP311/4	1/4" x 28	1
EP315/16	5/16" x 24	1
EP313/8	3/8" x 24	1
EP317/16	7/16" x 20	1
EP311/2	1/2" x 20	1
EP315/8	5/8" x 18	1
EP313/4	3/4" x 16	1
EP317/8	7/8" x 14	1
EP311	1" x 12	1

EP40

G(BSP) Macho máquina ponta helicoidal

G | HSS-E PM | Bright | DIN 5156 | R | 2.5×D | Normal | B 3.5-5



e-Code	Descrição	M
EP401/8	1/8" x 28	1
EP401/4	1/4" x 19	1
EP403/8	3/8" x 19	1
EP401/2	1/2" x 14	1
EP405/8	5/8" x 14	1
EP403/4	3/4" x 14	1
EP407/8	7/8" x 14	1
EP401	1" x 11	1

EP41

G(BSP) Macho máquina ponta helicoidal

G | HSS-E PM | ST | DIN 5156 | R | 2.5×D | Normal | B 3.5-5



e-Code	Descrição	M
EP411/8	1/8" x 28	1
EP411/4	1/4" x 19	1
EP413/8	3/8" x 19	1
EP411/2	1/2" x 14	1
EP415/8	5/8" x 14	1
EP413/4	3/4" x 14	1
EP417/8	7/8" x 14	1
EP411	1" x 11	1

EX006G

M Macho máquina canal helicoidal 45°

M | HSS-E PM | Bright | DIN 371/376 | R | 2.5×D | 6G | C 2-3





e-Code	Descrição	M
EX00M36G	M3 x 0.50 mm	1
EX00M46G	M4 x 0.70 mm	1
EX00M56G	M5 x 0.80 mm	1
EX00M66G	M6 x 1.00 mm	1
EX00M86G	M8 x 1.25 mm	1
EX00M106G	M10 x 1.50 mm	1
EX00M126G	M12 x 1.75 mm	1
EX00M146G	M14 x 2.00 mm	1
EX00M166G	M16 x 2.00 mm	1
EX00M206G	M20 x 2.50 mm	1

EX006H

M Macho máquina canal helicoidal 45°

M | HSS-E PM | Bright | DIN 371/376 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
EX00M2	M2 x 0.40 mm	1
EX00M2.5	M2.5 x 0.45 mm	1
EX00M3	M3 x 0.50 mm	1
EX00M3.5	M3.5 x 0.60 mm	1
EX00M4	M4 x 0.70 mm	1
EX00M5	M5 x 0.80 mm	1
EX00M6	M6 x 1.00 mm	1
EX00M6DIN376	M6 x 1.00 mm	1
EX00M7	M7 x 1.00 mm	1
EX00M8	M8 x 1.25 mm	1
EX00M8DIN376	M8 x 1.25 mm	1
EX00M10	M10 x 1.50 mm	1
EX00M10DIN376	M10 x 1.50 mm	1
EX00M12	M12 x 1.75 mm	1
EX00M14	M14 x 2.00 mm	1
EX00M16	M16 x 2.00 mm	1
EX00M18	M18 x 2.50 mm	1
EX00M20	M20 x 2.50 mm	1
EX00M22	M22 x 2.50 mm	1
EX00M24	M24 x 3.00 mm	1
EX00M27	M27 x 3.00 mm	1
EX00M30	M30 x 3.50 mm	1
EX00M33	M33 x 3.50 mm	1
EX00M36	M36 x 4.00 mm	1
EX00M39	M39 x 4.00 mm	1
EX00M42	M42 x 4.50 mm	1
EX00M48	M48 x 5.00 mm	1
EX00M52	M52 x 5.00 mm	1
EX00M56	M56 x 5.50 mm	1
EX00M64	M64 x 6.00 mm	1

EX00TIN

M Macho máquina canal helicoidal 45°

M | HSS-E PM | TiN | DIN 371/376 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
EX00TINM3	M3 x 0.50 mm	1
EX00TINM4	M4 x 0.70 mm	1
EX00TINM5	M5 x 0.80 mm	1
EX00TINM6	M6 x 1.00 mm	1
EX00TINM8	M8 x 1.25 mm	1
EX00TINM10	M10 x 1.50 mm	1
EX00TINM12	M12 x 1.75 mm	1
EX00TINM14	M14 x 2.00 mm	1
EX00TINM16	M16 x 2.00 mm	1
EX00TINM18	M18 x 2.50 mm	1
EX00TINM20	M20 x 2.50 mm	1
EX00TINM22	M22 x 2.50 mm	1
EX00TINM24	M24 x 3.00 mm	1
EX00TINM27	M27 x 3.00 mm	1
EX00TINM30	M30 x 3.50 mm	1

EX016H

M Macho máquina canal helicoidal 45°

M | HSS-E PM | ST | DIN 371/376 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
EX01M2	M2 x 0.40 mm	1
EX01M2.5	M2.5 x 0.45 mm	1
EX01M3	M3 x 0.50 mm	1
EX01M3.5	M3.5 x 0.60 mm	1
EX01M4	M4 x 0.70 mm	1
EX01M5	M5 x 0.80 mm	1
EX01M6	M6 x 1.00 mm	1
EX01M6DIN376	M6 x 1.00 mm	1
EX01M7	M7 x 1.00 mm	1
EX01M8	M8 x 1.25 mm	1
EX01M8DIN376	M8 x 1.25 mm	1
EX01M10	M10 x 1.50 mm	1
EX01M10DIN376	M10 x 1.50 mm	1
EX01M12	M12 x 1.75 mm	1
EX01M14	M14 x 2.00 mm	1
EX01M16	M16 x 2.00 mm	1
EX01M18	M18 x 2.50 mm	1
EX01M20	M20 x 2.50 mm	1
EX01M22	M22 x 2.50 mm	1
EX01M24	M24 x 3.00 mm	1
EX01M27	M27 x 3.00 mm	1
EX01M30	M30 x 3.50 mm	1
EX01M33	M33 x 3.50 mm	1
EX01M36	M36 x 4.00 mm	1
EX01M39	M39 x 4.00 mm	1
EX01M42	M42 x 4.50 mm	1
EX01M48	M48 x 5.00 mm	1
EX01M52	M52 x 5.00 mm	1
EX01M56	M56 x 5.50 mm	1
EX01M64	M64 x 6.00 mm	1

EX10

MF Macho máquina canal helicoidal 45°

MF | HSS-E PM | Bright | DIN 374 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
EX10M4X.50	M4 x 0.50 mm	1
EX10M5X.50	M5 x 0.50 mm	1
EX10M6X.75	M6 x 0.75 mm	1
EX10M8X.75	M8 x 0.75 mm	1
EX10M8X1.0	M8 x 1.00 mm	1
EX10M10X.75	M10 x 0.75 mm	1
EX10M10X1.0	M10 x 1.00 mm	1
EX10M10X1.25	M10 x 1.25 mm	1
EX10M12X1.0	M12 x 1.00 mm	1
EX10M12X1.25	M12 x 1.25 mm	1
EX10M12X1.5	M12 x 1.50 mm	1
EX10M14X1.0	M14 x 1.00 mm	1
EX10M14X1.25	M14 x 1.25 mm	1
EX10M14X1.5	M14 x 1.50 mm	1
EX10M16X1.0	M16 x 1.00 mm	1
EX10M16X1.5	M16 x 1.50 mm	1
EX10M18X1.0	M18 x 1.00 mm	1
EX10M18X1.5	M18 x 1.50 mm	1
EX10M20X1.0	M20 x 1.00 mm	1
EX10M20X1.5	M20 x 1.50 mm	1
EX10M22X1.5	M22 x 1.50 mm	1
EX10M24X1.5	M24 x 1.50 mm	1
EX10M24X2.0	M24 x 2.00 mm	1
EX10M25X1.5	M25 x 1.50 mm	1
EX10M26X1.5	M26 x 1.50 mm	1
EX10M27X1.5	M27 x 1.50 mm	1
EX10M27X2.0	M27 x 2.00 mm	1
EX10M28X1.5	M28 x 1.50 mm	1
EX10M30X1.5	M30 x 1.50 mm	1
EX10M30X2.0	M30 x 2.00 mm	1

EX11

MF Macho máquina canal helicoidal 45°

MF | HSS-E PM | ST | DIN 374 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
EX11M4X.50	M4 x 0.50 mm	1
EX11M5X.50	M5 x 0.50 mm	1
EX11M6X.75	M6 x 0.75 mm	1
EX11M8X.75	M8 x 0.75 mm	1
EX11M8X1.0	M8 x 1.00 mm	1
EX11M10X.75	M10 x 0.75 mm	1
EX11M10X1.0	M10 x 1.00 mm	1
EX11M10X1.25	M10 x 1.25 mm	1
EX11M12X1.0	M12 x 1.00 mm	1
EX11M12X1.25	M12 x 1.25 mm	1
EX11M12X1.5	M12 x 1.50 mm	1
EX11M14X1.0	M14 x 1.00 mm	1
EX11M14X1.25	M14 x 1.25 mm	1
EX11M14X1.5	M14 x 1.50 mm	1
EX11M16X1.0	M16 x 1.00 mm	1
EX11M16X1.5	M16 x 1.50 mm	1
EX11M18X1.0	M18 x 1.00 mm	1
EX11M18X1.5	M18 x 1.50 mm	1
EX11M20X1.0	M20 x 1.00 mm	1
EX11M20X1.5	M20 x 1.50 mm	1
EX11M22X1.5	M22 x 1.50 mm	1
EX11M24X1.5	M24 x 1.50 mm	1
EX11M24X2.0	M24 x 2.00 mm	1
EX11M25X1.5	M25 x 1.50 mm	1
EX11M26X1.5	M26 x 1.50 mm	1
EX11M27X1.5	M27 x 1.50 mm	1
EX11M27X2.0	M27 x 2.00 mm	1
EX11M28X1.5	M28 x 1.50 mm	1
EX11M30X1.5	M30 x 1.50 mm	1
EX11M30X2.0	M30 x 2.00 mm	1

EX10TIN

MF Macho máquina canal helicoidal 45°

MF | HSS-E PM | TiN | DIN 374 | R | 2.5×D | 6H | C 2-3



e-Code	Descrição	M
EX10TINM8X1.0	M8 x 1.00 mm	1
EX10TINM10X1.0	M10 x 1.00 mm	1
EX10TINM10X1.25	M10 x 1.25 mm	1
EX10TINM12X1.0	M12 x 1.00 mm	1
EX10TINM12X1.25	M12 x 1.25 mm	1
EX10TINM12X1.5	M12 x 1.50 mm	1
EX10TINM14X1.5	M14 x 1.50 mm	1
EX10TINM16X1.5	M16 x 1.50 mm	1
EX10TINM18X1.5	M18 x 1.50 mm	1
EX10TINM20X1.5	M20 x 1.50 mm	1

EX20

UNC Macho máquina canal helicoidal 45°

UNC | HSS-E PM | Bright | DIN 2184-1 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
EX204-40	No.4 x 40	1
EX205-40	No.5 x 40	1
EX206-32	No.6 x 32	1
EX208-32	No.8 x 32	1
EX2010-24	No.10 x 24	1
EX2012-24	No.12 x 24	1
EX201/4	1/4" x 20	1
EX205/16	5/16" x 18	1
EX203/8	3/8" x 16	1
EX207/16	7/16" x 14	1
EX201/2	1/2" x 13	1
EX205/8	5/8" x 11	1
EX203/4	3/4" x 10	1
EX207/8	7/8" x 9	1
EX201	1" x 8	1

EX21

UNC Macho máquina canal helicoidal 45°

UNC | HSS-E PM ST | DIN 2184-1 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
EX214-40	No.4 x 40	1
EX215-40	No.5 x 40	1
EX216-32	No.6 x 32	1
EX218-32	No.8 x 32	1
EX2110-24	No.10 x 24	1
EX2112-24	No.12 x 24	1
EX211/4	1/4" x 20	1
EX215/16	5/16" x 18	1
EX213/8	3/8" x 16	1
EX217/16	7/16" x 14	1
EX211/2	1/2" x 13	1
EX215/8	5/8" x 11	1
EX213/4	3/4" x 10	1
EX217/8	7/8" x 9	1
EX211	1" x 8	1

EX40

G(BSP) Macho máquina canal helicoidal 45°

G | HSS-E PM Bright | DIN 5156 | R | 2.5×D | Normal | C 2-3



e-Code	Descrição	M
EX401/8	1/8" x 28	1
EX401/4	1/4" x 19	1
EX403/8	3/8" x 19	1
EX401/2	1/2" x 14	1
EX405/8	5/8" x 14	1
EX403/4	3/4" x 14	1
EX407/8	7/8" x 14	1
EX401	1" x 11	1
EX401.1/8	1.1/8" x 11	1
EX401.1/4	1.1/4" x 11	1
EX401.1/2	1.1/2" x 11	1

L000

Duo Pack - Jogo de broca A002 + Macho Manual

A002: HSS | DIN 338 | 4×D | 118° TiN | N | R | PS

E500: M | ISO 529 | 6H | 1.5×D | HSS | R Bright





e-Code	Descrição	M
L000E500M3NO2XA002	A0022.5 + E500M3NO2	1
L000E500M3NO3XA002	A0022.5 + E500M3NO3	1
L000E500M4NO2XA002	A0023.3 + E500M4NO2	1
L000E500M4NO3XA002	A0023.3 + E500M4NO3	1
L000E500M5NO2XA002	A0024.2 + E500M5NO2	1
L000E500M5NO3XA002	A0024.2E500M5NO3	1
L000E500M6NO2XA002	A0025.0 + E500M6NO2	1
L000E500M6NO3XA002	A0025.0E500M6NO3	1
L000E500M8NO2XA002	A0026.8 + E500M8NO2	1
L000E500M8NO3XA002	A0026.8E500M8NO3	1
L000E500M10NO2XA002	A0028.5 + E500M10NO2	1
L000E500M10NO3XA002	A0028.5E500M10NO3	1
L000E500M12NO2XA002	A00210.2 + E500M12NO2	1
L000E500M12NO3XA002	A00210.2E500M12NO3	1

EX30

UNF Macho máquina canal helicoidal 45°

UNF | HSS-E PM Bright | DIN 2184-1 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
EX308-36	No.8 x 36	1
EX3010-32	No.10 x 32	1
EX301/4	1/4" x 28	1
EX305/16	5/16" x 24	1
EX303/8	3/8" x 24	1
EX307/16	7/16" x 20	1
EX301/2	1/2" x 20	1
EX305/8	5/8" x 18	1
EX303/4	3/4" x 16	1
EX307/8	7/8" x 14	1
EX301	1" x 12	1

EX41

G(BSP) Macho máquina canal helicoidal 45°

G | HSS-E PM ST | DIN 5156 | R | 2.5×D | Normal | C 2-3



e-Code	Descrição	M
EX411/8	1/8" x 28	1
EX411/4	1/4" x 19	1
EX413/8	3/8" x 19	1
EX411/2	1/2" x 14	1
EX415/8	5/8" x 14	1
EX413/4	3/4" x 14	1
EX417/8	7/8" x 14	1
EX411	1" x 11	1
EX411.1/8	1.1/8" x 11	1
EX411.1/4	1.1/4" x 11	1
EX411.1/2	1.1/2" x 11	1

EX31

UNF Macho máquina canal helicoidal 45°

UNF | HSS-E PM ST | DIN 2184-1 | R | 2.5×D | 2B | C 2-3



e-Code	Descrição	M
EX318-36	No.8 x 36	1
EX3110-32	No.10 x 32	1
EX311/4	1/4" x 28	1
EX315/16	5/16" x 24	1
EX313/8	3/8" x 24	1
EX317/16	7/16" x 20	1
EX311/2	1/2" x 20	1
EX315/8	5/8" x 18	1
EX313/4	3/4" x 16	1
EX317/8	7/8" x 14	1
EX311	1" x 12	1

L001

Duo Pack - Jogo de broca A002 + Macho DIN

A002

HSS | DIN 338 | 4×D | 118° | TiN | N | R | PS

EX006H

M | DIN 371/376 | 6H | 2.5×D | HSS-E PM | C 2-3 | λ 45° | R | Bright





e-Code	Descrição	M
L001EX00M3XA002	A0022.5 + EX00M3	1
L001EX00M4XA002	A0023.3 + EX00M4	1
L001EX00M5XA002	A0024.2 + EX00M5	1
L001EX00M6XA002	A0025.0 + EX00M6	1
L001EX00M8XA002	A0026.8 + EX00M8	1
L001EX00M10XA002	A0028.5 + EX00M10	1
L001EX00M12XA002	A00210.2 + EX00M12	1

A002

HSS | DIN 338 | 4×D | 118° | TiN | N | R | PS

EP006H

M | DIN 371/376 | 6H | 2.5×D | HSS-E PM | C 2-3 | R | Bright

e-Code	Descrição	M
L001EP00M3XA002	A0022.5 + EP00M3	1
L001EP00M4XA002	A0023.3 + EP00M4	1
L001EP00M5XA002	A0024.2 + EP00M5	1
L001EP00M6XA002	A0025.0 + EP00M6	1
L001EP00M8XA002	A0026.8 + EP00M8	1
L001EP00M10XA002	A0028.5 + EP00M10	1
L001EP00M12XA002	A00210.2 + EP00M12	1

L002

Duo Pack - Jogo de broca A002 + Macho DIN

A002

HSS | DIN 338 | 4×D | 118° | TiN | N | R | PS

E000

M | ISO 529 | 6H | 2.5×D | HSS-E PM | B 3.5-5 | R | Bright





e-Code	Descrição	M
L002E000M3XA002	A0022.5 + E000M3	1
L002E000M4XA002	A0023.3 + E000M4	1
L002E000M5XA002	A0024.2 + E000M5	1
L002E000M6XA002	A0025.0 + E000M6	1
L002E000M8XA002	A0026.8 + E000M8	1
L002E000M10XA002	A0028.5 + E000M10	1
L002E000M12XA002	A00210.2 + E000M12	1
L002E002M3XA002	A0022.5 + E002M3	1
L002E002M4XA002	A0023.3 + E002M4	1
L002E002M5XA002	A0024.2 + E002M5	1
L002E002M6XA002	A0025.0 + E002M6	1
L002E002M8XA002	A0026.8 + E002M8	1
L002E002M10XA002	A0028.5 + E002M10	1
L002E002M12XA002	A00210.2 + E002M12	1

L110

Desandador para cossinetes



e-Code	Descrição	M
L1101	16.00 mm x 5.00 mm	1
L1102A	20.00 mm x 5.00 mm	1
L1102B	20.00 mm x 7.00 mm	1
L1103	25.00 mm x 9.00 mm	1
L1104	30.00 mm x 11.00 mm	1
L1105	38.00 mm x 14.00 mm	1
L1105F	38.00 mm x 10.00 mm	1
L1106	45.00 mm x 18.00 mm	1
L1106F	45.00 mm x 14.00 mm	1
L1107	55.00 mm x 22.00 mm	1
L1107F	55.00 mm x 16.00 mm	1
L1108	65.00 mm x 25.00 mm	1
L1108F	65.00 mm x 18.00 mm	1
L1109	75.00 mm x 30.00 mm	1
L1109F	75.00 mm x 20.00 mm	1
L11010	90.00 mm x 36.00 mm	1
L11010F	90.00 mm x 22.00 mm	1
L1101.1/2	1.1/2" x 1/2"	1
L11013/16	13/16" x 1/4"	1
L1101INCH	1" x 3/8"	1
L1101.5/16	1.5/16" x 7/16"	1
L1102INCH	2" x 5/8"	1
L1102.1/4	2.1/4" x 11/16"	1
L1103INCH	3" x 7/8"	1
L1104INCH	4" x 1"	1

L112

Desandador manual para machos



e-Code	Descrição	M
L112NO0	No. 0	1
L112NO1.1/2	No. 1.1/2	1
L112NO3	No. 3	1
L112NO4	No. 4	1
L112NO6	No. 6	1
L112NO7	No. 7	1
L112BT1	BT1	1
L112BT2	BT2	1

L113

ISO Jogo de broca + Macho



e-Code	Descrição
L113201	7 peças - E000 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L113202	7 peças - E001 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L113203	7 peças - E002 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L113204	7 peças - E003 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)

L114

DIN Jogo de broca + Macho



e-Code	Descrição
L114301	7 peças - EP006H (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L114302	7 peças - EX006H (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L114303	7 peças - E297 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L114304	7 peças - E298 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L114305	7 peças - E238 (M3-M4-M5-M6-M8-M10-M12) + A108 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)
L114306	7 peças - E248 (M3-M4-M5-M6-M8-M10-M12) + A108 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)

L115

Jogo de broca + Macho manual



e-Code	Descrição
L115101	7 peças - E500 (M3NO3, M4NO3, M5NO2, M5NO3, M6NO3, M8NO3, M10NO3, M12NO3) - A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)

L119

Jogo de machos métricos em caixa metálica



e-Code	Descrição	M
L11917	7 peças E100 - (M3-M4-M5-M6-M8-M10-M12)	1

L120

Estojo de roscagem - caixa metálica



e-Code		Descrição
L12010M	E500	M3-M4-M5-M6-M7-M8-M9-M10
	F300	M3-M4-M5-M6-M7-M8-M9-M10
	L110	13/16 x 1/4 + 1. x 3/8
	L111	BT2
L12012M	E500	M2-M3-M4-M5-M6-M7-M8-M9-M10-M12
	F300	M2-M3-M4-M5-M6-M7-M8-M9-M10-M12
	L110	13/16 x 1/4 + 1. x 3/8 + 1.5/16
	L111	BT1 + BT2
L12014M	E500	M6-M7-M8-M9-M10-M12-M14-M16-M18-M20
	F300	M6-M7-M8-M9-M10-M12-M14-M16-M18-M20
	L110	1. x 3/8 + 1.5/16 x 7/16 + 1.1/2 x 1/2
	L111	No 2
L12021	E100	M3- M4-M5-M6-M8-M10-M12
	F100	M3- M4-M5-M6-M8-M10-M12
	L110	20 x 5, 20 x 7, 25 x 9, 30 x 11, 38 x 14
	L111	No 1 + No 2
L12024UNF	E524	1/4, 5/16, 3/8, 7/16, 1/2
	F330	1/4, 5/16, 3/8, 7/16, 1/2
	L110	1. x 3/8 + 1.5/16 x 7/16
	L111	BT2
L12026UNF	E524	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
	F330	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
	L110	1. x 3/8 + 1.1/2 x 1/2
	L111	BT2 + No 2
L1202M	E500	M2-M2,5-M3-M3,5-M4-M5-M6
	F300	M2-M2,5-M3-M3,5-M4-M5-M6
	L110	13/16 x 1/4
	L111	BT1
L12030	E100	M3- M4-M5-M6-M8-M10-M12-M14-M16-M18-M20
	F100	M3- M4-M5-M6-M8-M10-M12-M14-M16-M18-M20
	L110	20 x 5, 20 x 7, 25 x 9, 30 x 11, 38 x 14, 45 x 18
	L111	No 1 + No 3
L12030UNC	E515	1/4, 5/16, 3/8, 7/16, 1/2
	F320	1/4, 5/16, 3/8, 7/16, 1/2
	L110	1. x 3/8 + 1.5/16 x 7/16
	L111	BT2
L12032UNC	E515	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
	F320	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
	L110	1. x 3/8 + 1.1/2 x 1/2
	L111	BT2 + No 2
L1204M	E500	M5-M6-M7-M8-M9-M10-M11-M12
	F300	M5-M6-M7-M8-M9-M10-M11-M12
	L110	13/16 x 1/4 + 1.5/16 x 7/16
	L111	BT2
L1208M	E500	M2-M3-M4-M5-M6
	F300	M2-M3-M4-M5-M6
		13/16 x 1/4
	L111	BT1

L126

Jogo de broca-machos em caixa metálica



e-Code	Descrição
L113201	7 peças - E000 (M3-M4-M5-M6-M8-M10-M12) + A002 (2.5-3.3-4.2-5.0-6.8-8.5-10.2)



COSSINETES

F100

M Cossinete

M | HSS | Bright | ISO 2568 | R | 1.75 XP | 6g



e-Code	Descrição	M
F100M2	M2 x 0.40 mm	1
F100M2.5	M2.5 x 0.45 mm	1
F100M2.6	M2.6 x 0.45 mm	1
F100M3	M3 x 0.50 mm	1
F100M3.5	M3.5 x 0.60 mm	1
F100M4	M4 x 0.70 mm	1
F100M4.5	M4.5 x 0.75 mm	1
F100M5	M5 x 0.80 mm	1
F100M6	M6 x 1.00 mm	1
F100M7	M7 x 1.00 mm	1
F100M8	M8 x 1.25 mm	1
F100M9	M9 x 1.25 mm	1
F100M10	M10 x 1.50 mm	1
F100M11	M11 x 1.50 mm	1
F100M12	M12 x 1.75 mm	1
F100M14	M14 x 2.00 mm	1
F100M16	M16 x 2.00 mm	1
F100M18	M18 x 2.50 mm	1
F100M20	M20 x 2.50 mm	1
F100M22	M22 x 2.50 mm	1
F100M24	M24 x 3.00 mm	1
F100M27	M27 x 3.00 mm	1
F100M30	M30 x 3.50 mm	1
F100M33	M33 x 3.50 mm	1
F100M36	M36 x 4.00 mm	1
F100M39	M39 x 4.00 mm	1
F100M42	M42 x 4.50 mm	1

F108

M Cossinete

M | HSS-E | Bright | ISO 2568 | R | 2.25 XP | 6g



e-Code	Descrição	M
F108M2	M2 x 0.40 mm	1
F108M2.5	M2.5 x 0.45 mm	1
F108M3	M3 x 0.50 mm	1
F108M4	M4 x 0.70 mm	1
F108M5	M5 x 0.80 mm	1
F108M6	M6 x 1.00 mm	1
F108M8	M8 x 1.25 mm	1
F108M10	M10 x 1.50 mm	1
F108M12	M12 x 1.75 mm	1
F108M14	M14 x 2.00 mm	1
F108M16	M16 x 2.00 mm	1
F108M18	M18 x 2.50 mm	1
F108M20	M20 x 2.50 mm	1

F110

MF Cossinete

MF | HSS | Bright | ISO 2568 | R | 1.75 XP | 6g



e-Code	Descrição	M
F110M4X.5	M4 x 0.50 mm	1
F110M5X.5	M5 x 0.50 mm	1
F110M6X.75	M6 x 0.75 mm	1
F110M7X.75	M7 x 0.75 mm	1
F110M8X.75	M8 x 0.75 mm	1
F110M8X1.0	M8 x 1.00 mm	1
F110M9X1.0	M9 x 1.00 mm	1
F110M10X.75	M10 x 0.75 mm	1
F110M10X1.0	M10 x 1.00 mm	1
F110M10X1.25	M10 x 1.25 mm	1
F110M11X1.0	M11 x 1.00 mm	1
F110M12X1.0	M12 x 1.00 mm	1
F110M12X1.25	M12 x 1.25 mm	1
F110M12X1.5	M12 x 1.50 mm	1
F110M13X1.0	M13 x 1.00 mm	1
F110M14X1.0	M14 x 1.00 mm	1
F110M14X1.25	M14 x 1.25 mm	1
F110M14X1.5	M14 x 1.50 mm	1
F110M15X1.0	M15 x 1.00 mm	1
F110M15X1.5	M15 x 1.50 mm	1
F110M16X1.0	M16 x 1.00 mm	1
F110M16X1.5	M16 x 1.50 mm	1
F110M18X1.0	M18 x 1.00 mm	1
F110M18X1.5	M18 x 1.50 mm	1
F110M20X1.0	M20 x 1.00 mm	1
F110M20X1.5	M20 x 1.50 mm	1
F110M22X1.0	M22 x 1.00 mm	1
F110M22X1.5	M22 x 1.50 mm	1
F110M24X1.0	M24 x 1.00 mm	1
F110M24X1.5	M24 x 1.50 mm	1
F110M24X2.0	M24 x 2.00 mm	1
F110M25X1.5	M25 x 1.50 mm	1
F110M26X1.5	M26 x 1.50 mm	1
F110M27X1.5	M27 x 1.50 mm	1
F110M27X2.0	M27 x 2.00 mm	1
F110M28X1.5	M28 x 1.50 mm	1
F110M30X1.5	M30 x 1.50 mm	1
F110M32X1.5	M32 x 1.50 mm	1
F110M35X1.5	M35 x 1.50 mm	1
F110M36X1.5	M36 x 1.50 mm	1
F110M40X1.5	M40 x 1.50 mm	1

F120

UNC Cossinete

UNC | HSS | Bright | ISO 2568 | R | 1.75 XP | 2A



e-Code	Descrição	M
F1208-32	No.8 x 32	1
F12010-24	No.10 x 24	1
F1201/4	1/4" x 20	1
F1205/16	5/16" x 18	1
F1203/8	3/8" x 16	1
F1207/16	7/16" x 14	1
F1201/2	1/2" x 13	1
F1209/16	9/16 x 12	1
F1205/8	5/8" x 11	1
F1203/4	3/4" x 10	1
F1207/8	7/8" x 9	1
F1201	1" x 8	1

F130

UNF Cossinete

UNF | HSS | Bright | ISO 2568 | R | 1.75 XP | 2A



e-Code	Descrição	M
F13010-32	No.10 x 32	1
F1301/4	1/4" x 28	1
F1305/16	5/16" x 24	1
F1303/8	3/8" x 24	1
F1307/16	7/16" x 20	1
F1301/2	1/2" x 20	1
F1309/16	9/16" x 18 x 38	1
F1305/8	5/8" x 18	1
F1303/4	3/4" x 16	1
F1307/8	7/8" x 14	1
F1301	1" x 12	1

F140

BSW Cossinete

BSW | HSS | Bright | ISO 2568 | R | 1.75 XP | Medium



e-Code	Descrição	M
F1401/8	1/8" x 40	1
F1403/16	3/16" x 24	1
F1401/4	1/4" x 20	1
F1405/16	5/16" x 18	1
F1403/8	3/8" x 16	1
F1407/16	7/16" x 14	1
F1401/2	1/2" x 12	1
F1405/8	5/8" x 11	1
F1403/4	3/4" x 10	1
F1407/8	7/8" x 9	1
F1401	1" x 8	1

F150

BSF Cossinete

BSF | HSS | Bright | ISO 2568 | R | 1.75 XP | Medium



e-Code	Descrição	M
F1503/16	3/16" x 32	1
F1501/4	1/4" x 26	1
F1505/16	5/16" x 22	1
F1503/8	3/8" x 20	1
F1507/16	7/16" x 18	1
F1501/2	1/2" x 16	1

F170

G(BSP) Cossinete

G | HSS | Bright | ISO 2568 | R | 1.75 XP | Class A



e-Code	Descrição	M
F1701/8	1/8" x 28	1
F1701/4	1/4" x 19	1
F1703/8	3/8" x 19	1
F1701/2	1/2" x 14	1
F1705/8	5/8" x 14	1
F1703/4	3/4" x 14	1
F1707/8	7/8" x 14	1
F1701	1" x 11	1
F1701.1/8	1.1/8" x 11	1
F1701.1/4	1.1/4" x 11	1
F1701.1/2	1.1/2" x 11	1
F1702	2" x 11	1

F180

NPT Cossinete

NPT | HSS | Bright | ISO 2568 | R | 1.75 XP | Normal



e-Code	Descrição	M
F1801/8	1/8" x 27	1
F1801/4	1/4" x 18	1
F1803/8	3/8" x 18	1
F1801/2	1/2" x 14	1
F1803/4	3/4" x 14	1
F1801	1" x 11.5	1

F190

PG Cossinete

PG | HSS | Bright | ISO 2568 | R | 1.75 XP | Normal



e-Code	Descrição	M
F190PG7	PG7	1
F190PG9	PG9	1
F190PG11	PG11	1
F190PG13.5	PG13	1
F190PG16	PG16	1
F190PG21	PG21	1
F190PG29	PG29	1
F190PG36	PG36	1

F201

M Cossinete

M | HSS | Bright | ISO 2568 | L | 1.75 XP | 6g



e-Code	Descrição	M
F201M3	M3 x 0.50 mm	1
F201M4	M4 x 0.70 mm	1
F201M5	M5 x 0.80 mm	1
F201M6	M6 x 1.00 mm	1
F201M8	M8 x 1.25 mm	1
F201M10	M10 x 1.50 mm	1
F201M12	M12 x 1.75 mm	1
F201M14	M14 x 2.00 mm	1
F201M16	M16 x 2.00 mm	1
F201M18	M18 x 2.50 mm	1
F201M20	M20 x 2.50 mm	1

F202

M Cossinetes sextavados

M | HSS | Bright | DIN 382 | R | 1.75 XP | 6g



e-Code	Descrição	M
F202M3	M3 x 0.50 mm	1
F202M4	M4 x 0.70 mm	1
F202M5	M5 x 0.80 mm	1
F202M6	M6 x 1.00 mm	1
F202M7	M7 x 1.00 mm	1
F202M8	M8 x 1.25 mm	1
F202M10	M10 x 1.50 mm	1
F202M12	M12 x 1.75 mm	1
F202M14	M14 x 2.00 mm	1
F202M16	M16 x 2.00 mm	1
F202M18	M18 x 2.50 mm	1
F202M20	M20 x 2.50 mm	1
F202M22	M22 x 2.50 mm	1
F202M24	M24 x 3.00 mm	1
F202M27	M27 x 3.00 mm	1
F202M30	M30 x 3.50 mm	1
F202M36	M36 x 4.00 mm	1

F272

G(BSP) Cossinetes sextavados

G | HSS | Bright | DIN 382 | R | 1.75 XP | Class A



e-Code	Descrição	M
F2721/8	1/8" x 28	1
F2721/4	1/4" x 19	1
F2723/8	3/8" x 19	1
F2721/2	1/2" x 14	1
F2723/4	3/4" x 14	1
F2721	1" x 11	1
F2721.1/4	1.1/4" x 11	1
F2721.1/2	1.1/2" x 11	1

F300

M Cossinetes ajustáveis

M | HSS | Bright | BS 1127:1950 | R | 1.75 XP



e-Code	Descrição	M
F300M2X13/16	M2 x 0.40	1
F300M2.5X13/16	M2.5 x 0.45	1
F300M3X13/16	M3 x 0.50	1
F300M3.5X13/16	M3.5 x 0.60	1
F300M4X13/16	M4 x 0.70	1
F300M5X1	M5 x 0.80	1
F300M5X13/16	M5 x 0.80	1
F300M6X1	M6 x 1.00	1
F300M6X1.5/16	M6 x 1.00	1
F300M6X13/16	M6 x 1.00	1
F300M7X1	M7 x 1.00	1
F300M7X13/16	M7 x 1.00	1
F300M8X1	M8 x 1.25	1
F300M8X1.5/16	M8 x 1.25	1
F300M9X1	M9 x 1.25	1
F300M9X1.5/16	M9 x 1.25	1
F300M10X1	M10 x 1.50	1
F300M10X1.1/2	M10 x 1.50	1
F300M10X1.5/16	M10 x 1.50	1
F300M11X1.5/16	M11 x 1.50	1
F300M12X1.1/2	M12 x 1.75	1
F300M12X1.5/16	M12 x 1.75	1
F300M14X1.1/2	M14 x 2.00	1
F300M14X1.5/16	M14 x 2.00	1
F300M16X1.1/2	M16 x 2.00	1
F300M16X2	M16 x 2.00	1
F300M18X1.1/2	M18 x 2.50	1
F300M18X2	M18 x 2.50	1
F300M20X1.1/2	M20 x 2.50	1
F300M20X2	M20 x 2.50	1
F300M22X2	M22 x 2.50	1
F300M24X2	M24 x 3.00	1
F300M27X3	M27 x 3.00	1
F300M30X3	M30 x 3.50	1
F300M36X3	M36 x 4.00	1

F302

M Cossinetes sextavados

M | HSS | Bright | BS 1127:1950 | R | 1.75 XP | 6g



e-Code	Descrição	M
F302M3	M3 x 0.50 mm	1
F302M4	M4 x 0.70 mm	1
F302M5	M5 x 0.80 mm	1
F302M6	M6 x 1.00 mm	1
F302M7	M7 x 1.00 mm	1
F302M8	M8 x 1.25 mm	1
F302M10	M10 x 1.50 mm	1
F302M11	M11 x 1.50 mm	1
F302M12	M12 x 1.75 mm	1
F302M14	M14 x 2.00 mm	1
F302M16	M16 x 2.00 mm	1
F302M18	M18 x 2.50 mm	1
F302M20	M20 x 2.50 mm	1
F302M22	M22 x 2.50 mm	1
F302M24	M24 x 3.00 mm	1
F302M27	M27 x 3.00 mm	1
F302M30	M30 x 3.50 mm	1
F302M33	M33 x 3.50 mm	1
F302M36	M36 x 4.00 mm	1

F310

MF Cossinetes ajustáveis

MF | HSS | Bright | BS 1127:1950 | R | 1.75 XP



e-Code	Descrição	M
F310M3X.35X13/16	M3 x 0.35 mm	1
F310M4X.5X13/16	M4 x 0.50 mm	1
F310M5X.5X13/16	M5 x 0.50 mm	1
F310M5X.9X13/16	M5 x 0.90 mm	1
F310M4X.75X13/16	M4 x 0.75 mm	1
F310M6X.75X13/16	M6 x 0.75 mm	1
F310M8X.75X1	M8 x 0.75 mm	1
F310M8X1.0X1	M8 x 1.00 mm	1
F310M9X1.0X1	M9 x 1.00 mm	1
F310M10X.75X1	M10 x 0.75 mm	1
F310M10X1.0X1	M10 x 1.00 mm	1
F310M10X1.25X1	M10 x 1.25 mm	1
F310M10X1.25X1.5/16	M10 x 1.25 mm	1
F310M12X1.0X1.5/16	M12 x 1.00 mm	1
F310M12X1.25X1.5/16	M12 x 1.25 mm	1
F310M12X1.5X1.5/16	M12 x 1.50 mm	1
F310M14X1.25X1.5/16	M14 x 1.25 mm	1
F310M14X1.5X1.5/16	M14 x 1.50 mm	1
F310M16X1.0X1.1/2	M16 x 1.00 mm	1
F310M16X1.5X1.1/2	M16 x 1.50 mm	1
F310M18X1.5X1.1/2	M18 x 1.50 mm	1
F310M20X1.0X1.1/2	M20 x 1.00 mm	1
F310M20X1.5X2	M20 x 1.50 mm	1
F310M20X2.0X1.1/2	M20 x 2.00 mm	1
F310M22X1.5X2	M22 x 1.50 mm	1
F310M24X1.5X2	M24 x 1.50 mm	1
F310M24X2.0X2	M24 x 2.00 mm	1
F310M25X1.5X2	M25 x 1.50 mm	1
F310M27X2.0X2.1/4	M27 x 2.00 mm	1
F310M30X2.0X2.1/4	M30 x 2.00 mm	1

F312

MF Cossinetes sextavados

MF | HSS | Bright | BS 1127:1950 | R | 1.75 XP | 6g



e-Code	Descrição	M
F312M8X.75	M8 x 0.75 mm	1
F312M10X1.0	M10 x 1.00 mm	1
F312M12X1.0	M12 x 1.00 mm	1
F312M8X1.0	M8 x 1.00 mm	1
F312M10X1.25	M10 x 1.25 mm	1
F312M12X1.25	M12 x 1.25 mm	1
F312M12X1.5	M12 x 1.50 mm	1
F312M14X1.5	M14 x 1.50 mm	1
F312M16X1.5	M16 x 1.50 mm	1
F312M18X1.5	M18 x 1.50 mm	1
F312M20X1.5	M20 x 1.50 mm	1
F312M22X1.5	M22 x 1.50 mm	1
F312M24X1.5	M24 x 1.50 mm	1
F312M24X2.0	M24 x 2.00 mm	1

F320

UNC Cossinetes ajustáveis

UNC | HSS | Bright | BS 1127:1950 | R | 1.75 XP



e-Code	Descrição	M
F3204-40X13/16	No.4 x 40	1
F3205-40X13/16	No.5 x 40	1
F3206-32X13/16	No.6 x 32	1
F3208-32X1	No.8 x 32	1
F3208-32X13/16	No.8 x 32	1
F32010-24X1	No.10 x 24	1
F32010-24X13/16	No.10 x 24	1
F32012-24X13/16	No.12 x 24	1
F3201/4X1	1/4 pol x 20	1
F3201/4X1.1/2	1/4 pol x 20	1
F3201/4X1.5/16	1/4 pol x 20	1
F3201/4X13/16	1/4 pol x 20	1
F3205/16X1	5/16 pol x 18	1
F3205/16X1.1/2	5/16 pol x 18	1
F3203/8X1	3/8 pol x 16	1
F3203/8X1.1/2	3/8 pol x 16	1
F3203/8X1.5/16	3/8 pol x 16	1
F3207/16X1.1/2	7/16 pol x 14	1
F3207/16X1.5/16	7/16 pol x 14	1
F3201/2X1.1/2	1/2 pol x 13	1
F3201/2X1.5/16	1/2 pol x 13	1
F3201/2X2	1/2 pol x 13	1
F3209/16X1.1/2	9/16 pol x 12	1
F3205/8X1.1/2	5/8 pol x 11	1
F3205/8X2	5/8 pol x 11	1
F3203/4X1.1/2	3/4 pol x 10	1
F3203/4X2	3/4 pol x 10	1
F3207/8X2	7/8 pol x 9	1
F3201X2	1 pol x 8	1
F3201.1/8X3	1.1/8 pol x 7	1
F3201.1/4X3	1.1/4 pol x 7	1

F330

UNF Cossinetes ajustáveis

UNF | HSS | Bright | BS 1127:1950 | R | 1.75 XP



e-Code	Descrição	M
F3304-48X13/16	No.4 x 48	1
F3305-44X13/16	No.5 x 44	1
F3306-40X13/16	No.6 x 40	1
F3308-36X13/16	No.8 x 36	1
F33010-32X1	No.10 x 32	1
F33010-32X13/16	No.10 x 32	1
F33012-28X13/16	No.12 x 28	1
F3301/4X1	1/4" x 28	1
F3301/4X1.1/2	1/4" x 28	1
F3301/4X13/16	1/4" x 28	1
F3305/16X1	5/16" x 24	1
F3305/16X1.1/2	5/16" x 24	1
F3305/16X1.5/16	5/16" x 24	1
F3303/8X1	3/8" x 24	1
F3303/8X1.1/2	3/8" x 24	1
F3303/8X1.5/16	3/8" x 24	1
F3307/16X1	7/16" x 20	1
F3307/16X1.1/2	7/16" x 20	1
F3307/16X1.5/16	7/16" x 20	1
F3301/2X1.1/2	1/2" x 20	1
F3301/2X1.5/16	1/2" x 20	1
F3309/16X1.1/2	9/16 x 18	1
F3309/16X1.5/16	9/16 x 18	1
F3305/8X1.1/2	5/8" x 18	1
F3305/8X2	5/8" x 18	1
F3303/4X1.1/2	3/4" x 16	1
F3303/4X2	3/4" x 16	1
F3307/8X2	7/8" x 14	1
F3301X2	1" x 12	1
F3301.1/8X3	1.1/8" x 12	1
F3301.1/4X3	1.1/4" x 12	1
F3301.1/2X3	1.1/2" x 12	1

F370

G(BSP) Cossinetes ajustáveis

G | HSS | Bright | BS 1127:1950 | R | 1.75 XP



e-Code	Descrição	M
F3701/8X1	1/8" x 28	1
F3701/4X1.5/16	1/4" x 19	1
F3703/8X1.1/2	3/8" x 19	1
F3701/2X2	1/2" x 14	1
F3705/8X2	5/8" x 14	1
F3703/4X2	3/4" x 14	1
F3707/8X2.1/4	7/8" x 14	1
F3701X2.1/4	1" x 11	1
F3701.1/4X3	1.1/4" x 11	1
F3701.1/2X4	1.1/2" x 11	1



FRESAS DE AÇO RÁPIDO

C110

Fresa de rasgo - 2 cortes

HSS-E PM P9 | N | NOF 2 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C1101.0	1.00 mm	1
C1101.5	1.50 mm	1
C1101/16	1/16"	1
C1101.8	1.80 mm	1
C1102.0	2.00 mm	1
C1103/32	3/32"	1
C1102.5	2.50 mm	1
C1102.8	2.80 mm	1
C1103.0	3.00 mm	1
C1101/8	1/8"	1
C1103.5	3.50 mm	1
C1103.8	3.80 mm	1
C1104.0	4.00 mm	1
C1104.5	4.50 mm	1
C1103/16	3/16"	1
C1104.8	4.80 mm	1
C1105.0	5.00 mm	1
C1105.5	5.50 mm	1
C1105.75	5.75 mm	1
C1106.0	6.00 mm	1
C1101/4	1/4"	1
C1106.5	6.50 mm	1
C1107.0	7.00 mm	1
C1107.5	7.50 mm	1
C1107.75	7.75 mm	1
C1105/16	5/16"	1
C1108.0	8.00 mm	1
C1108.5	8.50 mm	1
C1109.0	9.00 mm	1
C1109.5	9.50 mm	1
C1103/8	3/8"	1
C11010.0	10.00 mm	1
C11013/32	13/32"	1
C11010.5	10.50 mm	1
C11011.0	11.00 mm	1
C1107/16	7/16"	1
C11011.5	11.50 mm	1
C11012.0	12.00 mm	1
C11012.5	12.50 mm	1
C1101/2	1/2"	1
C11013.0	13.00 mm	1
C11017/32	17/32"	1
C11014.0	14.00 mm	1
C1109/16	9/16"	1
C11015.0	15.00 mm	1
C1105/8	5/8"	1
C11016.0	16.00 mm	1
C11017.0	17.00 mm	1
C11011/16	11/16"	1
C11018.0	18.00 mm	1
C11019.0	19.00 mm	1
C1103/4	3/4"	1
C11020.0	20.00 mm	1
C11022.0	22.00 mm	1
C1107/8	7/8"	1
C11024.0	24.00 mm	1
C11025.0	25.00 mm	1
C1101	1"	1
C11026.0	26.00 mm	1
C11028.0	28.00 mm	1
C11030.0	30.00 mm	1
C11032.0	32.00 mm	1
C11035.0	35.00 mm	1
C11036.0	36.00 mm	1
C11040.0	40.00 mm	1

C122

Fresa de topo - 2 cortes

HSS-E | N | NOF 2 | λ30° γ12° | DIN 1835A | Bright



e-Code	Descrição	M
C1225.0	5.00 mm	1
C1226.0	6.00 mm	1
C1227.0	7.00 mm	1
C1228.0	8.00 mm	1
C12210.0	10.00 mm	1
C12212.0	12.00 mm	1
C12214.0	14.00 mm	1
C12216.0	16.00 mm	1
C12218.0	18.00 mm	1
C12220.0	20.00 mm	1
C12222.0	22.00 mm	1

C123

Fresa de topo para rasgo - 2 cortes

HSS-E PM P9 | N | NOF 2 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C1231/16	1/16"	1
C1232.0	2.00 mm	1
C1232.5	2.50 mm	1
C1233.0	3.00 mm	1
C1231/8	1/8"	1
C1233.5	3.50 mm	1
C1235/32	5/32"	1
C1234.0	4.00 mm	1
C1234.5	4.50 mm	1
C1233/16	3/16"	1
C1235.0	5.00 mm	1
C1235.5	5.50 mm	1
C1236.0	6.00 mm	1
C1231/4	1/4"	1
C1236.5	6.50 mm	1
C1237.0	7.00 mm	1
C1237.5	7.50 mm	1
C1235/16	5/16"	1
C1238.0	8.00 mm	1
C1238.5	8.50 mm	1
C1239.0	9.00 mm	1
C1239.5	9.50 mm	1
C1233/8	3/8"	1
C12310.0	10.00 mm	1
C12311.0	11.00 mm	1
C12312.0	12.00 mm	1
C1231/2	1/2"	1
C12313.0	13.00 mm	1
C12314.0	14.00 mm	1
C12315.0	15.00 mm	1
C12316.0	16.00 mm	1
C12318.0	18.00 mm	1
C12320.0	20.00 mm	1
C12322.0	22.00 mm	1
C12325.0	25.00 mm	1
C12330.0	30.00 mm	1

C126

Fresa de topo para canais - 2 cortes

HSS-E PM P9 | N | NOF 2 | λ30° γ12° | DIN 1835B | TiCN



e-Code	Descrição	M
C1261.0	1.00 mm	1
C1261.5	1.50 mm	1
C1262.0	2.00 mm	1
C1262.5	2.50 mm	1
C1263.0	3.00 mm	1
C1263.5	3.50 mm	1
C1264.0	4.00 mm	1
C1264.5	4.50 mm	1
C1265.0	5.00 mm	1
C1265.5	5.50 mm	1
C1266.0	6.00 mm	1
C1266.5	6.50 mm	1
C1267.0	7.00 mm	1
C1267.5	7.50 mm	1
C1268.0	8.00 mm	1
C1268.5	8.50 mm	1
C1269.0	9.00 mm	1
C1269.5	9.50 mm	1
C12610.0	10.00 mm	1
C12610.5	10.50 mm	1
C12611.0	11.00 mm	1
C12611.5	11.50 mm	1
C12612.0	12.00 mm	1
C12612.5	12.50 mm	1
C12613.0	13.00 mm	1
C12614.0	14.00 mm	1
C12615.0	15.00 mm	1
C12616.0	16.00 mm	1
C12618.0	18.00 mm	1
C12620.0	20.00 mm	1
C12622.0	22.00 mm	1
C12624.0	24.00 mm	1
C12625.0	25.00 mm	1
C12630.0	30.00 mm	1

C135

Fresa de topo para rasgo - 2 canais

HSS-E P9 | N | NOF 2 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C1352.0	2.00 mm	1
C1353.0	3.00 mm	1
C1354.0	4.00 mm	1
C1355.0	5.00 mm	1
C1356.0	6.00 mm	1
C1358.0	8.00 mm	1
C13510.0	10.00 mm	1
C13512.0	12.00 mm	1
C13514.0	14.00 mm	1
C13516.0	16.00 mm	1
C13518.0	18.00 mm	1
C13520.0	20.00 mm	1

C139

Fresa de topo para canais - 2 cortes

HSS-E PM | P9 | N | NOF 2 | λ30° γ12° | DIN 1835B | TiCN



e-Code	Descrição	M
C1392.0	2.00 mm	1
C1393.0	3.00 mm	1
C1394.0	4.00 mm	1
C1395.0	5.00 mm	1
C1395.5	5.50 mm	1
C1396.0	6.00 mm	1
C1396.5	6.50 mm	1
C1397.0	7.00 mm	1
C1397.5	7.50 mm	1
C1398.0	8.00 mm	1
C1398.5	8.50 mm	1
C1399.0	9.00 mm	1
C1399.5	9.50 mm	1
C13910.0	10.00 mm	1
C13911.0	11.00 mm	1
C13912.0	12.00 mm	1
C13913.0	13.00 mm	1
C13914.0	14.00 mm	1
C13915.0	15.00 mm	1
C13916.0	16.00 mm	1
C13918.0	18.00 mm	1
C13920.0	20.00 mm	1
C13922.0	22.00 mm	1
C13925.0	25.00 mm	1

C159

Fresa de topo para canais - 2 cortes

HSS-E | P9 | W | NOF 2 | λ40° γ20° | DIN 1835B | Bright



e-Code	Descrição	M
C1592.0	2.00 mm	1
C1593.0	3.00 mm	1
C1594.0	4.00 mm	1
C1595.0	5.00 mm	1
C1596.0	6.00 mm	1
C1598.0	8.00 mm	1
C15910.0	10.00 mm	1
C15912.0	12.00 mm	1
C15914.0	14.00 mm	1
C15916.0	16.00 mm	1
C15918.0	18.00 mm	1
C15920.0	20.00 mm	1

C167

Fresa de topo - 2 cortes

HSS-E | N | NOF 2 | λ30° γ12° | DIN 1835A | Bright



e-Code	Descrição	M
C1676.0	6.00 mm	1
C1678.0	8.00 mm	1
C16710.0	10.00 mm	1
C16712.0	12.00 mm	1
C16716.0	16.00 mm	1

C170

Fresa de topo - 2 cortes

NOVIDADE | PRIMEIRA ESCOLHA DESTAQUE

HSS | P9 | N | NOF 2 | λ30° γ12° | DIN 1835A | Bright



e-Code	Descrição	M
C1703.0B	3.0 mm	1
C1704.0B	4.0 mm	1
C1705.0B	5.0 mm	1
C1706.0B	6.0 mm	1
C1707.0B	7.0 mm	1
C1708.0B	8.0 mm	1
C1709.0B	9.0 mm	1
C17010.0B	10.0 mm	1
C17011.0B	11.0 mm	1
C17012.0B	12.0 mm	1
C17014.0B	14.0 mm	1
C17015.0B	15.0 mm	1
C17016.0B	16.0 mm	1
C17018.0B	18.0 mm	1
C17020.0B	20.0 mm	1

C210

Fresa de topo - 4 cortes

NOVIDADE | PRIMEIRA ESCOLHA DESTAQUE

HSS | N | NOF 4-6 | λ30° γ12° | DIN 1835A | Bright



e-Code	Descrição	M
C2103.0B	3.0 mm	1
C2104.0B	4.0 mm	1
C2105.0B	5.0 mm	1
C2106.0B	6.0 mm	1
C2107.0B	7.0 mm	1
C2108.0B	8.0 mm	1
C2109.0B	9.0 mm	1
C21010.0B	10.0 mm	1
C21011.0B	11.0 mm	1
C21012.0B	12.0 mm	1
C21014.0B	14.0 mm	1
C21015.0B	15.0 mm	1
C21016.0B	16.0 mm	1
C21018.0B	18.0 mm	1
C21020.0B	20.0 mm	1

C246

Fresa de topo - 4/6 cortes

HSS-E PM | N | NOF 4-6 | λ30° γ12° | DIN 1835B | TiCN



e-Code	Descrição	M
C2462.0	2.00 mm	1
C2463.0	3.00 mm	1
C2464.0	4.00 mm	1
C2465.0	5.00 mm	1
C2466.0	6.00 mm	1
C2467.0	7.00 mm	1
C2468.0	8.00 mm	1
C24610.0	10.00 mm	1
C24611.0	11.00 mm	1
C24612.0	12.00 mm	1
C24613.0	13.00 mm	1
C24614.0	14.00 mm	1
C24615.0	15.00 mm	1
C24616.0	16.00 mm	1
C24618.0	18.00 mm	1
C24620.0	20.00 mm	1
C24622.0	22.00 mm	1
C24625.0	25.00 mm	1

C247

Fresa de topo - vários cortes

PRIMEIRA ESCOLHA DESTAQUE

HSS-E PM | N | NOF 4-8 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C2472.0	2.00 mm	1
C2472.5	2.50 mm	1
C2473.0	3.00 mm	1
C2471/8	1/8"	1
C2473.5	3.50 mm	1
C2474.0	4.00 mm	1
C2474.5	4.50 mm	1
C2473/16	3/16"	1
C2475.0	5.00 mm	1
C2475.5	5.50 mm	1
C2476.0	6.00 mm	1
C2471/4	1/4"	1
C2476.5	6.50 mm	1
C2477.0	7.00 mm	1
C2477.5	7.50 mm	1
C2475/16	5/16"	1
C2478.0	8.00 mm	1
C2478.5	8.50 mm	1
C2479.0	9.00 mm	1
C2479.5	9.50 mm	1
C2473/8	3/8"	1
C24710.0	10.00 mm	1
C24711.0	11.00 mm	1
C24712.0	12.00 mm	1
C2471/2	1/2"	1
C24713.0	13.00 mm	1
C24714.0	14.00 mm	1
C2479/16	9/16"	1
C24715.0	15.00 mm	1
C2475/8	5/8"	1
C24716.0	16.00 mm	1
C24717.0	17.00 mm	1
C24718.0	18.00 mm	1
C24719.0	19.00 mm	1
C2473/4	3/4"	1
C24720.0	20.00 mm	1
C24721.0	21.00 mm	1
C24722.0	22.00 mm	1
C2477/8	7/8"	1
C24723.0	23.00 mm	1
C24724.0	24.00 mm	1
C24725.0	25.00 mm	1
C2471	1"	1
C24726.0	26.00 mm	1
C24728.0	28.00 mm	1
C24730.0	30.00 mm	1
C24732.0	32.00 mm	1
C24736.0	36.00 mm	1
C24740.0	40.00 mm	1
C24750.0	50.00 mm	1

C273

Fresa de topo - vários cortes

HSS-E PM | N | NOF 4-6 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C2732.0	2.00 mm	1
C2732.5	2.50 mm	1
C2733.0	3.00 mm	1
C2731/8	1/8"	1
C2733.5	3.50 mm	1
C2734.0	4.00 mm	1
C2734.5	4.50 mm	1
C2733/16	3/16"	1
C2735.0	5.00 mm	1
C2735.5	5.50 mm	1
C2736.0	6.00 mm	1
C2731/4	1/4"	1
C2737.0	7.00 mm	1
C2738.0	8.00 mm	1
C2739.0	9.00 mm	1
C2733/8	3/8"	1
C27310.0	10.00 mm	1
C27311.0	11.00 mm	1
C27312.0	12.00 mm	1
C2731/2	1/2"	1
C27313.0	13.00 mm	1
C27314.0	14.00 mm	1
C27315.0	15.00 mm	1
C2735/8	5/8"	1
C27316.0	16.00 mm	1
C27318.0	18.00 mm	1
C2733/4	3/4"	1
C27320.0	20.00 mm	1
C27322.0	22.00 mm	1
C27325.0	25.00 mm	1
C2731	1"	1
C27328.0	28.00 mm	1
C27330.0	30.00 mm	1
C27332.0	32.00 mm	1
C27340.0	40.00 mm	1

C295

Fresa de topo - 4/6 cortes

HSS-E PM | N | NOF 4-6 | λ30° γ12° | DIN 1835B | TiCN



e-Code	Descrição	M
C2952.0	2.00 mm	1
C2953.0	3.00 mm	1
C2954.0	4.00 mm	1
C2955.0	5.00 mm	1
C2956.0	6.00 mm	1
C2957.0	7.00 mm	1
C2958.0	8.00 mm	1
C2959.0	9.00 mm	1
C29510.0	10.00 mm	1
C29511.0	11.00 mm	1
C29512.0	12.00 mm	1
C29515.0	15.00 mm	1
C29516.0	16.00 mm	1
C29518.0	18.00 mm	1
C29520.0	20.00 mm	1
C29525.0	25.00 mm	1
C29530.0	30.00 mm	1
C29532.0	32.00 mm	1
C29540.0	40.00 mm	1

C299

Fresa de topo - 3/5 cortes

HSS-E PM | N | NOF 3-5 | λ45° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C2993.0	3.00 mm	1
C2994.0	4.00 mm	1
C2995.0	5.00 mm	1
C2996.0	6.00 mm	1
C2998.0	8.00 mm	1
C29910.0	10.00 mm	1
C29912.0	12.00 mm	1
C29914.0	14.00 mm	1
C29916.0	16.00 mm	1
C29918.0	18.00 mm	1
C29920.0	20.00 mm	1

C305

Fresa de topo para canais - 3 cortes

HSS-E PM | P9 | N | NOF 3 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C3052.0	2.00 mm	1
C3052.5	2.50 mm	1
C3053.0	3.00 mm	1
C3053.5	3.50 mm	1
C3054.0	4.00 mm	1
C3054.5	4.50 mm	1
C3055.0	5.00 mm	1
C3055.5	5.50 mm	1
C3056.0	6.00 mm	1
C3056.5	6.50 mm	1
C3057.0	7.00 mm	1
C3057.5	7.50 mm	1
C3058.0	8.00 mm	1
C3058.5	8.50 mm	1
C3059.0	9.00 mm	1
C30510.0	10.00 mm	1
C30511.0	11.00 mm	1
C30512.0	12.00 mm	1
C30513.0	13.00 mm	1
C30514.0	14.00 mm	1
C30515.0	15.00 mm	1
C30516.0	16.00 mm	1
C30517.0	17.00 mm	1
C30518.0	18.00 mm	1
C30519.0	19.00 mm	1
C30520.0	20.00 mm	1
C30522.0	22.00 mm	1
C30525.0	25.00 mm	1
C30528.0	28.00 mm	1
C30530.0	30.00 mm	1
C30532.0	32.00 mm	1

C306

Fresa de topo para canais - 3 cortes

HSS-E PM | P9 | N | NOF 3 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C3063.0	3.00 mm	1
C3064.0	4.00 mm	1
C3065.0	5.00 mm	1
C3066.0	6.00 mm	1
C3067.0	7.00 mm	1
C3068.0	8.00 mm	1
C3069.0	9.00 mm	1
C3069.5	9.50 mm	1
C30610.0	10.00 mm	1
C30611.0	11.00 mm	1
C30612.0	12.00 mm	1
C30614.0	14.00 mm	1
C30615.0	15.00 mm	1
C30616.0	16.00 mm	1
C30618.0	18.00 mm	1
C30620.0	20.00 mm	1
C30622.0	22.00 mm	1
C30625.0	25.00 mm	1
C30630.0	30.00 mm	1

C333

Fresa de topo - 3 cortes

HSS-E PM | W | NOF 3 | λ40° γ25° | DIN 1835B | Bright



e-Code	Descrição	M
C33310.0	10.00 mm	1
C33312.0	12.00 mm	1
C33314.0	14.00 mm	1
C33316.0	16.00 mm	1
C33318.0	18.00 mm	1
C33320.0	20.00 mm	1
C33325.0	25.00 mm	1
C33330.0	30.00 mm	1

C336

Fresa de topo - 3 cortes

HSS-E PM | W | NOF 3 | λ40° γ25° | DIN 1835B | Bright



e-Code	Descrição	M
C33610.0	10.00 mm	1
C33612.0	12.00 mm	1
C33614.0	14.00 mm	1
C33616.0	16.00 mm	1
C33618.0	18.00 mm	1
C33620.0	20.00 mm	1
C33622.0	22.00 mm	1
C33625.0	25.00 mm	1
C33630.0	30.00 mm	1

C346

Fresa de topo para rasgo longa - 3 cortes

HSS-E | N | NOF 3 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C3463.0	3.00 mm	1
C3464.0	4.00 mm	1
C3465.0	5.00 mm	1
C3466.0	6.00 mm	1
C3467.0	7.00 mm	1
C3468.0	8.00 mm	1
C3469.0	9.00 mm	1
C34610.0	10.00 mm	1
C34611.0	11.00 mm	1
C34612.0	12.00 mm	1
C34613.0	13.00 mm	1
C34615.0	15.00 mm	1
C34616.0	16.00 mm	1
C34620.0	20.00 mm	1

C352

Fresa de topo para canais - 3 cortes

HSS-E PM | P9 | N | NOF 3 | λ30° γ12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C3523.0	3.00 mm	1
C3524.0	4.00 mm	1
C3525.0	5.00 mm	1
C3526.0	6.00 mm	1
C3528.0	8.00 mm	1
C35210.0	10.00 mm	1
C35212.0	12.00 mm	1
C35214.0	14.00 mm	1
C35216.0	16.00 mm	1
C35218.0	18.00 mm	1
C35220.0	20.00 mm	1

C353

Fresa de topo para canais - 3 cortes

HSS-E PM | P9 | N | NOF 3 | λ30° γ12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C3533.0	3.00 mm	1
C3533.5	3.50 mm	1
C3534.0	4.00 mm	1
C3534.5	4.50 mm	1
C3534.8	4.80 mm	1
C3535.0	5.00 mm	1
C3535.5	5.50 mm	1
C3536.0	6.00 mm	1
C3536.5	6.50 mm	1
C3537.0	7.00 mm	1
C3537.5	7.50 mm	1
C3537.75	7.75 mm	1
C3538.0	8.00 mm	1
C3538.5	8.50 mm	1
C3539.0	9.00 mm	1
C3539.5	9.50 mm	1
C35310.0	10.00 mm	1
C35311.0	11.00 mm	1
C35312.0	12.00 mm	1
C35313.0	13.00 mm	1
C35314.0	14.00 mm	1
C35315.0	15.00 mm	1
C35316.0	16.00 mm	1
C35318.0	18.00 mm	1
C35320.0	20.00 mm	1
C35322.0	22.00 mm	1
C35325.0	25.00 mm	1
C35328.0	28.00 mm	1
C35330.0	30.00 mm	1

C367

Fresa de ranhurar - 3 cortes

HSS-E PM | P9 | N | NOF 3 | λ40° γ15° | DIN 1835B | Alcrona



e-Code	Descrição	M
C3672.0	2.00 mm	1
C3673.0	3.00 mm	1
C3674.0	4.00 mm	1
C3675.0	5.00 mm	1
C3676.0	6.00 mm	1
C3677.0	7.00 mm	1
C3678.0	8.00 mm	1
C36710.0	10.00 mm	1
C36711.0	11.00 mm	1
C36712.0	12.00 mm	1
C36714.0	14.00 mm	1
C36716.0	16.00 mm	1
C36718.0	18.00 mm	1
C36720.0	20.00 mm	1

C400

Fresa com quebra cavaco - vários cortes

HSS-E | NF | NOF 4-6 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C4006.0	6.00 mm	1
C4008.0	8.00 mm	1
C40010.0	10.00 mm	1
C40012.0	12.00 mm	1
C40014.0	14.00 mm	1
C40016.0	16.00 mm	1
C40018.0	18.00 mm	1
C40020.0	20.00 mm	1

C403

Fresa longa com quebra cavaco - vários cortes

HSS-E | NF | NOF 4-6 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C40310.0	10.00 mm	1
C40312.0	12.00 mm	1
C40314.0	14.00 mm	1
C40316.0	16.00 mm	1
C40318.0	18.00 mm	1
C40320.0	20.00 mm	1
C40330.0	30.00 mm	1
C40332.0	32.00 mm	1
C40336.0	36.00 mm	1
C40340.0	40.00 mm	1
C40345.0	45.00 mm	1
C40350.0	50.00 mm	1

C407

Fresa com quebra cavaco - vários cortes

HSS-E PM | NRA | NOF 4-6 | λ35° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C4076.0	6.00 mm	1
C4077.0	7.00 mm	1
C4078.0	8.00 mm	1
C4079.0	9.00 mm	1
C40710.0	10.00 mm	1
C40711.0	11.00 mm	1
C40712.0	12.00 mm	1
C40713.0	13.00 mm	1
C40714.0	14.00 mm	1
C40715.0	15.00 mm	1
C40716.0	16.00 mm	1
C40718.0	18.00 mm	1
C40720.0	20.00 mm	1

C413

Fresa para desbaste - 4/6 cortes

HSS-E | NF | NOF 4-6 | λ30° γ12° | DIN 1835B | TiCN



e-Code	Descrição	M
C4136.0	6.00 mm	1
C4138.0	8.00 mm	1
C41310.0	10.00 mm	1
C41312.0	12.00 mm	1
C41314.0	14.00 mm	1
C41316.0	16.00 mm	1
C41318.0	18.00 mm	1
C41320.0	20.00 mm	1

C428

Fresa para desbaste - 4/6 cortes

HSS-E PM | HRA | NOF 4-6 | λ35° γ12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C4286.0	6.00 mm	1
C4287.0	7.00 mm	1
C4288.0	8.00 mm	1
C4289.0	9.00 mm	1
C42810.0	10.00 mm	1
C42811.0	11.00 mm	1
C42812.0	12.00 mm	1
C42813.0	13.00 mm	1
C42814.0	14.00 mm	1
C42815.0	15.00 mm	1
C42816.0	16.00 mm	1
C42818.0	18.00 mm	1
C42820.0	20.00 mm	1
C42822.0	22.00 mm	1
C42825.0	25.00 mm	1
C42828.0	28.00 mm	1
C42830.0	30.00 mm	1
C42832.0	32.00 mm	1
C42836.0	36.00 mm	1
C42840.0	40.00 mm	1

C492

Fresa para desbaste - 3/6 cortes

HSS-E PM | HRA | NOF 3-6 | λ35° γ12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C4926.0	6.00 mm	1
C4928.0	8.00 mm	1
C49210.0	10.00 mm	1
C49212.0	12.00 mm	1
C49214.0	14.00 mm	1
C49216.0	16.00 mm	1
C49218.0	18.00 mm	1
C49220.0	20.00 mm	1
C49222.0	22.00 mm	1
C49225.0	25.00 mm	1
C49230.0	30.00 mm	1

C500

Fresa de topo esférico - 2 cortes

HSS-E | N | NOF 2 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C5002.0	2.00 mm	1
C5003.0	3.00 mm	1
C5004.0	4.00 mm	1
C5005.0	5.00 mm	1
C5006.0	6.00 mm	1
C5007.0	7.00 mm	1
C5008.0	8.00 mm	1
C5009.0	9.00 mm	1
C50010.0	10.00 mm	1
C50012.0	12.00 mm	1
C50014.0	14.00 mm	1
C50015.0	15.00 mm	1
C50016.0	16.00 mm	1
C50018.0	18.00 mm	1
C50020.0	20.00 mm	1
C50025.0	25.00 mm	1

C505

Fresa de topo esférico - 2 cortes

HSS-E | N | NOF 2 | λ30° γ12° | DIN 1835B | Bright



e-Code	Descrição	M
C5053.0	3.00 mm	1
C5054.0	4.00 mm	1
C5055.0	5.00 mm	1
C5056.0	6.00 mm	1
C5058.0	8.00 mm	1
C50510.0	10.00 mm	1
C50512.0	12.00 mm	1
C50514.0	14.00 mm	1
C50516.0	16.00 mm	1
C50520.0	20.00 mm	1
C50522.0	22.00 mm	1
C50525.0	25.00 mm	1
C50528.0	28.00 mm	1
C50530.0	30.00 mm	1

C700

Fresas para arredondar arestas

HSS-E | N | NOF 4-6 | λ0° γ0° | DIN 1835B | Bright



e-Code	Descrição	M
C7001.0	10.00 mm x 1.0 mm	1
C7001.5	10.00 mm x 1.5 mm	1
C7002.0	10.00 mm x 2.0 mm	1
C7002.5	10.00 mm x 2.5 mm	1
C7003.0	12.00 mm x 3.0 mm	1
C7003.5	12.00 mm x 3.5 mm	1
C7004.0	15.00 mm x 4.0 mm	1
C7005.0	18.00 mm x 5.0 mm	1
C7006.0	21.00 mm x 6.0 mm	1
C7007.0	24.00 mm x 7.0 mm	1
C7008.0	24.00 mm x 8.0 mm	1
C7009.0	28.00 mm x 9.0 mm	1
C70010.0	28.00 mm x 10.0 mm	1
C70012.0	35.00 mm x 12.0 mm	1
C70012.5	35.00 mm x 12.5 mm	1
C70014.0	42.00 mm x 14.0 mm	1
C70015.0	48.00 mm x 15.0 mm	1
C70016.0	48.00 mm x 16.0 mm	1
C70020.0	60.00 mm x 20.0 mm	1

C710

Fresa para arredondar arestas

HSS | N | NOF 4 | λ0° γ0° | Bright



e-Code	Descrição	M
C7101/16	3/8 pol x 1/16 pol	1
C7101/8	1/2 pol x 1/8 pol	1
C7105/32	9/16 pol x 5/32 pol	1
C7103/16	5/8 pol x 3/16 pol	1
C7101/4	7/8 pol x 1/4 pol	1
C7103/8	1.1/16 pol x 3/8 pol	1
C7101/2	1.3/8 pol x 1/2 pol	1

C800

Fresa para abrir rasgos T

HSS-E | N | NOF 6-8 | λ15° γ10° | DIN 1835 | Bright



e-Code	Descrição	M
C80011.0X5.0	11.00 mm x 5.0 mm	1
C80012.5X6.0	12.50 mm x 6.0 mm	1
C80016.0X8.0	16.00 mm x 8.0 mm	1
C80018.0X10.0	18.00 mm x 10.0 mm	1
C80021.0X12.0	21.00 mm x 12.0 mm	1
C80025.0X14.0	25.00 mm x 14.0 mm	1
C80032.0X18.0	32.00 mm x 18.0 mm	1
C80040.0X22.0	40.00 mm x 22.0 mm	1
C80050.0X28.0	50.00 mm x 28.0 mm	1

C801

Fresa para abrir rasgos T

HSS-E | NF | NOF 6-8 | λ12° γ10° | DIN 1835B | Bright



e-Code	Descrição	M
C80116.0X8.0	16.00 mm x 8.0 mm	1
C80118.0X10.0	18.00 mm x 10.0 mm	1
C80121.0X12.0	21.00 mm x 12.0 mm	1
C80125.0X14.0	25.00 mm x 14.0 mm	1
C80132.0X18.0	32.00 mm x 18.0 mm	1

C810

Fresa para abrir rasgos T

HSS | N | NOF 6-8 | λ12° γ10° | DIN 1835D | Bright



e-Code	Descrição	M
C8106.0	12.50 mm x 6.0 mm	1
C8108.0	16.00 mm x 8.0 mm	1
C81010.0	18.00 mm x 10.0 mm	1
C81012.0	21.00 mm x 12.0 mm	1
C81014.0	25.00 mm x 14.0 mm	1
C81016.0	28.00 mm x 16.0 mm	1
C81018.0	32.00 mm x 18.0 mm	1
C81020.0	36.00 mm x 20.0 mm	1
C81022.0	40.00 mm x 22.0 mm	1

C820

Fresa para chaveta meia lua

HSS | N | NOF 6-12 | λ12° γ10° | DIN 1835D | Bright



e-Code	Descrição	M
C82010.5X2.0	10.50 mm x 2.0 mm	1
C82010.5X2.5	10.50 mm x 2.5 mm	1
C82010.5X3.0	10.50 mm x 3.0 mm	1
C820204	1/2 pol x 1/16 pol	1
C820404	1/2 pol x 1/8 pol	1
C82013.5X2.0	13.50 mm x 2.0 mm	1
C82013.5X2.5	13.50 mm x 2.5 mm	1
C82013.5X3.0	13.50 mm x 3.0 mm	1
C82013.5X4.0	13.50 mm x 4.0 mm	1
C820505	5/8 pol x 5/32 pol	1
C820405	5/8 pol x 1/8 pol	1
C82016.5X2.5	16.50 mm x 2.5 mm	1
C82016.5X3.0	16.50 mm x 3.0 mm	1
C82016.5X4.0	16.50 mm x 4.0 mm	1
C82016.5X5.0	16.50 mm x 5.0 mm	1
C820506	3/4 pol x 5/32 pol	1
C820406	3/4 pol x 1/8 pol	1
C820606	3/4 pol x 3/16 pol	1
C82019.5X3.0	19.50 mm x 3.0 mm	1
C82019.5X4.0	19.50 mm x 4.0 mm	1
C82019.5X5.0	19.50 mm x 5.0 mm	1
C820507	7/8 pol x 5/32 pol	1
C820607	7/8 pol x 3/16 pol	1
C820807	7/8 pol x 1/4 pol	1
C82022.5X4.0	22.50 mm x 4.0 mm	1
C82022.5X5.0	22.50 mm x 5.0 mm	1
C82022.5X6.0	22.50 mm x 6.0 mm	1
C820808	1 pol x 1/4 pol	1
C820608	1 pol x 3/16 pol	1
C82025.5X5.0	25.50 mm x 5.0 mm	1
C82025.5X6.0	25.50 mm x 6.0 mm	1
C82025.5X8.0	25.50 mm x 8.0 mm	1
C82028.5X5.0	28.50 mm x 5.0 mm	1
C82028.5X6.0	28.50 mm x 6.0 mm	1
C82028.5X8.0	28.50 mm x 8.0 mm	1
C820810	1.1/4 pol x 1/4 pol	1
C820610	1.1/4 pol x 3/16 pol	1
C8201210	1.1/4 pol x 3/8 pol	1
C82032.5X5.0	32.50 mm x 5.0 mm	1
C82032.5X6.0	32.50 mm x 6.0 mm	1
C82032.5X8.0	32.50 mm x 8.0 mm	1
C820811	1.3/8 pol x 1/4 pol	1
C8201211	1.3/8 pol x 3/8 pol	1
C82035.5X6.0	35.50 mm x 6.0 mm	1
C82035.5X8.0	35.50 mm x 8.0 mm	1
C820812	1.1/2 pol x 1/4 pol	1
C8201212	1.1/2 pol x 3/8 pol	1
C82038.5X10.0	38.50 mm x 10.0 mm	1
C82038.5X8.0	38.50 mm x 8.0 mm	1
C82045.5X10.0	45.50 mm x 10.0 mm	1

C822

Fresa para chaveta meia lua

HSS-E | N | NOF 6-12 | λ10° γ10° | D B DIN 1835 | Bright



e-Code	Descrição	M
C8224.5X1.0	4.50 mm x 1.0 mm	1
C8227.5X1.5	7.50 mm x 1.5 mm	1
C8227.5X2.0	7.50 mm x 2.0 mm	1
C82210.5X2.0	10.50 mm x 2.0 mm	1
C82210.5X2.5	10.50 mm x 2.5 mm	1
C82210.5X3.0	10.50 mm x 3.0 mm	1
C82213.5X3.0	13.50 mm x 3.0 mm	1
C82213.5X4.0	13.50 mm x 4.0 mm	1
C82216.5X3.0	16.50 mm x 3.0 mm	1
C82216.5X4.0	16.50 mm x 4.0 mm	1
C82216.5X5.0	16.50 mm x 5.0 mm	1
C82219.5X3.0	19.50 mm x 3.0 mm	1
C82219.5X4.0	19.50 mm x 4.0 mm	1
C82219.5X5.0	19.50 mm x 5.0 mm	1
C82222.5X5.0	22.50 mm x 5.0 mm	1
C82222.5X6.0	22.50 mm x 6.0 mm	1
C82222.5X8.0	22.50 mm x 8.0 mm	1
C82225.5X6.0	25.50 mm x 6.0 mm	1
C82228.5X10.0	28.50 mm x 10.0 mm	1
C82228.5X6.0	28.50 mm x 6.0 mm	1
C82228.5X8.0	28.50 mm x 8.0 mm	1
C82232.5X10.0	32.50 mm x 10.0 mm	1
C82232.5X8.0	32.50 mm x 8.0 mm	1
C82245.5X10.0	45.50 mm x 10.0 mm	1

C825

Fresa para faceamento lateral

HSS-E | N | NOF 8-12 | λ15° γ15° | DIN 1835B | Bright



e-Code	Descrição	M
C8253.0X40.0	40.00 mm x 3.0 mm	1
C8254.0X40.0	40.00 mm x 4.0 mm	1
C8255.0X40.0	40.00 mm x 5.0 mm	1
C8256.0X40.0	40.00 mm x 6.0 mm	1
C8258.0X40.0	40.00 mm x 8.0 mm	1
C82510.0X40.0	40.00 mm x 10.0 mm	1
C8256.0X63.0	63.00 mm x 6.0 mm	1
C8258.0X63.0	63.00 mm x 8.0 mm	1
C82510.0X63.0	63.00 mm x 10.0 mm	1
C82512.0X63.0	63.00 mm x 12.0 mm	1
C82514.0X63.0	63.00 mm x 14.0 mm	1
C82516.0X63.0	63.00 mm x 16.0 mm	1

C830

Fresa rabo de andorinha

HSS-E | N | NOF 10-12 | λ0° γ0° | DIN 1835B | Bright



e-Code	Descrição	M
C83012.0X45	12.00 mm x 3.5 mm	1
C83012.0X60	12.00 mm x 5.0 mm	1
C83016.0X45	16.00 mm x 4.0 mm	1
C83016.0X60	16.00 mm x 6.3 mm	1
C83020.0X45	20.00 mm x 5.0 mm	1
C83020.0X60	20.00 mm x 8.0 mm	1
C83025.0X45	25.00 mm x 6.3 mm	1
C83025.0X60	25.00 mm x 10.0 mm	1
C83032.0X45	32.00 mm x 8.0 mm	1
C83032.0X60	32.00 mm x 12.5 mm	1

C831

Fresa rabo de andorinha invertida

HSS-E | N | NOF 10-12 | λ0° γ0° | DIN 1835B | Bright



e-Code	Descrição	M
C83112.0X45	12.00 mm x 3.5 mm	1
C83112.0X60	12.00 mm x 5.0 mm	1
C83116.0X45	16.00 mm x 4.0 mm	1
C83116.0X60	16.00 mm x 6.3 mm	1
C83120.0X45	20.00 mm x 5.0 mm	1
C83120.0X60	20.00 mm x 8.0 mm	1
C83125.0X45	25.00 mm x 6.3 mm	1
C83125.0X60	25.00 mm x 10.0 mm	1
C83132.0X45	32.00 mm x 8.0 mm	1
C83132.0X60	32.00 mm x 12.5 mm	1

C835

Fresa rabo de andorinha

HSS | N | NOF 6-8 | λ 0° γ 0° | DIN 1835D | Bright



e-Code	Descrição	M
C8351/2	1/2 pol x 4.0 mm	1
C83513.0	13.00 mm x 4.0 mm	1
C8355/8	5/8 pol x 5.5 mm	1
C83516.0	16.00 mm x 5.5 mm	1
C83519.0	19.00 mm x 7.0 mm	1
C8353/4	3/4 pol x 7.0 mm	1
C83522.0	22.00 mm x 9.5 mm	1
C8357/8	7/8 pol x 9.5 mm	1
C83525.0	25.00 mm x 12.0 mm	1
C8351	1 pol x 12.0 mm	1
C83528.0	28.00 mm x 12.5 mm	1
C8351.1/8	1.1/8 pol x 12.5 mm	1
C83532.0	32.00 mm x 13.5 mm	1
C8351.1/4	1.1/4 pol x 13.5 mm	1
C8351.3/8	1.3/8 pol x 14.5 mm	1
C83535.0	35.00 mm x 14.5 mm	1
C83538.0	38.00 mm x 16.0 mm	1
C8351.1/2	1.1/2 pol x 16.0 mm	1

C837

Fresa rabo de andorinha

HSS | N | NOF 6-8 | λ 0° γ 0° | DIN 1835D | Bright



e-Code	Descrição	M
C83713.0	13.00 mm x 3.0 mm	1
C8375/8	5/8 pol x 4.0 mm	1
C83716.0	16.00 mm x 4.0 mm	1
C83719.0	19.00 mm x 5.5 mm	1
C8373/4	3/4 pol x 5.5 mm	1
C83722.0	22.00 mm x 6.5 mm	1
C8377/8	7/8 pol x 6.5 mm	1
C83725.0	25.00 mm x 7.5 mm	1
C8371	1 pol x 8.0 mm	1
C83728.0	28.00 mm x 8.5 mm	1
C83738.0	38.00 mm x 10.5 mm	1

C907

Fresa de acabamento - 3/6 cortes

HSS-E PM | N | NOF 3-6 | λ 45° γ 12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C9073.0	3.00 mm	1
C9074.0	4.00 mm	1
C9075.0	5.00 mm	1
C9076.0	6.00 mm	1
C9078.0	8.00 mm	1
C90710.0	10.00 mm	1
C90712.0	12.00 mm	1
C90714.0	14.00 mm	1
C90716.0	16.00 mm	1
C90718.0	18.00 mm	1
C90720.0	20.00 mm	1
C90722.0	22.00 mm	1
C90725.0	25.00 mm	1
C90728.0	28.00 mm	1
C90730.0	30.00 mm	1
C90732.0	32.00 mm	1

C908

Fresa de desbaste - 4/6 cortes

HSS-E PM | NRA | NOF 4-6 | λ 35° γ 12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C9086.0	6.00 mm	1
C9087.0	7.00 mm	1
C9088.0	8.00 mm	1
C9089.0	9.00 mm	1
C90810.0	10.00 mm	1
C90811.0	11.00 mm	1
C90812.0	12.00 mm	1
C90813.0	13.00 mm	1
C90814.0	14.00 mm	1
C90815.0	15.00 mm	1
C90816.0	16.00 mm	1
C90818.0	18.00 mm	1
C90820.0	20.00 mm	1
C90822.0	22.00 mm	1
C90825.0	25.00 mm	1
C90830.0	30.00 mm	1
C90832.0	32.00 mm	1

C920

Fresa de acabamento - 3/5 cortes

HSS-E PM | N | NOF 3-5 | λ 45° γ 12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C9206.0	6.00 mm	1
C9208.0	8.00 mm	1
C92010.0	10.00 mm	1
C92012.0	12.00 mm	1
C92014.0	14.00 mm	1
C92016.0	16.00 mm	1
C92018.0	18.00 mm	1
C92020.0	20.00 mm	1
C92022.0	22.00 mm	1
C92025.0	25.00 mm	1

C922

Fresa para desbaste - 3/4 cortes

HSS-E PM | HRA | NOF 3-4 | λ 35° γ 12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C9226.0	6.00 mm	1
C9227.0	7.00 mm	1
C9228.0	8.00 mm	1
C9229.0	9.00 mm	1
C92210.0	10.00 mm	1
C92211.0	11.00 mm	1
C92212.0	12.00 mm	1
C92213.0	13.00 mm	1
C92214.0	14.00 mm	1
C92215.0	15.00 mm	1
C92216.0	16.00 mm	1
C92218.0	18.00 mm	1
C92220.0	20.00 mm	1
C92222.0	22.00 mm	1
C92224.0	24.00 mm	1
C92225.0	25.00 mm	1
C92228.0	28.00 mm	1
C92232.0	32.00 mm	1

C948

Fresa para desbaste - 4/6 cortes

HSS-E PM | NRA | NOF 4-6 | λ 35° γ 12° | DIN 1835B | Alcrona



e-Code	Descrição	M
C9486.0	6.00 mm	1
C9488.0	8.00 mm	1
C94810.0	10.00 mm	1
C94812.0	12.00 mm	1
C94814.0	14.00 mm	1
C94816.0	16.00 mm	1
C94818.0	18.00 mm	1
C94820.0	20.00 mm	1
C94825.0	25.00 mm	1
C94830.0	30.00 mm	1
C94832.0	32.00 mm	1



SERRAS CIRCULARES

D200

Fresa de faceamento lateral

HSS-E | NOF 16-30 | λ15° γ10° | Bright



e-Code	Descrição	M
D20050.0X4.0	50.00 mm x 4.0 mm	1
D20050.0X5.0	50.00 mm x 5.0 mm	1
D20063.0X6.0	63.00 mm x 6.0 mm	1
D20063.0X8.0	63.00 mm x 8.0 mm	1
D20080.0X10.0	80.00 mm x 10.0 mm	1
D20080.0X6.0	80.00 mm x 6.0 mm	1
D20080.0X8.0	80.00 mm x 8.0 mm	1
D200100.0X10.0	100.00 mm x 10.0 mm	1
D200100.0X12.0	100.00 mm x 12.0 mm	1
D200100.0X14.0	100.00 mm x 14.0 mm	1
D200100.0X16.0	100.00 mm x 16.0 mm	1
D200100.0X8.0	100.00 mm x 8.0 mm	1
D200125.0X10.0	125.00 mm x 10.0 mm	1
D200125.0X12.0	125.00 mm x 12.0 mm	1

D400

Fresa tipo circular

HSS-E | N | NOF 8-12 | λ30° γ12° | Bright



e-Code	Descrição	M
D40040.0	40.00 mm x 32.0 mm	1
D40050.0	50.00 mm x 36.0 mm	1
D40063.0	63.00 mm x 40.0 mm	1

D402

Fresa tipo circular com quebra cavaco

HSS-E | NR | NOF 6-10 | λ30° γ12° | Bright



e-Code	Descrição	M
D40240.0	40.00 mm x 32.0 mm	1
D40250.0	50.00 mm x 36.0 mm	1
D40263.0	63.00 mm x 40.0 mm	1

D420

Fresa tipo circular

HSS-E | N | NOF 8-12 | λ30° γ12° | TiCN



e-Code	Descrição	M
D42040.0	40.00 mm x 32.0 mm	1
D42050.0	50.00 mm x 36.0 mm	1
D42063.0	63.00 mm x 40.0 mm	1

D422

Fresa tipo circular com quebra cavaco

HSS-E | NR | NOF 6-10 | λ30° γ12° | TiCN



e-Code	Descrição	M
D42240.0	40.00 mm x 32.0 mm	1
D42250.0	50.00 mm x 36.0 mm	1
D42263.0	63.00 mm x 40.0 mm	1

D745

Serra circular para abertura de rasgos

HSS | 28-100 NOF | λ 15° | Bright



e-Code	Descrição	M
D74550.0X.5	50.00 mm x 0.5 mm	5
D74550.0X.6	50.00 mm x 0.6 mm	5
D74550.0X.8	50.00 mm x 0.8 mm	5
D74550.0X1.0	50.00 mm x 1.0 mm	5
D74550.0X1.2	50.00 mm x 1.20 mm	5
D74550.0X1.5	50.00 mm x 1.5 mm	5
D74550.0X1.6	50.00 mm x 1.6 mm	5
D74550.0X2.0	50.00 mm x 2.0 mm	5
D74563.0X.5	63.00 mm x 0.5 mm	5
D74563.0X.6	63.00 mm x 0.6 mm	5
D74563.0X.8	63.00 mm x 0.8 mm	5
D74563.0X1.0	63.00 mm x 1.0 mm	5
D74563.0X1.2	63.00 mm x 1.2 mm	5
D74563.0X1.5	63.00 mm x 1.5 mm	5
D74563.0X1.6	63.00 mm x 1.6 mm	5
D74563.0X2.0	63.00 mm x 2.0 mm	5
D74580.0X1.0	80.00 mm x 1.0 mm	5
D74580.0X1.2	80.00 mm x 1.2 mm	1
D74580.0X1.5	80.00 mm x 1.5 mm	1
D74580.0X1.6	80.00 mm x 1.6 mm	1
D74580.0X2.0	80.00 mm x 2.0 mm	1
D74580.0X2.5	80.00 mm x 2.5 mm	1
D74580.0X3.0	80.00 mm x 3.0 mm	1
D745100.0X1.0	100.00 mm x 1.0 mm	5
D745100.0X1.2	100.00 mm x 1.2 mm	1
D745100.0X1.5	100.00 mm x 1.5 mm	1
D745100.0X1.6	100.00 mm x 1.6 mm	1
D745100.0X2.0	100.00 mm x 2.0 mm	1
D745100.0X2.5	100.00 mm x 2.5 mm	1
D745100.0X3.0	100.00 mm x 3.0 mm	1
D745100.0X4.0	100.00 mm x 4.0 mm	1
D745125.0X1.0	125.00 mm x 1.0 mm	1
D745125.0X1.2	125.00 mm x 1.2 mm	1
D745125.0X1.5	125.00 mm x 1.5 mm	1
D745125.0X1.6	125.00 mm x 1.6 mm	1
D745125.0X2.0	125.00 mm x 2.0 mm	1
D745125.0X2.5	125.00 mm x 2.5 mm	1
D745125.0X3.0	125.00 mm x 3.0 mm	1
D745125.0X4.0	125.00 mm x 4.0 mm	1
D745160.0X1.6	160.00 mm x 1.6 mm	1
D745160.0X2.0	160.00 mm x 2.0 mm	1
D745160.0X2.5	160.00 mm x 2.5 mm	1
D745160.0X3.0	160.00 mm x 3.0 mm	1
D745160.0X4.0	160.00 mm x 4.0 mm	1
D745200.0X1.6	200.00 mm x 1.6 mm	1
D745200.0X2.0	200.00 mm x 2.0 mm	1
D745200.0X2.5	200.00 mm x 2.5 mm	1
D745200.0X3.0	200.00 mm x 3.0 mm	1
D745200.0X4.0	200.00 mm x 4.0 mm	1
D745250.0X2.0	250.00 mm x 2.0 mm	1
D745250.0X2.5	250.00 mm x 2.5 mm	1
D745250.0X3.0	250.00 mm x 3.0 mm	1

D747

Fresa tipo circular com quebra cavaco

HSS | 48-200 NOF | γ 5° | Bright



e-Code	Descrição	M
D74732.0X.3	32.0 mm x 0.3 mm	5
D74732.0X.4	32.0 mm x 0.4 mm	5
D74732.0X.5	32.0 mm x 0.5 mm	5
D74732.0X.6	32.0 mm x 0.6 mm	5
D74732.0X.8	32.0 mm x 0.8 mm	5
D74732.0X1.0	32.0 mm x 1.0 mm	5
D74732.0X1.2	32.0 mm x 1.2 mm	5
D74732.0X1.5	32.0 mm x 1.5 mm	5
D74732.0X1.6	32.0 mm x 1.6 mm	5
D74732.0X2.0	32.0 mm x 2.0 mm	5
D74740.0X.3	40.00 mm x 0.3 mm	5
D74740.0X.4	40.00 mm x 0.4 mm	5
D74740.0X.5	40.00 mm x 0.5 mm	5
D74740.0X.6	40.00 mm x 0.6 mm	5
D74740.0X.8	40.00 mm x 0.8 mm	5
D74740.0X1.0	40.00 mm x 1.0 mm	5

D74740.0X1.2	40.00 mm x 1.2 mm	5
D74740.0X1.5	40.00 mm x 1.5 mm	5
D74740.0X1.6	40.00 mm x 1.6 mm	5
D74740.0X2.0	40.00 mm x 2.0 mm	5
D74750.0X.3	50.00 mm x 0.3 mm	5
D74750.0X.4	50.00 mm x 0.4 mm	5
D74750.0X.5	50.00 mm x 0.5 mm	5
D74750.0X.6	50.00 mm x 0.6 mm	5
D74750.0X.8	50.00 mm x 0.8 mm	5
D74750.0X1.0	50.00 mm x 1.0 mm	5
D74750.0X1.2	50.00 mm x 1.2 mm	5
D74750.0X1.5	50.00 mm x 1.5 mm	5
D74750.0X1.6	50.00 mm x 1.6 mm	5
D74750.0X2.0	50.00mm x 2.0 mm	5
D74750.0X2.5	50.00 mm x 2.5 mm	1
D74750.0X3.0	50.00 mm x 3.0 mm	1
D74763.0X.5	63.0 mm x 0.5 mm	5
D74763.0X.6	63.0 mm x 0.6 mm	5
D74763.0X.8	63.0 mm x 0.8 mm	5
D74763.0X1.0	63.0 mm x 1.0 mm	5
D74763.0X1.2	63.0 mm x 1.2 mm	5
D74763.0X1.5	63.0 mm x 1.5 mm	5
D74763.0X1.6	63 mm.00 x 1.6 mm	5
D74763.0X2.0	63.0 mm x 2.0 mm	5
D74763.0X2.5	63.0 mm x 2.5 mm	1
D74763.0X3.0	63.0 mm x 3.0 mm	1
D74763.0X4.0	63.0 mm x 4.0 mm	1
D74780.0X.5	80.00 mm x 0.5 mm	5
D74780.0X.6	80.00 mm x 0.6 mm	5
D74780.0X.8	80.00 mm x 0.8 mm	5
D74780.0X1.0	80.00 mm x 1.0 mm	5
D74780.0X1.2	80.00 mm x 1.2 mm	1
D74780.0X1.5	80.00 mm x 1.5 mm	1
D74780.0X1.6	80.00 mm x 1.6 mm	1
D74780.0X2.0	80.00 mm x 2.0 mm	1
D74780.0X2.5	80.00 mm x 2.5 mm	1
D74780.0X3.0	80.00 mm x 3.0 mm	1
D74780.0X4.0	80.00 mm x 4.0 mm	1
D747100.0X.5	100.00 mm x 0.5 mm	5
D747100.0X.6	100.00 mm x 0.6 mm	5
D747100.0X.8	100.00 mm x 0.8 mm	5
D747100.0X1.0	100.00 mm x 1.0 mm	5
D747100.0X1.2	100.00 mm x 1.2 mm	1
D747100.0X1.5	100.00 mm x 1.5 mm	1
D747100.0X1.6	100.00 mm x 1.6 mm	1
D747100.0X2.0	100.00 mm x 2.0 mm	1
D747100.0X2.5	100.00 mm x 2.5 mm	1
D747100.0X3.0	100.00 mm x 3.0 mm	1
D747100.0X4.0	100.00 mm x 4.0 mm	1
D747125.0X1.0	125.0 mm x 1.0 mm	1
D747125.0X1.2	125.0 mm x 1.2 mm	1
D747125.0X1.5	125.0 mm x 1.5 mm	1
D747125.0X1.6	125.0 mm x 1.6 mm	1
D747125.0X2.0	125.0 mm x 2.0 mm	1
D747125.0X2.5	125.0 mm x 2.5 mm	1
D747125.0X3.0	125.0 mm x 3.0 mm	1
D747125.0X4.0	125.0 mm x 4.0 mm	1
D747160.0X1.0	160.00 mm x 1.0 mm	1
D747160.0X1.2	160.00 mm x 1.2 mm	1
D747160.0X1.5	160.00 mm x 1.5 mm	1
D747160.0X1.6	160.00 mm x 1.6 mm	1
D747160.0X2.0	160.00 mm x 2.0 mm	1
D747160.0X2.5	160.00 mm x 2.5 mm	1
D747160.0X3.0	160.00 mm x 3.0 mm	1
D747160.0X4.0	160.00 mm x 4.0 mm	1
D747160.0X5.0	160.00 mm x 5.0 mm	1
D747200.0X1.0	200.00 mm x 1.0 mm	1
D747200.0X1.2	200.00 mm x 1.2 mm	1
D747200.0X2.0	200.00 mm x 2.0 mm	1
D747200.0X3.0	200.00 mm x 3.0 mm	1

D750

Serra circular para abertura de rasgos

HSS | 130-220 NOF | γ 18° | ST



e-Code	Descrição	
D750200.0X1.8	200.00 mm x 1.8 mm	1
D750225.0X2.0	225.00 mm x 2.0 mm	1
D750250.0X2.0	250.00 mm x 2.0 mm	1
D750275.0X2.5	275.00 mm x 2.5 mm	1
D750300.0X2.5	300.00 mm x 2.5 mm	1
D750315.0X2.5	315.00 mm x 2.5 mm	1
D750350.0X2.5	350.00 mm x 2.5 mm	1

D751

Serra circular para abertura de rasgos

HSS | 160-350 NOF | γ 18° | ST



e-Code	Descrição	
D751200.0X1.8X160	200.00 mm x 1.8 mm	1
D751200.0X1.8X200	200.00 mm x 1.8 mm	1
D751225.0X2.0X180	225.00 mm x 2.0 mm	1
D751225.0X2.0X220	225.00 mm x 2.0 mm	1
D751250.0X2.0X200	250.00 mm x 2.0 mm	1
D751250.0X2.0X250	250.00 mm x 2.0 mm	1
D751275.0X2.5X220	275.00 mm x 2.5 mm	1
D751275.0X2.5X280	275.00 mm x 2.5 mm	1
D751300.0X2.5X220	300.00 mm x 2.5 mm	1
D751300.0X2.5X300	300.00 mm x 2.5 mm	1
D751315.0X2.5X240	315.00 mm x 2.5 mm	1
D751315.0X2.5X320	315.00 mm x 2.5 mm	1
D751350.0X2.5X280	350.00 mm x 2.5 mm	1
D751350.0X2.5X350	350.00 mm x 2.5 mm	1

D752

Serra circular para abertura de rasgos

HSS | 80-180 NOF | γ 18° | ST



e-Code	Descrição	
D752250.0X2.0X128	250.00 mm x 2.0 mm	1
D752275.0X2.5X110	275.00 mm x 2.5 mm	1
D752300.0X2.5X160	300.00 mm x 2.5 mm	1
D752315.0X2.5X160	315.00 mm x 2.5 mm	1
D752350.0X2.5X180	350.00 mm x 2.5 mm	1

D753

Serra circular para abertura de rasgos

HSS | 100-140 NOF | γ 18° | ST



e-Code	Descrição	
D753250.0X2.0	250.00 mm x 2.0 mm	1
D753300.0X2.5	300.00 mm x 2.5 mm	1
D753315.0X2.5	315.00 mm x 2.5 mm	1
D753350.0X2.5	350.00 mm x 2.5 mm	1

D763

Serra circular para abertura de rasgos

HSS-E | 28-44 NOF | λ 15° γ 10° | Bright



e-Code	Descrição	
D76363.0X1.6	63.00 mm x 1.6 mm	1
D76363.0X2.0	63.00 mm x 2.0 mm	1
D76363.0X2.5	63.00 mm x 2.5 mm	1
D76363.0X3.0	63.00 mm x 3.0 mm	1
D76363.0X3.5	63.00 mm x 3.5 mm	1
D76380.0X2.0	80.00 mm x 2.0 mm	1
D76380.0X2.5	80.00 mm x 2.5 mm	1
D76380.0X3.0	80.00 mm x 3.0 mm	1
D76380.0X3.5	80.00 mm x 3.5 mm	1
D763100.0X2.0	100.00 mm x 2.0 mm	1
D763100.0X3.0	100.00 mm x 3.0 mm	1
D763125.0X2.0	125.00 mm x 2.0 mm	1
D763125.0X3.0	125.00 mm x 3.0 mm	1



LIMAS ROTATIVAS

CORTES E APLICAÇÕES

CORTE ST
Primeira escolha para alto desempenho em aços
Com medidas de 6.0 a 12.7 mm



CORTE GRP
Primeira escolha para fibra de vidro e materiais compósitos
Com medidas de 3.0 a 8.0 mm



CORTE VA
Primeira escolha para alto desempenho em aços inoxidáveis
Com medidas de 3.0 a 12.7 mm



CORTE DUPLO DC
Primeira escolha para usinagem em geral
Com medidas de 3.0 a 16.0 mm



CORTE AL
Primeira escolha para materiais não ferrosos e plásticos
Com medidas de 6.0 a 12.7 mm



CORTE DUPLO AS
Primeira escolha para superligas
Com medidas de 3.0 a 16.0 mm

NEW!





P100

Lima removedora de parafuso - cilíndrica

HM | Bright | BR





e-Code	Descrição	M
P1004.9	4.9 mm	1
P1006.4	6.4 mm	1
P1007.8	7.8 mm	1
P1009.3	9.3 mm	1
P10010.7	10.7 mm	1

P101

Lima removedora de parafuso - escareador

HM | 150° | Bright | BR





e-Code	Descrição	M
P1014.9	4.9 mm	1
P1016.4	6.4 mm	1
P1017.8	7.8 mm	1
P1019.3	9.3 mm	1
P10110.7	10.7 mm	1

P501

Lima rotativa cilíndrica sem corte no topo - para superligas

HM | A | Bright | AS



e-Code	Descrição	M
P5013.0X3.0	3.0 mm x 3.0 mm	1

P505

Lima rotativa topo esférico - para superligas

HM | C | Bright | AS



e-Code	Descrição	M
P5053.0X3.0	3.0 mm x 3.0 mm	1

P507

Lima rotativa esférica - para superligas

HM | D | Bright | AS



e-Code	Descrição	M
P5073.0X3.0	3.0 mm x 3.0 mm	1

P509

Lima rotativa oval - para superligas

HM | E | Bright | AS



e-Code	Descrição	M
P5093.0X3.0	3.0 mm x 3.0 mm	1

P511

Lima rotativa árvore arredondada - para superligas

HM | F | Bright | AS



e-Code	Descrição	M
P5113.0X3.0	3.0 mm x 3.0 mm	1

P513

Lima rotativa árvore pontiaguda - para superligas

HM | G | Bright | AS



e-Code	Descrição	M
P5133.0X3.0X14.0	3.0 x 3.0 x 8.0 mm	1
P5133.0X3.0X8.0	3.0 x 3.0 x 14.0 mm	1

P515

Lima rotativa labareda - para superligas

HM | H | Bright | AS



e-Code	Descrição	M
P5153.0X3.0	3.0 mm x 3.0 mm	1

P521

Lima rotativa cônica com raio - para superligas

HM | L | Bright | AS



e-Code	Descrição	M
P5213.0X3.0	3.0 mm x 3.0 mm	1

P523

Lima rotativa cônica - para superligas

HM | M | Bright | AS



e-Code	Descrição	M
P5233.0X3.0	3.0 mm x 3.0 mm	1

P601

Lima rotativa cilíndrica sem corte no topo - para aço inox

HM | A | Bright | VA



e-Code	Descrição	M
P6013.0X3.0	3.00 mm x 3.0 mm	1
P6016.0X6.0	6.00 mm x 6.0 mm	1
P6016.3X3.0	6.30 mm x 3.0 mm	1
P6018.0X6.0	8.00 mm x 6.0 mm	1
P6019.6X6.0	9.60 mm x 6.0 mm	1
P60112.7X6.0	12.70 mm x 6.0 mm	1

P605

Lima rotativa cilíndrica com topo esférico - para aço inox

HM C Bright VA



e-Code	Descrição	M
P6053.0X3.0	3.00 mm x 3.0 mm	1
P6056.0X6.0	6.00 mm x 6.0 mm	1
P6056.3X3.0	6.30 mm x 3.0 mm	1
P6058.0X6.0	8.00 mm x 6.0 mm	1
P6059.6X6.0	9.60 mm x 6.0 mm	1
P60512.7X6.0	12.70 mm x 6.0 mm	1

P607

Lima rotativa esférica - para aço inox

HM D Bright VA



e-Code	Descrição	M
P6073.0X3.0	3.00 mm x 3.0 mm	1
P6076.0X6.0	6.00 mm x 6.0 mm	1
P6076.3X3.0	6.30 mm x 3.0 mm	1
P6078.0X6.0	8.00 mm x 6.0 mm	1
P6079.6X6.0	9.60 mm x 6.0 mm	1
P60712.7X6.0	12.70 mm x 6.0 mm	1

P609

Lima rotativa oval - para aço inox

HM E Bright VA



e-Code	Descrição	M
P6098.0X6.0	8.00 mm x 6.0 mm	1
P6099.6X6.0	9.60 mm x 6.0 mm	1
P60912.7X6.0	12.70 mm x 6.0 mm	1

P611

Lima rotativa árvore arredondada - para aço inox

HM F Bright VA



e-Code	Descrição	M
P6113.0X3.0	3.00 mm x 3.0 mm	1
P6116.0X6.0	6.00 mm x 6.0 mm	1
P6116.3X3.0	6.30 mm x 3.0 mm	1
P6118.0X6.0	8.00 mm x 6.0 mm	1
P6119.6X6.0	9.60 mm x 6.0 mm	1
P61112.7X6.0	12.70 mm x 6.0 mm	1

P613

Lima rotativa árvore pontiaguda - para aço inox

HM G Bright VA



e-Code	Descrição	M
P6136.0X6.0	6.00 mm x 6.0 mm	1
P6138.0X6.0	8.00 mm x 6.0 mm	1
P6139.6X6.0	9.60 mm x 6.0 mm	1
P61312.7X6.0	12.70 mm x 6.0 mm	1

P615

Lima rotativa labareda - para aço inox

HM H Bright VA



e-Code	Descrição	M
P6158.0X6.0	8.00 mm x 6.0 mm	1
P6159.6X6.0	9.60 mm x 6.0 mm	1
P61512.7X6.0	12.70 mm x 6.0 mm	1

P621

Lima rotativa cônica com raio - para aço inox

HM L Bright VA



e-Code	Descrição	M
P6218.0X6.0	8.00 mm x 6.0 mm	1
P62110.0X6.0	10.0 mm x 6.0 mm	1
P62112.7X6.0	12.70 mm x 6.0 mm	1

P701

Lima rotativa cilíndrica sem corte no topo - para aços

HM A Bright ST



e-Code	Descrição	M
P7016.0X6.0	6.00 mm x 6.0 mm	1
P7018.0X6.0	8.00 mm x 6.0 mm	1
P7019.6X6.0	9.60 mm x 6.0 mm	1
P70112.7X6.0	12.70 mm x 6.0 mm	1

P703

Lima rotativa cilíndrica com corte no topo - para aços

HM B Bright ST



e-Code	Descrição	M
P7036.0X6.0	6.00 mm x 6.0 mm	1
P7038.0X6.0	8.00 mm x 6.0 mm	1
P7039.6X6.0	9.60 mm x 6.0 mm	1
P70312.7X6.0	12.70 mm x 6.0 mm	1

P705

Lima rotativa cilíndrica com topo esférico - para aços

HM C Bright ST



e-Code	Descrição	M
P7056.0X6.0	6.00 mm x 6.0 mm	1
P7058.0X6.0	8.00 mm x 6.0 mm	1
P7059.6X6.0	9.60 mm x 6.0 mm	1
P70512.7X6.0	12.70 mm x 6.0 mm	1

P707

Lima rotativa esférica - para aços

HM D Bright ST



e-Code	Descrição	M
P7076.0X6.0	6.00 mm x 6.0 mm	1
P7078.0X6.0	8.00 mm x 6.0 mm	1
P7079.6X6.0	9.60 mm x 6.0 mm	1
P70712.7X6.0	12.70 mm x 6.0 mm	1

P709

Lima rotativa oval - para aços

HM E Bright ST



e-Code	Descrição	M
P70912.7X6.0	12.70 mm x 6.0 mm	1

P711

Lima rotativa árvore arredondada - para aços

HM F Bright ST



e-Code	Descrição	M
P7116.0X6.0	6.00 mm x 6.0 mm	1
P7118.0X6.0	8.00 mm x 6.0 mm	1
P7119.6X6.0	9.60 mm x 6.0 mm	1
P71112.7X6.0	12.70 mm x 6.0 mm	1

P713

Lima rotativa árvore pontiaguda - para aços

HM G Bright ST



e-Code	Descrição	M
P7136.0X6.0	6.00 mm x 6.0 mm	1
P7138.0X6.0	8.00 mm x 6.0 mm	1
P7139.6X6.0	9.60 mm x 6.0 mm	1
P71312.7X6.0	12.70 mm x 6.0 mm	1

P715

Lima rotativa labareda - para aços

HM H Bright ST



e-Code	Descrição	M
P7158.0X6.0	8.00 mm x 6.0 mm	1
P71512.7X6.0	12.70 mm x 6.0 mm	1

P721

Lima rotativa cônica com raio - para aços

HM L Bright ST



e-Code	Descrição	M
P7219.6X6.0	9.60 mm x 6.0 mm	1
P72110.0X6.0	10.0 mm x 6.0 mm	1
P72112.7X6.0	12.70 mm x 6.0 mm	1

P801

Lima rotativa cilíndrica sem corte no topo - usinagem geral

HM A Bright DC



e-Code	Descrição	M
P8013.0X3.0	3.00 mm x 3.0 mm	1
P8016.0X6.0	6.00 mm x 6.0 mm	1
P8016.3X3.0	6.30 mm x 3.0 mm	1
P8018.0X6.0	8.00 mm x 6.0 mm	1
P8019.6X6.0	9.60 mm x 6.0 mm	1
P80112.7X6.0	12.70 mm x 6.0 mm	1
P80116.0X6.0	16.00 mm x 6.0 mm	1

P801C

Lima rotativa cilíndrica sem corte no topo - usinagem geral

HM A TiAlN DC



e-Code	Descrição	M
P801C3.0X3.0	3.00 mm x 3.0 mm	1
P801C6.0X6.0	6.00 mm x 6.0 mm	1
P801C8.0X6.0	8.00 mm x 6.0 mm	1
P801C9.6X6.0	9.60 mm x 6.0 mm	1
P801C12.7X6.0	12.70 mm x 6.0 mm	1

P803

Lima rotativa cilíndrica com corte no topo - usinagem geral

HM B Bright DC





e-Code	Descrição	M
P8033.0X3.0	3.00 mm x 3.0 mm	1
P8036.0X6.0	6.00 mm x 6.0 mm	1
P8036.3X3.0	6.30 mm x 3.0 mm	1
P8038.0X6.0	8.00 mm x 6.0 mm	1
P8039.6X6.0	9.60 mm x 6.0 mm	1
P80312.7X6.0	12.70 mm x 6.0 mm	1
P80316.0X6.0	16.00 mm x 6.0 mm	1

P803C

Lima rotativa cilíndrica com corte no topo - usinagem geral

HM B TiAlN DC



e-Code	Descrição	M
P803C3.0X3.0	3.00 mm x 3.0 mm	1
P803C6.0X6.0	6.00 mm x 6.0 mm	1
P803C8.0X6.0	8.00 mm x 6.0 mm	1
P803C9.6X6.0	9.60 mm x 6.0 mm	1
P803C12.7X6.0	12.70 mm x 6.0 mm	1

P805

Lima rotativa cilíndrica com topo esférico - usinagem geral

HM C Bright DC



e-Code	Descrição	M
P8053.0X3.0	3.00 mm x 3.0 mm	1
P8056.0X6.0	6.00 mm x 6.0 mm	1
P8056.3X3.0	6.30 mm x 3.0 mm	1
P8058.0X6.0	8.00 mm x 6.0 mm	1
P8059.6X6.0	9.60 mm x 6.0 mm	1
P80512.7X6.0	12.70 mm x 6.0 mm	1
P80516.0X6.0	16.00 mm x 6.0 mm	1

P805C

Lima rotativa cilíndrica com topo esférico - usinagem geral

HM C TiAlN DC



e-Code	Descrição	M
P805C3.0X3.0	3.00 mm x 3.0 mm	1
P805C6.0X6.0	6.00 mm x 6.0 mm	1
P805C8.0X6.0	8.00 mm x 6.0 mm	1
P805C9.6X6.0	9.60 mm x 6.0 mm	1
P805C12.7X6.0	12.70 mm x 6.0 mm	1

P807

Lima rotativa esférica - usinagem geral

HM D Bright DC



e-Code	Descrição	M
P8073.0X3.0	3.00 mm x 3.0 mm	1
P8074.0X3.0	4.00 mm x 3.0 mm	1
P8076.0X6.0	6.00 mm x 6.0 mm	1
P8076.3X3.0	6.30 mm x 3.0 mm	1
P8078.0X6.0	8.00 mm x 6.0 mm	1
P8079.6X6.0	9.60 mm x 6.0 mm	1
P80712.7X6.0	12.70 mm x 6.0 mm	1
P80716.0X6.0	16.00 mm x 6.0 mm	1

P807C

Lima rotativa esférica - usinagem geral

HM D TiAlN DC



e-Code	Descrição	M
P807C3.0X3.0	3.00 mm x 3.0 mm	1
P807C6.0X6.0	6.00 mm x 6.0 mm	1
P807C8.0X6.0	8.00 mm x 6.0 mm	1
P807C9.6X6.0	9.60 mm x 6.0 mm	1
P807C12.7X6.0	12.70 mm x 6.0 mm	1

P809

Lima rotativa oval - usinagem geral

HM E Bright DC



e-Code	Descrição	M
P8093.0X3.0	3.00 mm x 3.0 mm	1
P8096.0X6.0	6.00 mm x 6.0 mm	1
P8096.3X3.0	6.30 mm x 3.0 mm	1
P8098.0X6.0	8.00 mm x 6.0 mm	1
P8099.6X6.0	9.60 mm x 6.0 mm	1
P80912.7X6.0	12.70 mm x 6.0 mm	1
P80916.0X6.0	16.00 mm x 6.0 mm	1

P811

Lima rotativa árvore arredondada - usinagem geral

HM F Bright DC



e-Code	Descrição	M
P8113.0X3.0	3.00 mm x 3.0 mm	1
P8116.0X6.0	6.00 mm x 6.0 mm	1
P8116.3X3.0	6.30 mm x 3.0 mm	1
P8118.0X6.0	8.00 mm x 6.0 mm	1
P8119.6X6.0	9.60 mm x 6.0 mm	1
P81112.7X6.0	12.70 mm x 6.0 mm	1
P81116.0X6.0	16.00 mm x 6.0 mm	1

P811C

Lima rotativa árvore arredondada - usinagem geral

HM F TiAlN DC



e-Code	Descrição	M
P811C3.0X3.0	3.00 mm x 3.0 mm	1
P811C6.0X6.0	6.00 mm x 6.0 mm	1
P811C9.6X6.0	9.60 mm x 6.0 mm	1
P811C12.7X6.0	12.70 mm x 6.0 mm	1

P813

Lima rotativa árvore pontiaguda - usinagem geral

HM G Bright DC



e-Code	Descrição	M
P8133.0X3.0	3.00 mm x 3.0 mm	1
P8136.0X6.0	6.00 mm x 6.0 mm	1
P8136.3X3.0	6.30 mm x 3.0 mm	1
P8138.0X6.0	8.00 mm x 6.0 mm	1
P8139.6X6.0	9.60 mm x 6.0 mm	1
P81312.7X6.0	12.70 mm x 6.0 mm	1
P81316.0X6.0	16.00 mm x 6.0 mm	1

P813C

Lima rotativa árvore pontiaguda - usinagem geral

HM G TiAlN DC



e-Code	Descrição	M
P813C3.0X3.0	3.00 mm x 3.0 mm	1
P813C6.0X6.0	6.00 mm x 6.0 mm	1
P813C9.6X6.0	9.60 mm x 6.0 mm	1
P813C12.7X6.0	12.70 mm x 6.0 mm	1

P815

Lima rotativa labareda - usinagem geral

HM H Bright DC



e-Code	Descrição	M
P8153.0X3.0	3.00 mm x 3.0 mm	1
P8156.0X6.0	6.00 mm x 6.0 mm	1
P8158.0X6.0	8.00 mm x 6.0 mm	1
P8159.6X6.0	9.60 mm x 6.0 mm	1
P81512.7X6.0	12.70 mm x 6.0 mm	1
P81516.0X6.0	16.00 mm x 6.0 mm	1

P815C

Lima rotativa labareda - usinagem geral

HM H TiAlN DC



e-Code	Descrição	M
P815C8.0X6.0	8.00 mm x 6.0 mm	1
P815C12.7X6.0	12.70 mm x 6.0 mm	1

P817

Lima rotativa cônica 60° - usinagem geral

HM J Bright DC



e-Code	Descrição	M
P8173.0X3.0	3.00 mm x 3.0 mm	1
P8176.0X6.0	6.00 mm x 6.0 mm	1
P8179.6X6.0	9.60 mm x 6.0 mm	1
P81712.7X6.0	12.70 mm x 6.0 mm	1
P81716.0X6.0	16.00 mm x 6.0 mm	1

P819

Lima rotativa cônica 90° - usinagem geral

HM K Bright DC



e-Code	Descrição	M
P8193.0X3.0	3.00 mm x 3.0 mm	1
P8196.0X6.0	6.00 mm x 6.0 mm	1
P8199.6X6.0	9.60 mm x 6.0 mm	1
P81912.7X6.0	12.70 mm x 6.0 mm	1
P81916.0X6.0	16.00 mm x 6.0 mm	1

P821

Lima rotativa cônica com raio - usinagem geral

HM L Bright DC



e-Code	Descrição	M
P8213.0X3.0	3.00 mm x 3.0 mm	1
P8216.0X6.0	6.00 mm x 6.0 mm	1
P8218.0X6.0	8.00 mm x 6.0 mm	1
P8219.6X6.0	9.60 mm x 6.0 mm	1
P82112.7X6.0	12.70 mm x 6.0 mm	1
P82116.0X6.0	16.00 mm x 6.0 mm	1

P821C

Lima rotativa cônica com raio - usinagem geral

HM L TiAlN DC



e-Code	Descrição	M
P821C3.0X3.0	3.00 mm x 3.0 mm	1
P821C12.7X6.0	12.70 mm x 6.0 mm	1

P823

Lima rotativa cônica - usinagem geral

HM | M | Bright | DC



e-Code	Descrição	M
P8233.0X3.0	3.00 mm x 3.0 mm	1
P8236.0X6.0	6.00 mm x 6.0 mm	1
P8236.3X3.0	6.30 mm x 3.0 mm	1
P8239.6X6.0	9.60 mm x 6.0 mm	1
P82312.7X6.0	12.70 mm x 6.0 mm	1
P82316.0X6.0	16.00 mm x 6.0 mm	1

P825

Lima rotativa cônica invertida - usinagem geral

HM | N | Bright | DC



e-Code	Descrição	M
P8253.0X3.0	3.00 mm x 3.0 mm	1
P8256.0X6.0	6.00 mm x 6.0 mm	1
P8256.3X3.0	6.30 mm x 3.0 mm	1
P8259.6X6.0	9.60 mm x 6.0 mm	1
P82512.7X6.0	12.70 mm x 6.0 mm	1
P82516.0X6.0	16.00 mm x 6.0 mm	1

P831

Lima rotativa cilíndrica sem corte no topo - para alumínio

HM | A | Bright | AL



e-Code	Descrição	M
P8316.0X6.0	6.00 mm x 6.0 mm	1
P8319.6X6.0	9.60 mm x 6.0 mm	1
P83112.7X6.0	12.70 mm x 6.0 mm	1

P833

Lima rotativa cilíndrica com corte no topo - para alumínio

HM | B | Bright | AL



e-Code	Descrição	M
P8336.0X6.0	6.00 mm x 6.0 mm	1
P8339.6X6.0	9.60 mm x 6.0 mm	1
P83312.7X6.0	12.70 mm x 6.0 mm	1

P835

Lima rotativa cilíndrica com topo esférico - para alumínio

HM | C | Bright | AL



e-Code	Descrição	M
P8356.0X6.0	6.00 mm x 6.0 mm	1
P8359.6X6.0	9.60 mm x 6.0 mm	1
P83512.7X6.0	12.70 mm x 6.0 mm	1

P837

Lima rotativa esférica - para alumínio

HM | D | Bright | AL



e-Code	Descrição	M
P8376.0X6.0	6.00 mm x 6.0 mm	1
P8379.6X6.0	9.60 mm x 6.0 mm	1
P83712.7X6.0	12.70 mm x 6.0 mm	1

P841

Lima rotativa árvore arredondada - para alumínio

HM | F | Bright | AL



e-Code	Descrição	M
P8416.0X6.0	6.00 mm x 6.0 mm	1
P8419.6X6.0	9.60 mm x 6.0 mm	1
P84112.7X6.0	12.70 mm x 6.0 mm	1

P842

Lima rotativa cônica com raio - para alumínio

HM | L | Bright | AL



e-Code	Descrição	M
P8426.0X6.0	6.00 mm x 6.0 mm	1
P8429.6X6.0	9.60 mm x 6.0 mm	1
P84212.7X6.0	12.70 mm x 6.0 mm	1

P843

Para materiais compósitos

HM | 135° | Bright | GRP



e-Code	Descrição	M
P8433.0X3.0	3.00 mm x 3.0 mm	1
P8436.0X6.0	6.00 mm x 6.0 mm	1
P8438.0X8.0	8.00 mm x 8.0 mm	1

P844

Para materiais compósitos

HM | Bright | 180° | GRP



e-Code	Descrição	M
P8443.0X3.0	3.00 mm x 3.0 mm	1
P8446.0X6.0	6.00 mm x 6.0 mm	1
P8448.0X8.0	8.00 mm x 8.0 mm	1

P880

Jogos de limas rotativas



e-Code	Descrição
P88001	5 Peças - 9.6 mm x 6.0 mm
P88002	5 Peças - 9.6 mm x 6.0 mm
P88003	5 Peças - 9.6 mm x 6.0 mm
P88004	5 Peças - 9.6 mm x 6.0 mm
P88005	6 Peças - 9.6 mm x 6.0 mm

P890

Display com limas rotativas



e-Code	Descrição
P89001	P803 (6.0X6.0, 8.0X6.0, 9.6X6.0, 12.7X6.0) X 2 P805 (6.0X6.0, 8.0X6.0, 9.6X6.0, 12.7X6.0) X 2 P811 (6.0X6.0, 8.0X6.0, 9.6X6.0, 12.7X6.0) X 2 P813 (6.0X6.0, 8.0X6.0, 9.6X6.0, 12.7X6.0) X 2 P821 (6.0X6.0, 8.0X6.0, 9.6X6.0, 12.7X6.0) X 2



FRESAS DE METAL DURO

S501
Fresa de topo esférico

HM | N | NOF 2 | λ30° γ10° | DIN 6535HA | X-CEED



e-Code	Descrição	M
S5011.0	1.00 mm	1
S5011.5	1.50 mm	1
S5012.0	2.00 mm	1
S5012.5	2.50 mm	1
S5013.0	3.00 mm	1
S5014.0	4.00 mm	1
S5015.0	5.00 mm	1
S5016.0	6.00 mm	1
S5017.0	7.00 mm	1
S5018.0	8.00 mm	1
S5019.0	9.00 mm	1
S50110.0	10.00 mm	1
S50112.0	12.00 mm	1
S50116.0	16.00 mm	1

S902
Fresa de topo

HM | N | NOF 2 | λ30° γ12° | DIN 6535HA | Bright



e-Code	Descrição	M
S9022.0	2.00 mm	1
S9022.5	2.50 mm	1
S9023.0	3.00 mm	1
S9024.0	4.00 mm	1
S9025.0	5.00 mm	1
S9026.0	6.00 mm	1
S9027.0	7.00 mm	1
S9028.0	8.00 mm	1
S9029.0	9.00 mm	1
S90210.0	10.00 mm	1
S90212.0	12.00 mm	1
S90214.0	14.00 mm	1
S90216.0	16.00 mm	1
S90218.0	18.00 mm	1
S90220.0	20.00 mm	1

S904
Fresa de topo

HM | N | NOF 4 | λ30° γ12° | DIN 6535HA | Bright



e-Code	Descrição	M
S9042.0	2.00 mm	1
S9042.5	2.50 mm	1
S9043.0	3.00 mm	1
S9044.0	4.00 mm	1
S9045.0	5.00 mm	1
S9046.0	6.00 mm	1
S9047.0	7.00 mm	1
S9048.0	8.00 mm	1
S9049.0	9.00 mm	1
S90410.0	10.00 mm	1
S90412.0	12.00 mm	1
S90414.0	14.00 mm	1
S90416.0	16.00 mm	1
S90418.0	18.00 mm	1
S90420.0	20.00 mm	1

S511
Fresa de topo esférico

HM | N | NOF 4 | λ30° γ10° | DIN 6535HA | X-CEED



e-Code	Descrição	M
S5113.0	3.00 mm	1
S5114.0	4.00 mm	1
S5115.0	5.00 mm	1
S5116.0	6.00 mm	1
S5117.0	7.00 mm	1
S5118.0	8.00 mm	1
S5119.0	9.00 mm	1
S51110.0	10.00 mm	1
S51112.0	12.00 mm	1
S51116.0	16.00 mm	1

S903
Fresa de topo

HM | N | NOF 3 | λ30° γ12° | DIN 6535HA | Bright



e-Code	Descrição	M
S9032.0	2.00 mm	1
S9032.5	2.50 mm	1
S9033.0	3.00 mm	1
S9034.0	4.00 mm	1
S9035.0	5.00 mm	1
S9036.0	6.00 mm	1
S9037.0	7.00 mm	1
S9038.0	8.00 mm	1
S9039.0	9.00 mm	1
S90310.0	10.00 mm	1
S90312.0	12.00 mm	1
S90314.0	14.00 mm	1
S90316.0	16.00 mm	1
S90318.0	18.00 mm	1
S90320.0	20.00 mm	1

S922
Fresa de topo

HM | N | NOF 2 | λ30° γ12° | DIN 6535HB | TiAlN



e-Code	Descrição	M
S9222.0	2.00 mm	1
S9222.5	2.50 mm	1
S9223.0	3.00 mm	1
S9224.0	4.00 mm	1
S9225.0	5.00 mm	1
S9226.0	6.00 mm	1
S9227.0	7.00 mm	1
S9228.0	8.00 mm	1
S9229.0	9.00 mm	1
S92210.0	10.00 mm	1
S92212.0	12.00 mm	1
S92214.0	14.00 mm	1
S92216.0	16.00 mm	1
S92218.0	18.00 mm	1
S92220.0	20.00 mm	1

S933

Fresa de topo

HM | N | NOF 3 | λ30° γ12° | DIN 6535HB | TiAlN



e-Code	Descrição	M
S9332.0	2.00 mm	1
S9332.5	2.50 mm	1
S9333.0	3.00 mm	1
S9334.0	4.00 mm	1
S9335.0	5.00 mm	1
S9336.0	6.00 mm	1
S9337.0	7.00 mm	1
S9338.0	8.00 mm	1
S9339.0	9.00 mm	1
S93310.0	10.00 mm	1
S93312.0	12.00 mm	1
S93314.0	14.00 mm	1
S93316.0	16.00 mm	1
S93318.0	18.00 mm	1
S93320.0	20.00 mm	1

S991

Jogo de fresa de topo



e-Code	Descrição
S991SET922	6 peças (3 - 4 - 5 - 6 - 8 - 10 mm)
S991SET933	6 peças (3 - 4 - 5 - 6 - 8 - 10 mm)
S991SET944	6 peças (3 - 4 - 5 - 6 - 8 - 10 mm)

S944

Fresa de topo

PRIMEIRA DESTAQUE ESCOLHA

HM | N | NOF 4 | λ30° γ12° | DIN 6535HB | TiAlN



e-Code	Descrição	M
S9442.0	2.00 mm	1
S9442.5	2.50 mm	1
S9443.0	3.00 mm	1
S9444.0	4.00 mm	1
S9445.0	5.00 mm	1
S9446.0	6.00 mm	1
S9447.0	7.00 mm	1
S9448.0	8.00 mm	1
S9449.0	9.00 mm	1
S94410.0	10.00 mm	1
S94412.0	12.00 mm	1
S94414.0	14.00 mm	1
S94416.0	16.00 mm	1
S94418.0	18.00 mm	1
S94420.0	20.00 mm	1



BITS E BEDAMES

K100
Porta-ferramentas para bedame



e-Code	Descrição	M
K10012.0	12.00 x 12.00 mm	1
K10016.0	16.00 x 12.00 mm	1

K101
Porta-ferramentas para bedame



e-Code	Descrição	M
K10120.0	20.00 x 12.00 mm	1

K103
Porta-ferramentas para bedame



e-Code	Descrição	M
K10316.0	16.00 x 16.00 mm	1
K10325.0	25.00 x 16.00 mm	1

K200
Componentes para porta-ferramentas



e-Code	Descrição	M
K200ECC1.5	1.5	1

K201
Componentes para porta-ferramentas



e-Code	Descrição	M
K201SPAN1.5	1.5	1

K202
Componentes para porta-ferramentas



e-Code	Descrição	M
K2022.5X12.0	2.5	1

K203
Componentes para porta-ferramentas



e-Code	Descrição	M
K203ECC2.5	2.5	1

K204
Componentes para porta-ferramentas



e-Code	Descrição	M
K204SPAN2.5	2.5	1

K300
Bedame

HSS-E Bright



e-Code	Descrição	M
K30023.0X1.5	23.00 x 1.50 mm	10
K30040.0X2.5	40.00 x 2.50 mm	10

K301

Bedame

HSS-E Bright DORMER 8°R



e-Code	Descrição	M
K30123.0X1.5	23.00 x 1.50 mm	10
K30140.0X2.5	40.00 x 2.50 mm	10

K310

Bedame

HSS-E TiN DORMER 0°



e-Code	Descrição	M
K31040.0X2.5	40.00 x 2.50 mm	10

K311

Bedame

HSS-E TiN DORMER 8°R



e-Code	Descrição	M
K31123.0X1.5	23.00 x 1.50 mm	10
K31140.0X2.5	40.00 x 2.50 mm	10

K330

Bedame

HSS-E TiAlN DORMER 0°



e-Code	Descrição	M
K33023.0X1.5	23.00 x 1.50 mm	10

K520

Bits quadrado H13

HSS-E Bright DIN 4964B DC h13



e-Code	Descrição	M
K5204.0X100.0	4.0 X 100.0 mm	10
K5205.0X160.0	5.0 X 160.0 mm	10
K5206.0X100.0	6.0X100.0 mm	10
K5206.0X160.0	6.0 X160.0 mm	10
K5206.0X200.0	6.0 X 200.0 mm	5
K5208.0X100.0	8.0 X 100.0 mm	10
K5208.0X160.0	8.0 X 160.0 mm	5
K5208.0X200.0	8.0 X 200.0 mm	5
K52010.0X100.0	10.0 X 100.0 mm	10
K52010.0X160.0	10.0 X 160.0 mm	5
K52010.0X200.0	10.0 X 200.0 mm	5
K52012.0X100.0	12.0 X 100.0 mm	5
K52012.0X160.0	12.0 X 160.0 mm	5
K52012.0X200.0	12.0 X 200.0 mm	3
K52014.0X160.0	14.0X160.0 mm	3
K52014.0X200.0	14.0X200.0 mm	3
K52016.0X100.0	16.0X100.0 mm	3
K52016.0X160.0	16.0X160.0 mm	3
K52016.0X200.0	16.0X200.0 mm	2
K52020.0X160.0	20.0X160.0 mm	2
K52020.0X200.0	20.0X200.0 mm	2
K52025.0X200.0	25.0X200.0 mm	1
K5203/16X2.1/2	3/16" X 2.1/2"	10
K5201/4X2.1/2	1/4" X 2.1/2"	10
K5201/4X4	1/4" X 4"	10
K5205/16X2.1/2	5/16" X 2.1/2"	10
K5205/16X3	5/16" X 3"	10
K5205/16X4	5/16" X 4"	10
K5203/8X3	3/8" X 3"	10
K5203/8X4	3/8" X 4"	10
K5203/8X6	3/8" X 6"	5
K5207/16X3.1/2	7/16" X 3.1/2"	5
K5201/2X4	1/2" X 4"	5
K5201/2X6	1/2" X 6"	5
K5205/8X4.1/2	5/8" X 4.1/2"	3
K5205/8X6	5/8" X 6"	3

K521

Bits redondo H9

HSS-E Bright DIN 4964A DC h9



e-Code	Descrição	M
K5213.0X100.0	3.0 X 100.0 mm	10
K5214.0X100.0	4.0 X 100.0 mm	10
K5215.0X160.0	5.0 X 160.0 mm	10
K5216.0X100.0	6.0 X 100.0 mm	10
K5216.0X160.0	6.0 X 160.0 mm	10
K5218.0X100.0	8.0 X 100.0 mm	10
K5218.0X160.0	8.0 X 160.0 mm	5
K5218.0X200.0	8.0 X 200.0 mm	5
K52110.0X100.0	10.0 X 100.0 mm	10
K52110.0X200.0	10.0 X 200.0 mm	5
K52112.0X100.0	12.0 X 100.0 mm	5
K52112.0X200.0	12.0 X 200.0 mm	3
K52114.0X200.0	14.0 X 200.0 mm	3
K52116.0X200.0	16.0 X 200.0 mm	2
K52120.0X200.0	20.0 X 200.0 mm	2

K522

Bits retangular H13

HSS-E Bright DIN 4964D DC h13



e-Code	Descrição	M
K52210.0X3.0X200.0	3.0 mm X 200.0 mm	5
K52212.0X3.0X200.0	3.0 mm X 200.0 mm	5
K52216.0X4.0X200.0	4.0 mm X 200.0 mm	3
K52210.0X4.0X200.0	4.0 mm X 200.0 mm	5
K52220.0X4.0X200.0	4.0 mm X 200.0 mm	3
K52218.0X5.0X200.0	5.0 mm X 200.0 mm	3
K52220.0X5.0X200.0	5.0 mm X 200.0 mm	3
K52210.0X6.0X200.0	6.0 mm X 200.0 mm	5
K52212.0X6.0X200.0	6.0 mm X 200.0 mm	5
K52216.0X6.0X200.0	6.0 mm X 200.0 mm	3
K52220.0X6.0X200.0	6.0 mm X 200.0 mm	3
K52225.0X6.0X200.0	6.0 mm X 200.0 mm	3
K52212.0X8.0X200.0	8.0 mm X 200.0 mm	5
K52216.0X8.0X200.0	8.0 mm X 200.0 mm	3
K52220.0X8.0X200.0	8.0 mm X 200.0 mm	3
K52212.0X10.0X200.0	10.0 mm X 200.0 mm	3
K52216.0X10.0X200.0	10.0 mm X 200.0 mm	3
K52220.0X10.0X200.0	10.0 mm X 200.0 mm	2
K52225.0X12.0X200.0	12.0 mm X 200.0 mm	2
K52225.0X16.0X200.0	16.0 mm X 200.0 mm	1



ACESSÓRIOS

M150
Bucha cônica temperada



e-Code	Descrição	M
M1501-0	1 EXT - 0 INT	1
M1502-1	2 EXT - 1 INT	1
M1503-1	3 EXT - 1 INT	1
M1503-2	3 EXT - 2 INT	1
M1504-1	4 EXT - 1 INT	1
M1504-2	4 EXT - 2 INT	1
M1504-3	4 EXT - 3 INT	1
M1505-2	5 EXT - 2 INT	1
M1505-3	5 EXT - 3 INT	1
M1505-4	5 EXT - 4 INT	1
M1506-5	6 EXT - 5 INT	1

M151
Bucha cônica temperada e retificada



e-Code	Descrição	M
M1511-0	1 EXT - 0 INT	1
M1512-1	2 EXT - 1 INT	1
M1513-1	3 EXT - 1 INT	1
M1514-1	4 EXT - 1 INT	1
M1513-2	3 EXT - 2 INT	1
M1514-2	4 EXT - 2 INT	1
M1515-2	5 EXT - 2 INT	1
M1514-3	4 EXT - 3 INT	1
M1515-3	5 EXT - 3 INT	1
M1515-4	5 EXT - 4 INT	1
M1516-5	6 EXT - 5 INT	1

M152
Extrator de brocas



e-Code	Descrição	M
M1520	No. 0	10
M15212	No. 1	5
M15234	No. 3	5
M15245	No. 4	1
M1526	No. 6	1

M200
Óleo de corte



e-Code	Descrição	M
M2000.25NR.1BLUE	0,25 L 12x BLUE	1
M2000.25NR.2RED	0,25 L 12x RED	1
M2000.25NR.3GREEN	0,25 L 12x GREEN	1
M2001.0NR.1BLUE	1,0 L BLUE	1
M2001.0NR.2RED	1,0 L RED	1
M2001.0NR.3GREEN	1,0 L GREEN	1
M2005.0NR.1BLUE	5,0 L BLUE	1
M2005.0NR.2RED	5,0 L RED	1
M2005.0NR.3GREEN	5,0 L GREEN	1
M20020.0NR.1BLUE	20,0 L BLUE	1



COMPOSIÇÃO DE JOGOS

A088	A088	Broca A022	24 Peças	1.0 mm - 10.5 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm
A094	A094413	Broca A002	13 peças	1.0 mm - 6.5 mm x 0.5 mm + 3.3 - 4.2 mm
	A094419	Broca A002	19 peças	1.0 mm - 10.0 mm x 0.5 mm
A095	A09518	Broca A002	29 Peças	1/16 - 1/2 x 1/64
	A095201	Broca A002	19 Peças	1.0 mm - 10.0 mm x 0.5 mm
	A095202	Broca A002	51 Peças	1.0 mm - 6.0 mm x 0.1 mm
	A095203	Broca A002	41 Peças	6.0 mm - 10.0 mm x 0.1 mm
	A095204	Broca A002	25 Peças	1.0 mm - 13.0 mm x 0.5 mm
	A095206	Broca A002	29 Peças	1.0 mm - 13.0 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm
	A095209	Broca A002	91 Peças	1.0 mm - 10.0 mm x 0.1 mm
A099	A099F1	Broca A002	380 Peças	5 x 13/32, 7/16, 15/32, 1/2
				10 x 5/64, 7/64, 9/64, 11/64, 13/64, 15/64, 17/64, 9/32, 19/64, 5/16, 21/64, 11/32, 23/64, 3/8
				20 x 1/16, 7/32, 1/4
				30 x 3/32
				40 x 5/32, 3/16
				50 x 1/8
	A099M1	Broca A002	340 Peças	5 x 10.5 mm, 11 mm, 11.5 mm, 12 mm, 12.5 mm, 13 mm
				10 x 1.5 mm, 2.5 mm, 3.5 mm, 4.5 mm, 5.5 mm 6.5 mm, 7 mm, 7.5 mm, 8 mm, 8.5 mm,
				9 mm, 9.5 mm, 10 mm
				20 x 1 mm, 5 mm, 6 mm
				30 x 2 mm
				40 x 4 mm
				50 x 3 mm
	A099DRILLBOY	Broca A002	43 Peças	3x 3.0 - 3.3 - 3.5 - 4.0 mm
				2x 4.2 - 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 6.8 - 7.0 - 7.5 - 8.0 mm
				1x 8.5 - 9.0 - 9.5 - 10.0 - 10.2 - 10.5 - 11.0 - 11.5 - 12.0 - 12.5 - 13.0 mm
A190	A1903	Broca A100	21 Peças	1/16 - 3/8 x 1/64
	A19012	Broca A100	60 Peças	Nr.1 - Nr.60
	A19014	Broca A100	26 Peças	A - Z
	A19018	Broca A100	29 Peças	1/16 - 1/2 x 1/64
	A19020	Broca A100	15 Peças	1/16 - 1/2 x 1/32
	A190200	Broca A100	24 Peças	1.0 mm - 10.5 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm
	A190201	Broca A100	19 Peças	1.0 mm - 10.0 mm x 0.5 mm
	A190202	Broca A100	51 Peças	1.0 mm - 6.0 mm x 0.1 mm
	A190203	Broca A100	41 Peças	6.0 mm - 10.0 mm x 0.1 mm
	A190204	Broca A100	25 Peças	1.0 mm - 13.0 mm x 0.5 mm
	A190206	Broca A100	29 Peças	1.0 mm - 13.0 mm x 0.5 mm + 3.3 - 4.2 - 6.8 - 10.2 mm
	A190209	Broca A100	91 Peças	1.0 mm - 10.0 mm x 0.1 mm
A191	A19131M	Broca A100	20 Peças	0.3 mm - 1.0 mm x 0.05 mm + 0.38 - 0.52 - 0.58 - 0.78 - 0.82 mm
	A19161-80	Broca A100	20 Peças	N61 - N80
	A191413	Broca A100	13 Peças	1.5 mm - 6.5 mm x 0.5 mm + 3.3 - 4.2 mm
	A191419	Broca A100	19 Peças	1.0 mm - 10.0 mm x 0.5 mm
A199	A199F1	Broca A100	380 Peças	5 x 13/32, 7/16, 15/32, 1/2
				10 x 5/64, 7/64, 9/64, 11/64, 13/64, 15/64, 17/64, 9/32, 19/64, 5/16, 21/64, 11/32, 23/64, 3/8
				20 x 1/16, 7/32, 1/4
				30 x 3/32
				40 x 5/32, 3/16
				50 x 1/8
	A199M1	Broca A100	340 Peças	5 x 10.5 mm, 11 mm, 11.5 mm, 12 mm, 12.5 mm, 13 mm
				10 x 1.5 mm, 2.5 mm, 3.5 mm, 4.5 mm, 5.5 mm 6.5 mm, 7 mm, 7.5 mm, 8 mm, 8.5 mm,
				9 mm, 9.5 mm, 10 mm:
				20 x 1 mm, 5 mm, 6 mm
				30 x 2 mm
				40 x 4 mm
				50 x 3 mm
A285	A2850107	Broca A100	7	2.0 mm - 2.5 mm - 3.0 mm - 3.5 mm - 4.00 mm - 5.0 mm - 6.0 mm
	A2850110E	Broca A100	10	1.5 mm - 2.0 mm - 2.5 mm - 3.0 mm - 3.2 mm - 3.5 mm - 4.00 mm - 4.5 mm - 4.5 mm - 5.0 mm - 6.0 mm
	A2850205A	Broca A100	5	1/16 - 3/32 - 1/8 - 3/16 - 1/4
	A2850207A	Broca A100	7	1/16 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4
	A2850210A	Broca A100	10	1/16 - 5/64 - 3/32 - 7/64 - 1/8 - 9/64 - 5/32 - 3/16 - 7/32 - 1/4

A290	A29018BR	Broca A154	29 Peças	1/16 - 1/2 x 1/64
	A29025BR	Broca A114	25 Peças	1.0 mm - 13.0 mm x 0.5 mm
	A2909BR	A114 + A800	9 Peças	A114 (Aço Rápido): 3,00 - 3,50 - 4,00 - 5,00
				A800 (Concreto): 5,00 - 6,00 - 8,00 - 9,50
	A2907BR	Broca A114	7 Peças	2,00 - 2,50 - 3,00 - 4,00 - 5,00 - 6,00 - 6,50
	A29009BR	A114 + A800	9 Peças	A114 (Aço Rápido): 3,0 - 4,0 - 5,0 - 6,0 - 8,0 | A800 (Concreto): 4,0 - 5,0 - 6,0 - 8,0
	A29010BR	Broca A114	10 Peças	1,50 - 2,00 - 2,50 - 3,00 - 3,20 - 3,50 - 4,00 - 4,50 - 5,00 - 6,00
	A29013BR	Broca A114	13 Peças	1,50 - 2,00 - 2,50 - 3,00 - 3,20 - 3,50 - 4,00 - 4,50 - 4,80 - 5,00 - 5,50 - 6,00 - 6,50
	A2907PBR	Broca A154	7 Peças	1/16 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4
	A29010PBR	Broca A154	10 Peças	1/16 - 5/64 - 3/32 - 7/64 - 1/8 - 9/64 - 5/32 - 3/16 - 7/32 - 1/4
	A29013PBR	Broca A154	13 Peças	1/16 - 5/64 - 3/32 - 7/64 - 1/8 - 9/64 - 5/32 - 11/64 - 3/16 - 13/64 - 7/32 - 15/64 - 1/
A295	A295219	A777	19 Peças	1.0 mm - 10.0 mm x 0.5 mm
	A295225	A777	25 Peças	1.0 mm - 13.0 mm x 0.5 mm
A803	A803144B	A800	4 Peças	4.0 mm - 6.0 mm - 8.0 mm - 10.0 mm
S991	S991SET922	S922	6 Peças	Ø 3-4-5-6-8-10 mm
	S991SET933	S933	6 Peças	Ø 3-4-5-6-8-10 mm
	S991SET944	S944	6 Peças	Ø 3-4-5-6-8-10 mm
L119	L11917	E100 setN8	7 Jogos	M3 - M4 - M5 - M6 - M8 - M10 - M12
L120	L12021	E100 + F100 + L110 + L111	E100	M3 - M4 - M5 - M6 - M8 - M10 - M12
			F100	M3 - M4 - M5 - M6 - M8 - M10 - M12
			L110	20 x 5, 20 x 7, 25 x 9, 30 x 11, 38 x 14
			L111	No 1 + No 2
	L12030	E100 + F100 + L110 + L111	E100	M3 - M4 - M5 - M6 - M8 - M10 - M12 - M14 - M16 - M18 - M20
			F100	M3 - M4 - M5 - M6 - M8 - M10 - M12 - M14 - M16 - M18 - M20
			L110	20 x 5, 20 x 7, 25 x 9, 30 x 11, 38 x 14, 45 x 18
			L111	No 1 + No 3
	L1202M	E500 + F300 + L110 + L111	E500	M2 - M2.5 - M3 - M3.5 - M4 - M5 - M6
			F300	M2 - M2.5 - M3 - M3.5 - M4 - M5 - M6
			L110	13/16 x 1/4
			L111	BT1
	L1204M	E500 + F300 + L110 + L111	E500	M5 - M6 - M7 - M8 - M9 - M10 - M11 - M12
			F300	M5 - M6 - M7 - M8 - M9 - M10 - M11 - M12
			L110	13/16 x 1/4 + 1.5/16 x 7/16
			L111	BT2
	L1208M	E500 + F300 + L110 + L111	E500	M2 - M3 - M4 - M5 - M6
			F300	M2 - M3 - M4 - M5 - M6
			L110	13/16 x 1/4
			L111	BT1
	L12010M	E500 + F300 + L110 + L111	E500	M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10
			F300	M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10
			L110	13/16 x 1/4 + 1. x 3/8
			L111	BT2
	L12012M	E500 + F300 + L110 + L111	E500	M2 - M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10 - M12
			F300	M2 - M3 - M4 - M5 - M6 - M7 - M8 - M9 - M10 - M12
			L110	13/16 x 1/4 + 1. x 3/8 + 1.5/16
			L111	BT1 + BT2
	L12014M	E500 + F300 + L110 + L111	E500	M6 - M7 - M8 - M9 - M10 - M12 - M14 - M16 - M18 - M20
			F300	M6 - M7 - M8 - M9 - M10 - M12 - M14 - M16 - M18 - M20
			L110	1. x 3/8 + 1.5/16 x 7/16 + 1.1/2 x 1/2
			L111	No 2
	L12030UNC	E515 + F320 + L110 + L111	E515	1/4, 5/16, 3/8, 7/16, 1/2
			F320	1/4, 5/16, 3/8, 7/16, 1/2
			L110	1. x 3/8 + 1.5/16 x 7/16
			L111	BT2
	L12032UNC	E515 + F330 + L110 + L111	E515	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
			F320	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
			L110	1. x 3/8 + 1.1/2 x 1/2
			L111	BT2 + No 2
	L12024UNF	E524 + F330 + L110 + L111	E524	1/4, 5/16, 3/8, 7/16, 1/2
			F330	1/4, 5/16, 3/8, 7/16, 1/2
			L110	1. x 3/8 + 1.5/16 x 7/16
			L111	BT2
	L12026UNF	E524 + F330 + L110 + L111	E524	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
			F330	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4
			L110	1. x 3/8 + 1.1/2 x 1/2
			L111	BT2 + No 2

L126	L126650	E650	6 Peças	4.0, 5.0, 6.0, 8.0, 10.0, 12.0
L113	L113201	E000 + A002	7 Peças	E000 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L113202	E001 + A002	7 Peças	E001 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L113203	E002 + A002	7 Peças	E002 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L113204	E003 + A002	7 Peças	E003 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
L114	L114301	EP006H + A002	7 Peças	EP006H (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L114302	EX006H + A002	7 Peças	EX006H (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L114303	E297 + A002	7 Peças	E297 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L114304	E298 + A002	7 Peças	E298 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L114305	E238 + A108	7 Peças	E238 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A108 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
	L114306	E248 + A108	7 Peças	E248 (M3 - M4 - M5 - M6 - M8 - M10 - M12)
				A108 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)
L115	L115101	E500 + A002	7 Peças	E500 (M3NO3 - M4NO3 - M5NO3 - M6NO3 - M8NO3 - M10NO3 - M12NO3)
				A002 (2.5 - 3.3 - 4.2 - 5.0 - 6.8 - 8.5 - 10.2)

CONVERSÃO

pol	mm
1/64	0,397
1/32	0,794
3/64	1,191
1/16	1,588
5/64	1,984
3/32	2,381
7/64	2,778
1/8	3,175
9/64	3,572
5/32	3,969
11/64	4,366
3/16	4,763
13/64	5,159
7/32	5,556
15/64	5,953
1/4	6,350
17/64	6,747
9/32	7,144
19/64	7,541
5/16	7,938
21/64	8,334
11/32	8,731
23/64	9,128
3/8	9,525
25/64	9,922
13/32	10,319
27/64	10,716
7/16	11,113
29/64	11,509
15/32	11,906
31/64	12,303
1/2	12,700
33/64	13,097
17/32	13,494
35/64	13,891
9/16	14,288
37/64	14,684
19/32	15,081
39/64	15,478
5/8	15,875
41/64	16,272
21/32	16,669
43/64	17,066
11/16	17,463
45/64	17,859
23/32	18,256
47/64	18,653
3/4	19,050
49/64	19,447
25/32	19,844
51/64	20,241
13/16	20,638
53/64	21,034
27/32	21,431
55/64	21,828
7/8	22,225
57/64	22,622
29/32	23,019
59/64	23,416
15/16	23,813
61/64	24,209
31/32	24,606
63/64	25,003
1*	25,400

nº	mm
1	5,791
2	5,613
3	5,410
4	5,309
5	5,220
6	5,182
7	5,105
8	5,055
9	4,978
10	4,915
11	4,851
12	4,801
13	4,699
14	4,623
15	4,572
16	4,496
17	4,394
18	4,305
19	4,216
20	4,089
21	4,039
22	3,988
23	3,912
24	3,861
25	3,797
26	3,734
27	3,658
28	3,569
29	3,454
30	3,264
31	3,048
32	2,946
33	2,870
34	2,819
35	2,794
36	2,705
37	2,642
38	2,578
39	2,527
40	2,489
41	2,438
42	2,375
43	2,261
44	2,184
45	2,083
46	2,057
47	1,994
48	1,930
49	1,854
50	1,778
51	1,702
52	1,613
53	1,511
54	1,397
55	1,321
56	1,181
57	1,092
58	1,067
59	1,041
60	1,016
61	0,991
62	0,965
63	0,940
64	0,914
65	0,889
66	0,838
67	0,813
68	0,787
69	0,742
70	0,711
71	0,660
72	0,635
73	0,610
74	0,572
75	0,533
76	0,508
77	0,457
78	0,406
79	0,368
80	0,343

Letra	mm	Letra	mm
A	5,944	N	7,671
B	6,045	O	8,026
C	6,147	P	8,204
D	6,248	Q	8,433
E	6,350	R	8,611
F	6,528	S	8,839
G	6,629	T	9,093
H	6,756	U	9,347
I	6,909	V	9,576
J	7,036	W	9,804
K	7,137	X	10,084
L	7,366	Y	10,262
M	7,493	Z	10,490

DIÂMETRO DE FUROS PARA ROSCAS

D x passo mm	Diâmetro do Núcleo (mm) Máximo	Diâmetro do Núcleo (mm) Mínimo	Diâmetro da Broca (mm)
M Rosca ISO Métrica Grossa 60º			
3 x 0,50	2,599	2,459	2,50
3,5 x 0,60	3,010	2,850	2,90
4 x 0,70	3,422	3,242	3,30
4,5 x 0,75	3,878	3,688	3,70
5 x 0,80	4,334	4,134	4,20
6 x 1,00	5,153	4,917	5,00
7 x 1,00	6,153	5,917	6,00
8 x 1,25	6,912	6,647	6,80
9 x 1,25	7,912	7,647	7,80
10 x 1,50	8,676	8,376	8,50
11 x 1,50	9,676	9,376	9,50
12 x 1,75	10,441	10,106	10,20
14 x 2,00	12,210	11,835	12,00
16 x 2,00	14,210	13,835	14,00
18 x 2,50	15,744	15,294	15,50
20 x 2,50	17,744	17,294	17,50
22 x 2,50	19,744	19,294	19,50
24 x 3,00	21,252	20,752	21,00
27 x 3,00	24,252	23,752	24,00
30 x 3,50	26,771	26,211	26,50
33 x 3,50	29,771	29,211	29,50
36 x 4,00	32,270	31,670	32,00
39 x 4,00	35,270	34,670	35,00
42 x 4,50	37,779	37,129	37,50
45 x 4,50	40,799	40,129	40,50
48 x 5,00	43,297	42,587	43,00
52 x 5,00	47,297	46,587	47,00
56 x 5,50	50,796	50,046	50,50
M Rosca ISO Métrica Fina			
2 x 0,35	2,721	2,621	2,65
3,5 x 0,35	3,221	3,121	3,15
4 x 0,50	3,599	3,459	3,50
4,5 x 0,50	4,099	3,959	4,00
5 x 0,50	4,599	4,459	4,50
5,5 x 0,50	5,099	4,959	5,00
6 x 0,75	5,378	5,188	5,20
7 x 0,75	6,378	6,188	6,20
8 x 0,75	7,378	7,188	7,20
8 x 1,00	7,153	6,917	7,00
9 x 0,75	8,378	8,188	8,20
9 x 1,00	8,153	7,917	8,00
10 x 0,75	9,378	9,188	9,20
10 x 1,00	9,153	8,917	9,00
10 x 1,25	8,912	8,647	8,80
11 x 0,75	10,378	10,188	10,20
11 x 1,00	10,153	9,917	10,00
12 x 1,00	11,153	10,917	11,00
12 x 1,25	10,912	10,647	10,80
12 x 1,50	10,676	10,376	10,50
14 x 1,00	13,153	12,917	13,00
14 x 1,25	12,912	12,647	12,80
14 x 1,50	12,676	12,379	12,50
15 x 1,00	14,153	13,917	14,00
15 x 1,50	13,676	13,376	13,50
16 x 1,00	15,153	14,917	15,00
16 x 1,50	14,676	14,376	14,50
17 x 1,00	16,153	15,917	16,00
17 x 1,50	15,676	15,376	15,50
18 x 1,00	17,153	16,917	17,00
18 x 1,50	16,676	16,376	16,60
18 x 2,00	16,210	15,835	16,00
20 x 1,00	19,153	18,917	19,00
20 x 1,50	18,676	18,376	18,50
20 x 2,00	18,210	17,835	18,00
22 x 1,00	21,153	20,917	21,00
22 x 1,50	20,676	20,376	20,50
22 x 2,00	20,210	19,835	20,00
24 x 1,00	23,153	22,917	23,00
24 x 1,50	22,676	22,376	22,50
24 x 2,00	22,210	21,835	22,00
25 x 1,00	24,153	23,917	24,00
25 x 1,50	23,676	23,376	23,50
25 x 2,00	23,210	22,835	23,00
26 x 1,50	24,676	24,376	24,50
27 x 1,00	26,153	25,835	26,00
27 x 1,50	25,676	25,376	25,50
27 x 2,00	25,210	24,835	25,00
28 x 1,00	27,153	26,917	27,00
28 x 1,50	26,676	26,376	26,50
28 x 2,00	26,210	25,835	26,00
30 x 1,00	29,153	28,917	29,00
30 x 1,50	28,676	28,376	28,50
30 x 2,00	28,210	27,835	28,00
30 x 3,00	27,252	26,752	27,00
32 x 1,50	30,676	30,376	30,50
32 x 2,00	30,210	29,835	30,00
33 x 1,50	31,676	31,376	31,50
33 x 2,00	31,210	30,835	31,00
33 x 3,00	30,252	29,752	30,00
35 x 1,50	33,676	33,376	33,50
36 x 1,50	34,676	34,376	34,50
36 x 2,00	34,210	33,385	34,00
36 x 3,00	33,252	32,752	33,00
38 x 1,50	36,676	36,376	36,50
39 x 1,50	37,676	37,376	37,50
39 x 2,00	37,210	36,835	37,00
39 x 3,00	36,252	35,752	36,00
40 x 1,50	38,676	38,376	38,50
40 x 2,00	38,210	37,835	38,00
40 x 3,00	37,252	36,752	37,00
42 x 1,50	40,676	40,376	40,50
42 x 2,00	40,210	39,835	40,00
42 x 3,00	39,252	38,752	39,00
42 x 4,00	38,270	37,670	38,00
45 x 1,50	43,676	43,376	43,50
45 x 2,00	43,210	42,835	43,00
45 x 3,00	42,252	41,752	42,00
45 x 4,00	41,270	40,670	41,00
48 x 1,50	46,676	46,376	46,50
48 x 2,00	46,210	45,835	46,00
48 x 3,00	45,252	44,752	45,00
48 x 4,00	44,270	43,670	44,00

DIÂMETRO DE FUROS PARA ROSCAS

D (pol) Fios/pol	Diâmetro do Núcleo (mm) Máximo	Diâmetro do Núcleo (mm) Mínimo	Diâmetro da Broca (mm)
UNC Rosca Unificada Grossa 60º			
No 5 - 40	2,967	2,593	2,60
No 6 - 32	2,895	2,768	2,85
No 8 - 32	3,530	3,403	3,50
No 10 - 24	3,962	3,810	3,90
No 12 - 24	4,597	4,470	4,50
1/4 - 20	5,257	5,130	5,20
5/16 - 18	6,731	6,578	6,60
3/8 - 16	8,153	7,975	8,00
7/16 - 14	9,550	9,347	9,40
1/2 + 13	10,871	10,515	10,80
9/16 - 12	12,446	12,090	12,20
5/8 - 11	13,868	13,614	13,50
3/4 - 10	16,840	16,586	16,50
7/8 - 9	19,761	19,481	19,50
1 - 8	22,606	22,301	22,25
1.1/8 - 7	25,350	24,993	25,00
1.1/4 - 7	28,524	28,168	28,25
1.3/8 - 6	31,115	30,734	30,75
1.1/2 - 6	34,300	33,910	34,00
1.3/4 - 5	39,827	39,395	39,50
2" - 4.1/2	45,593	45,136	45,00
2.1/4 - 4.1/2	51,943	51,485	51,50
2.1/2 - 4	57,581	57,099	57,25
2.3/4 - 4	63,931	63,450	63,50
3" - 4	70,281	69,800	70,00
UNC Rosca Unificada Fina			
No 5 - 44	2,741	2,646	2,70
No 6 - 40	3,022	2,921	3,00
No 8 - 36	3,606	3,505	3,50
No 10 - 32	4,166	4,064	4,10
No 12 - 28	4,724	4,623	4,70
1/4 - 28	5,588	5,486	5,50
5/16 - 24	7,036	6,908	6,90
3/8 - 24	8,636	8,510	8,50
7/16 - 20	10,033	9,880	9,90
1/2 - 20	11,607	11,480	11,50
9/16 - 18	13,081	12,930	12,90
5/8 - 18	14,681	14,530	14,50
3/4 - 16	17,678	17,500	17,50
7/8 - 14	20,675	20,472	20,50
1" - 12	23,571	23,342	23,25
1.1/8 - 12	26,746	26,517	26,50
1.1/4 - 12	29,921	29,692	29,50
1.3/8 - 12	33,096	32,687	32,75
1.1/2 - 12	36,271	36,042	36,00
BSW Rosca Whitworth Grossa 55º			
1/8 - 40	2,590	2,468	2,50
5/32 - 32	3,211	3,058	3,10
3/16 - 24	3,744	3,540	3,60
7/32 - 24	4,538	4,334	4,40
1/4 - 20	5,224	4,980	5,10
5/16 - 18	6,661	6,389	6,50
3/8 - 16	8,052	7,747	7,90
7/16 - 14	9,379	9,030	9,20
1/2 - 12	10,610	10,203	10,50
9/16 - 12	12,176	11,769	12,00
5/8 - 11	13,598	13,154	13,40
3/4 - 10	16,538	16,050	16,40
7/8 - 9	19,411	18,868	19,25
1" - 8	22,185	21,575	22,00
1.1/8 - 7	24,879	24,182	24,70
1.1/4 - 7	28,054	27,357	27,75
1.3/8 - 6	30,555	29,741	30,20
1.1/2 - 6	33,730	32,916	33,50
1.5/8 - 5	35,921	34,945	35,50
1.3/4 - 5	39,096	38,120	38,50
1.7/8 - 4.1/2	41,648	40,563	41,50
2" - 4.1/2	44,823	43,738	44,50
2.1/4 - 4	50,420	49,200	50,00
2.1/2 - 4	56,770	55,550	56,60
2.3/4 - 3.1/2	62,108	60,714	62,00
3" - 3.1/2	68,459	67,065	68,00
R (BSP) Rosca Whitworth Paralela p/ Tubos 55º			
1/8 - 28	8,848		8,70
1/4 - 19	11,890		11,75
3/8 - 19	15,395		15,25
1/2 - 14	19,172		19,00
5/8 - 14	21,128		21,00
3/4 - 14	24,658		24,50
7/8 - 14	28,418		28,20
1" - 11	30,931		30,50
1.1/8 - 11	35,579		35,40
1.1/4 - 11	39,592		39,50
1.3/8 - 11	42,005		41,80
1.1/2 - 11	45,485		45,20
1.3/4 - 11	51,428		51,20
2" - 11	57,296		57,00
2.1/2 - 11	72,866		72,70
2.3/4 - 11	79,216		79,00
3" - 11	85,566		85,30

Rosca	Fios por polegada	Diâmetro da Broca
NPT Rosca Americana Cônica p/ Tubos 60º		
1/16	27	6,30
1/8	27	8,50
1/4	18	11,20
3/8	18	14,50
1/2	14	18,00
3/4	14	23,00
1"	11.1/2	29,00
1.1/4	11.1/2	38,00
1.1/2	11.1/2	44,00
2"	11.1/2	56,00
2.1/2	8	67,00
3"	8	83,00

PRODUTOS PRAMET



PRAMET

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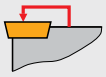
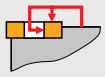
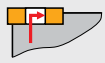
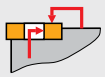
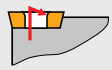
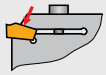


TORNEAMENTO

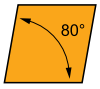
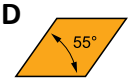
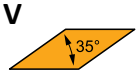
PRAMET

CHAVE DE CÓDIGO ISO - FERRAMENTAS EXTERNAS

1
Sistema mecânico de fixação

C	
D	
P	
M	
S	
X	
G	

2
Formato do inserto

S	
C	 80°
T	
D	 55°
R	
K	 55°
W	 80°
V	 35°
L	
X	Especial

3
Tipo de ferramenta - Ângulo de ataque

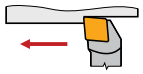
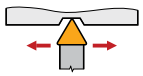
A 90°	B 75°	C 90°	D 45°	D
E 60°	F 90°	G 90°	H 107°30′	J 93°
K 75°	L 95°	M 50°	N 62°30′	P 117°30′
Q 107°30′	R 75°	S 45°	S	T 60°
U 93°	V 72°30′	W 60°	X Especial	Y 85°
Z K				

4
Ângulo de folga do inserto



N	C	P
α_n=0°	α_n=7°	α_n=11°

5
Sentido de corte

R	
L	
N	

1	2	3	4	5		6	7	8	9	10
P	C	L	N	R	-	32	25	L	12	-
										S

6
Altura da haste [mm]



08	10	12	16	20	25
32	38	40	45	50	60

7
Largura da haste [mm]

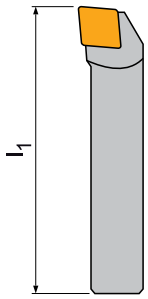


08	10	12	16	20	25
32	38	40	45	50	60

10
Designação interna [mm]

M	Sistema de fixação “S” com calço
S	Com parafusos de ajustagem

8
Comprimento da ferramenta



	l_1[mm]
D	60
E	70
F	80
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
X	*Spec.*
Y	500

9
Comprimento da aresta de corte

d [mm]	S	C	E	D	V	K	W	T	R
3,97					07				
6,00									06
6,35		06		07	11			11	
7,94		08	08		13				
8,00								08	
9,525	09	09		11	16	19	06	16	
10,00									10
12,00									12
12,70	12	12		15			08	22	12
15,875	15	16						27	15
16,00									16
19,05	19	19							19
20,00									20
25,00									25
25,40	25	25							25
38,10	38								

1

Material de construção do porta-ferramentas

S	Haste de aço
A	Haste de aço com furo para refrigeração
E	Haste de metal duro com cabeça de aço e refrigeração interna

2

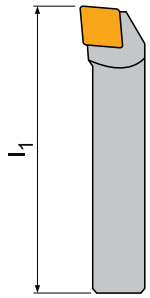
Ø da haste [mm]

08	10	12	16	20
25	32	40	50	60

1	2	3		4	5	6	7	8	9		10
A	40	T	-	P	C	L	N	L	12	-	X

3

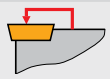
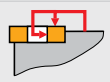
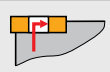
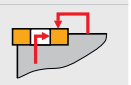
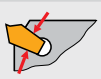
Comprimento da ferramenta



	l_1 [mm]
D	60
E	70
F	80
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
X	Spec.
Y	500

4

Sistema mecânico de fixação

C	
D	
P	
M	
S	
X	
G	

5

Formato do inserto

S	C 80°
T	D 55°
R	K 55°
W 80°	V 35°
L	X

6

Tipo de ferramenta - Ângulo de ataque

A 90°	B 75°	C 90°	D 45°	D
E 60°	F 90°	G 90°	H 107°30′	J 93°
K 75°	L 95°	M 50°	N 62°30′	P 117°30′
Q 107°30′	R 75°	S 45°	S	T 60°
U 93°	V 72°30′	W 60°	X	Y 85°
Z K				

7

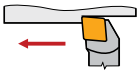
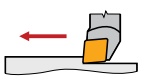
Ângulo de folga do inserto



N	C	P
α_n=0°	α_n=7°	α_n=11°

8

Sentido do corte

R	
L	

9

Comprimento da aresta de corte

d [mm]	S	C	E	D	V	K	W	T	R
3,97					07		02	06	
5,56			05					09	
6,00									06
6,35		06	06	07	11			11	
7,94		08	08		13				
8,00									08
9,525	09	09		11	16	19	06	16	
10,00									10
12,00									12
12,70	12	12		15			08	22	12
15,875	15	16						27	15
16,00									16
19,05	19	19							19
20,00									20
25,00									25
25,40	25	25							25

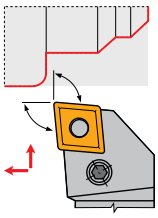
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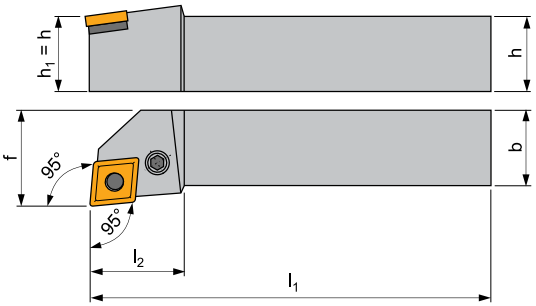
Designação interna [mm]

X	Estilo de haste especial
•	
•	
87	Ângulo de ataque da ferramenta estilo "Z"
90	
93	
•	
•	

PCLNR/L

Torneamento Externo - ISO P





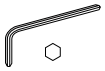
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

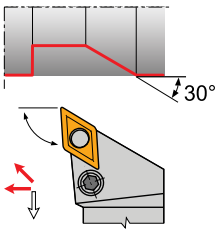
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	$h=h_1$	b	fl	$_1$	l_2			λ_s°	γ_o°			
PCLNR/L 2525 M 12	25	25	32	150	36			-6	-6	0,68	PC20	CN.. 1204..
PCLNR/L 3225 P 12	32	25	32	170	36			-6	-6	0,85	PC20	CN.. 1204..
PCLNR/L 3225 P 16	32	25	32	170	40			-6	-6	1,10	PC40	CNM. 1606..
PCLNR/L 3232 P 19	32	32	40	170	45			-6	-6	1,40	PC50	CNM. 1906..

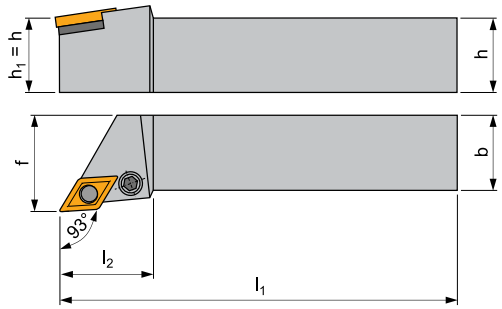
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PC20	CNU 120312	PU 02	US 35 (M8x22,5)	NT 05	MT 05	HXK 4

PDJNR/L

Torneamento Externo - ISO P





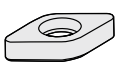
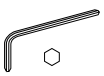
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

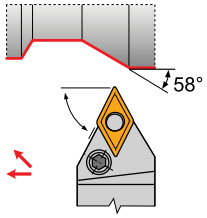
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	$h=h_1$	b	fl	$_1$	l_2			λ_s°	γ_o°			
PDJNR/L 2525 M 11	25	25	32	150	30			-6	-6	0,68	PD60	DNM. 1104..
PDJNR/L 2525 M 15	25	25	32	150	40			-6	-6	0,68	PD30	DN.. 1506..
PDJNR/L 3225 P 15	32	25	32	170	40			-6	-6	0,82	PD30	DN.. 1506..

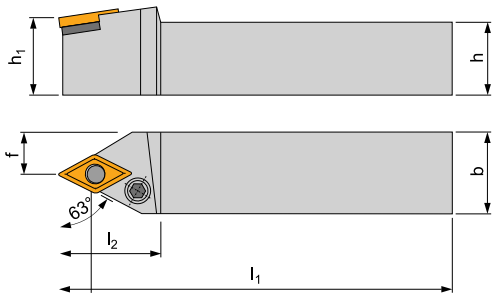
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PD30	DNU 150308	PU 03	US 36 (M8x26,0)	NT 05	MT 05	HXK 4
PD60	PDN 110308	PU 3512	PS 0616	NT 5153	MT 0912	HXK 2,5

PDNNR/L

Torneamento Externo - ISO P





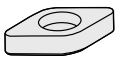
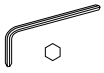
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

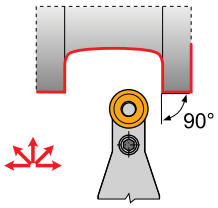
ISO	R/L	Dimensões (mm) h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°	kg	Peças sobressalentes	Insertos
PDNNR/L 3225 P 15	●/●	32	25	12,5	170	40			-6	-6	0,82	PD30	DN.. 1506.

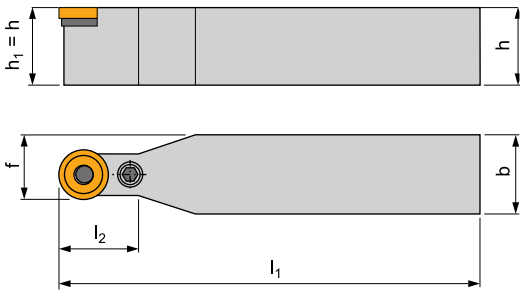
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PD30	DNU 150308	PU 03	US 36 (M8x26,0)	NT 05	MT 05	HXK 4

PRDCN

Torneamento Externo - ISO P





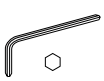
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

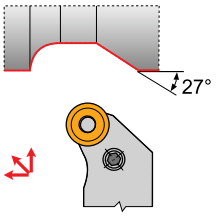
ISO	Sortiment	Dimensões (mm) h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°	kg	Peças sobressalentes	Insertos
PRDCN 3225 P 16	●	32	25	20,5	170	32			0	0	0,80	PRP70	RCMX 1606 MO

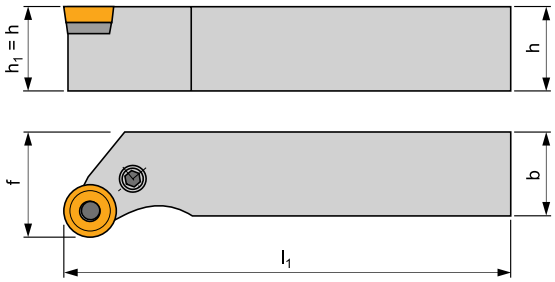
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PRP70	RCU 160300	PU 07	US 36 (M8x26,0)	NT 05	MT 05	HXK 4

PRSCR/L

Torneamento Externo - ISO P





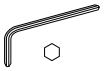
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

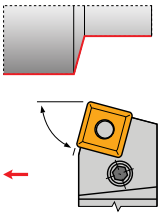
ISO	R/L	Dimensões (mm) h=h_1	b		l_1				λ_s°	γ_o°	kg	Peças sobressalentes	Insertos
PRSCR/L 3225 P 16	●/●	32	25	32	170				0	0	0,90	PRP70	RCMX 1606 MO

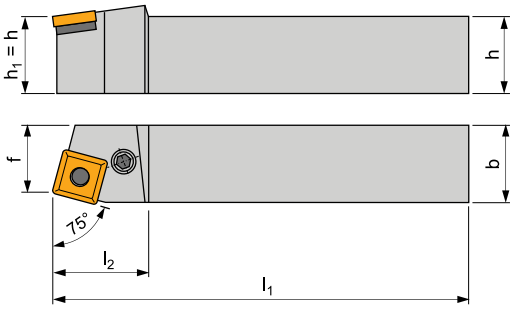
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PRP70	RCU 160300	PU 07	US 36 (M8x26,0)	NT 05	MT 05	HXK 4

PSBNR/L

Torneamento Externo - ISO P





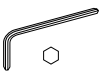
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

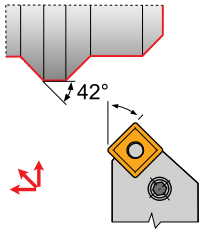
ISO	Dimensões (mm) h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°	kg	Peças sobressalentes	Insertos
PSBNR/L 2525 M 12	25	25	22	150	36			-6	-6	0,63	PS20	SNM. 1204..-E
PSBNR/L 3225 P 15	32	25	22	170	40			-6	-6	0,65	PS40	SNM. 1506..-E
PSBNR/L 3232 P 19	32	25	27	170	45			-6	-6	1,30	PS50	SNM. 1906..-E

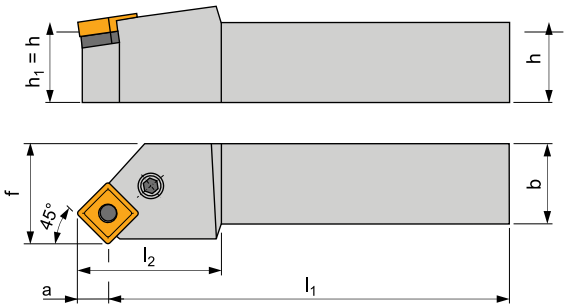
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PS20	SNU 120312	PU 02	US 35 (M8x22,5)	NT 05	MT 05	HXK 4
PS40	SNU 150312	PU 04	US 36 (M8x26,0)	NT 07	MT 07	HXK 4
PS50	SNU 190416	PU 05	US 38 (M10x29,0)	NT 06	MT 06	HXK 5

PSSNR/L

Torneamento Externo - ISO P





γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

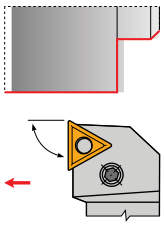
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	$h=h_1$	b	fl	$_1$	l_2	a		λ_s°	γ_o°			
PSSNR/L 3232 P 19	32	32	40	170	45	12,5		0	-8	1,34	PS50	SNM. 1906..-E

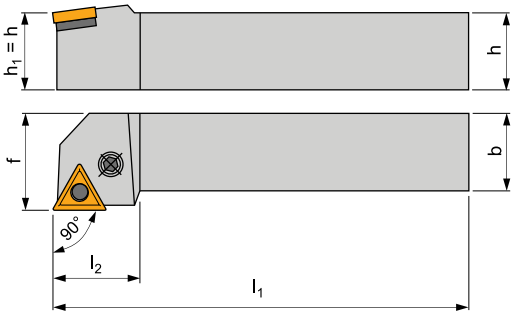
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
PS50	SNU 190416	PU 05	US 38 (M10x29,0)	NT 06	MT 06	HXK 5

PTGNR/L

Torneamento Externo - ISO P





γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

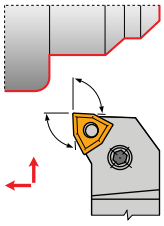
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	$h=h_1$	b	fl	$_1$	l_2			λ_s°	γ_o°			
PTGNR/L 2020 K 16	20	20	25	125	32			-6	-6	0,40	PT10	TN.. 1604..
PTGNR/L 2525 M 16	25	25	32	150	32			-6	-6	0,65	PT10	TN.. 1604..
PTGNR/L 2525 M 22	25	25	32	150	36			-6	-6	0,65	PT20	TNM. 2204..
PTGNR/L 3225 P 22	32	25	32	170	36			-6	-6	0,80	PT20	TNM. 2204..

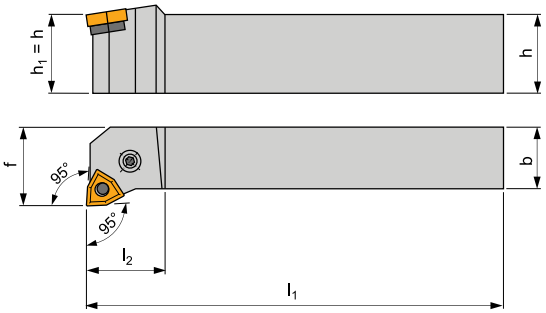
PEÇAS SOBRESSALENTES/SPARE PARTS

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
PT10	TNU 160308	PU 01	US 34 (M6x19,0)	NT 04	MT 04	HXK 3
PT20	TNU 220312	PU 02	US 35 (M8x22,5)	NT 05	MT 05	HXK 4

PWLNR/L

Torneamento Externo - ISO P





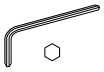
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

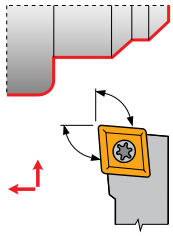
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	$h=h_1$	b	fl	$_1$	l_2			λ_s°	γ_o°			
PWLNR/L 2020 K 0604	20	20	25	125	20			-6	-6	0,40	PW10	WNM. 0604..
PWLNR/L 2525 M 0604	25	25	32	150	20			-6	-6	0,70	PW10	WNM. 0604..
PWLNR/L 2525 M 08	25	25	32	150	22			-6	-6	0,70	PW20	WN.. 0804..
PWLNR/L 3225 P 08	32	25	32	170	22			-6	-6	1,00	PW20	WN.. 0804..

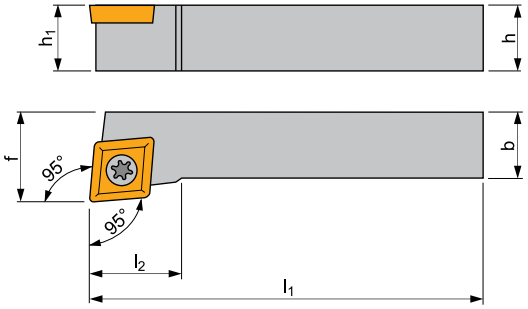
PEÇAS SOBRESSALENTES

Tipo	Calço	Alavanca	Parafuso da alavanca	Rebite tubular	Punção	Chave
						
PW10	WNU 060308	PU 01	US 34 (M6x19,0)	NT 04	MT 04	HXK 3
PW20	WNU 080312	PU 02	US 35 (M8x22,5)	NT 05	MT 05	HXK 4

SCLCR/L

Torneamento Externo - ISO S





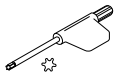
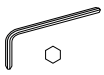
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

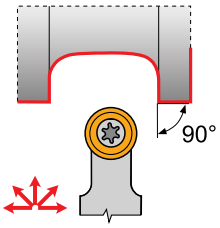
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°			
SCLCR/L 1010 E 06	10	10	12	70	8			0	0	0,06	SO1	CC.. 0602..
SCLCR/L 1616 H 09	16	16	20	100	16			0	0	0,22	SO8	CC.. 09T3..
SCLCR/L 2020 K 12-M-A	20	20	25	125	20			0	0	0,42	SC20	CC.. 1204..

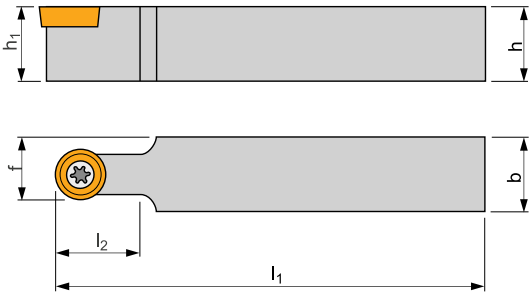
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO1	US 2506-T07P	(M2,5x6,3)	–	–	FLAG T07P	–
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–
SC20	US 5012-T15P	(M5x12,0)	SCN 120304	MS 5008	FLAG T15P	HXK 5

SRCDN

Torneamento Externo - ISO S





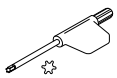
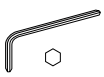
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

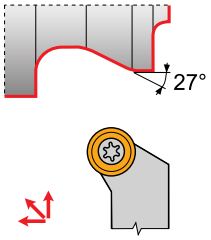
ISO	Sortiment	Dimensões (mm)									kg	Peças sobressalentes	Insertos
		h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°			
SRDCN 3225 P 12-M	●	32	25	18,5	170	30			0	0	0,90	SR12	RC.. 1204MO

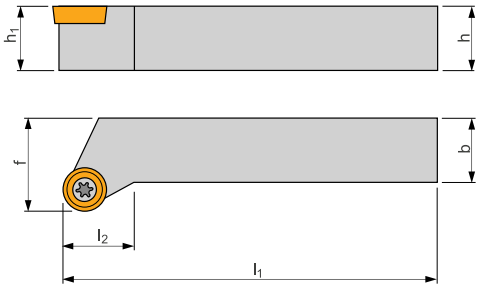
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SR12	US 3510-T15P	(M3,5x10,4)	SRN 120300	MS 3510	FLAG T15P	HXK 3,5

SRSCR/L

Torneamento Externo - ISO S





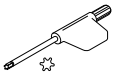
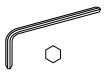
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

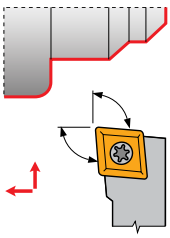
ISO	R/L	Dimensões (mm)									kg	Peças sobressalentes	Insertos
		h=h_1	b	fl	l_1	l_2			λ_s°	γ_o°			
SRSCR/L 2525 M 12-M-A	●/●	25	25	32	150	20			0	0	0,75	SR12	RC.. 1204MO

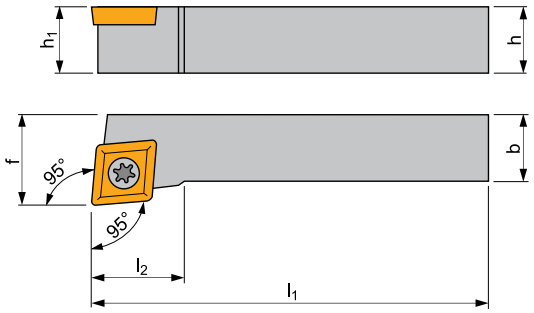
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SR12	US 3510-T15P	(M3,5x10,4)	SRN 120300	MS 3510	FLAG T15P	HXK 3,5

SDJCR/L

Torneamento Externo - ISO S





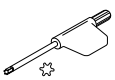
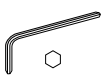
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°			
SDJCR/L 1212 F 07	12	12	16	80	14			0	0	0,10	SO1	DC.. 0702..
SDJCR/L 1616 H 11	16	16	20	100	20			0	0	0,20	SO8	DC.. 11T3..
SDJCR/L 2020 K 11-M-A	20	20	25	125	20			0	0	0,40	SD10	DC.. 11T3..
SDJCR/L 2525 M 11-M-A	25	25	32	150	20			0	0	0,75	SD10	DC.. 11T3..

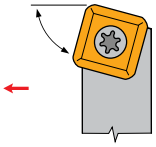
PEÇAS SOBRESSALENTES

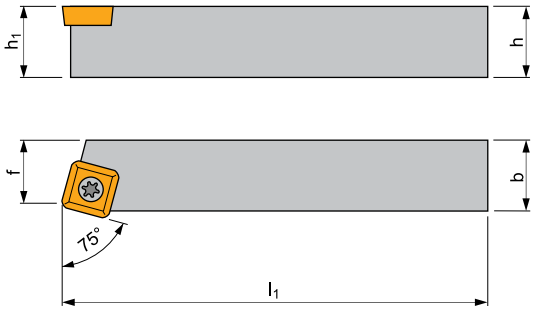
Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO1	US 2506-T07P	(M2,5x6,3)	–	–	FLAG T07P	–
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–
SD10	US 3510-T15P	(M3,5x10,4)	SDN 110304	MS 3510	FLAG T15P	HXK 3,5

SSBCR/L

Torneamento Externo - ISO S







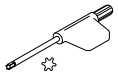
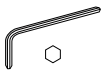
γ_o° Ângulo de saída ortogonal

λ_s° Ângulo de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h_1	b	fl	l_1				λ_s°	γ_o°			
SSBCR/L 1616 H 09	16	16	13	100				0	0	0,20	SO8	SC.. 09T3..
SSBCR/L 2020 K 12-M-A	20	20	17	125				0	0	0,40	SS20	SC.. 1204..
SSBCR/L 2525 M 12-M-A	25	25	22	150				0	0	0,75	SS20	SC.. 1204..

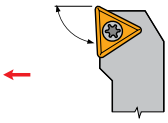
PEÇAS SOBRESSALENTES

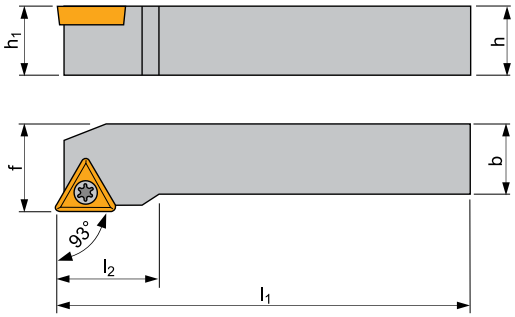
Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–
SS20	US 5012-T15P	(M5x12,0)	SSN 120304	MS 5008	FLAG T15P	HXK 5

STJCR/L

Torneamento Externo - ISO S







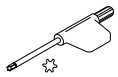
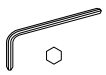
γ_o° Ângulo de saída ortogonal

λ_s° Ângulo de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

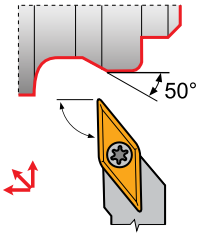
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h_1	b	fl	l_1	l_2			λ_s°	γ_o°			
STJCR/L 1616 H 11	16	16	20	100	18			0	0	0,22	SO1	TC.. 1102..
STJCR/L 2020 K 16-M-A	20	20	25	125	25			0	0	0,40	ST10	TC.. 16T3..
STJCR/L 2525 M 16-M-A	25	25	32	150	25			0	0	0,75	ST10	TC.. 16T3..

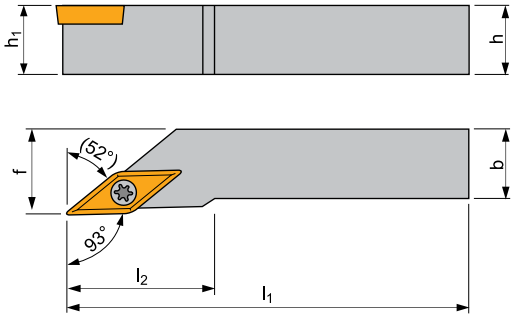
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO1	US 2506-T07P	(M2,5x6,3)	–	–	FLAG T07P	–
ST10	US 3510-T15P	(M3,5x10,4)	STN 160308	MS 3510	FLAG T15P	HXK 3,5

SVJB(C)R/L

Torneamento Externo - ISO S





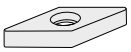
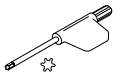
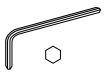
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

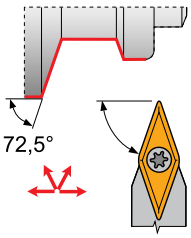
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h1	b	fl	1	l2			λ_s°	γ_o°			
SVJCR/L 2020 K 16-M-A	20	20	25	125	28			0	0	0,40	SV10	VC.. 1604..
SVJCR/L 2525 M 16-M-A	25	25	32	150	32			0	0	0,68	SV10	VC.. 1604..
SVJCR/L 3225 P 16-M-A	32	25	32	170	32			0	0	1,10	SV10	VC.. 1604..
SVJBR/L 1212 F 11	12	12	16	80	20			0	0	0,10	SO1	VB.. 1103..; VC.. 1103..
SVJBR/L 1616 H 11	16	16	20	100	20			0	0	0,20	SO1	VB.. 1103..; VC.. 1103..

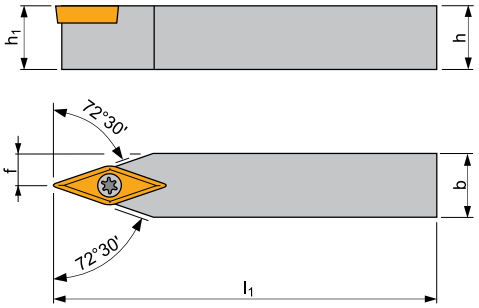
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SV10	US 3512-T15P	(M3,5x12,5)	SVN 160304	MS 3510	FLAG T15P	HXK 3,5
SO1	US 2506-T07P	(M2,5x6,3)	-	-	FLAG T07P	-

SVVCN

Torneamento Externo - ISO S





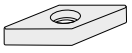
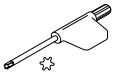
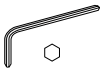
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

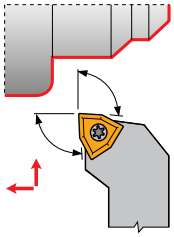
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h1	b	fl	1				λ_s°	γ_o°			
SVVCN 2020 K 16-M-A	20	20	10	125				0	0	0,35	SV10	VC.. 1604..
SVVCN 2525 M 16-M-A	25	25	12,5	150				0	0	0,70	SV10	VC.. 1604..
SVVCN 3225 P 16-M-A	32	25	12,5	170				0	0	1,00	SV10	VC.. 1604..

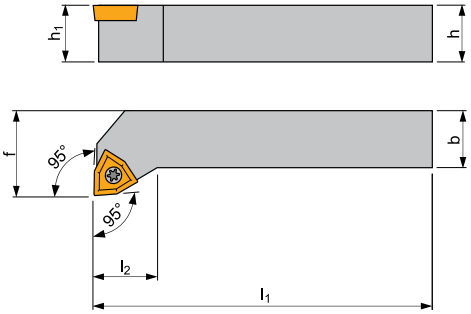
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SV10	US 3512-T15P	(M3,5x12,5)	SVN 160304	MS 3510	FLAG T15P	HXK 3,5

SWLCR/L

Torneamento Externo - ISO S





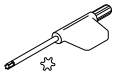
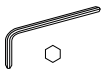
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

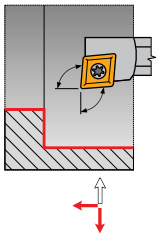
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h1	b	fl	1	l2			λ_s°	γ_o°			
SWLCR/L 2020 K 06	20	20	25	125	15			0	0	0,40	SO8	WC.. 06T3..

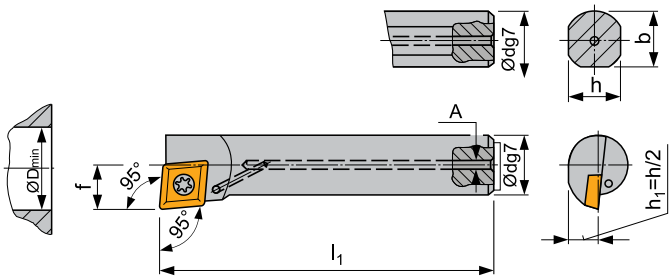
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–

SCLCR/L

Torneamento Externo - ISO S





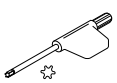
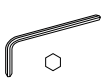
γ_o° Âng. de saída ortogonal

λ ° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

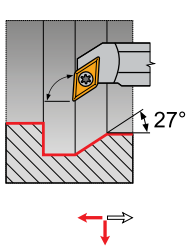
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	d	fl	1	h	b	A	D_{min}	λ_s°	γ_o°			
A10H-SCLCR/L 06	10	7	100	9	–	Ø4	13	-10	0	0,05	SO2	CC.. 0602..
A12K-SCLCR/L 06	12	9	125	11	–	Ø5	16	-8	0	0,10	SO1	CC.. 0602..
A16M-SCLCR/L 09-A	16	11	150	14,5	–	Ø6	20	-8	0	0,22	SO5	CC.. 09T3..
A20Q-SCLCR/L 09	20	13	180	18	–	Ø8	25	-5	0	0,40	SO8	CC.. 09T3..
A32S-SCLCR/L 12-A	32	22	250	30	30	Ø8	40	-10	0	1,35	SC20	CC.. 1204..

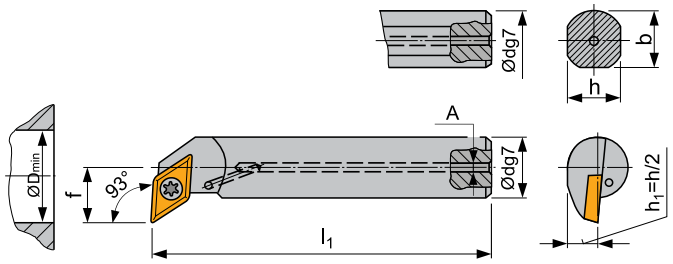
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO1	US 2506-T07P	(M2,5x6,3)	–	–	FLAG T07P	–
SO2	US 2505-T07P	(M2,5x5,2)	–	–	FLAG T07P	–
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–
SO5	US 4008-T15P	(M4x7,8)	–	–	FLAG T15P	–
SC20	US 5012-T15P	(M5x12,0)	SCN 120304	MS 5008	FLAG T15P	HXK 5

SDUCR/L

Torneamento Externo - ISO S





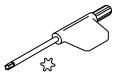
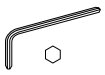
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

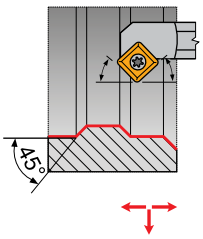
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	d	fl	$_1$	h	b	A	D_{min}	λ_s°	γ_o°			
A10H-SDUCR/L 07	10	7	100	9	–	Ø4	13	-10	0	0,05	SO2	DC.. 0702..
A12K-SDUCR/L 07	12	9	125	11	–	Ø5	16	-7	0	0,10	SO2	DC.. 0702..
A20Q-SDUCR/L 11	20	13	180	18	–	Ø8	25	-5	0	0,40	SO8	DC.. 11T3..
A25R-SDUCR/L 11	25	17	200	23	23	Ø8	32	-3	0	0,65	SO8	DC.. 11T3..

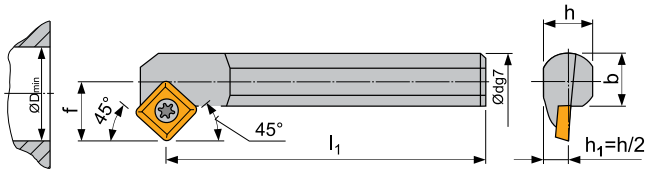
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO2	US 2505-T07P	(M2,5x5,2)	–	–	FLAG T07P	–
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–

SSSCR/L

Torneamento Externo - ISO S





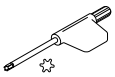
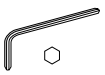
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

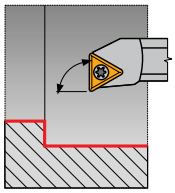
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	d	fl	$_1$	h	b	D_{min}		λ_s°	γ_o°			
S20S-SSSCR/L 09	20	13	250	18	18,5	25		-5	0	0,60	SO8	SC.. 09T3..

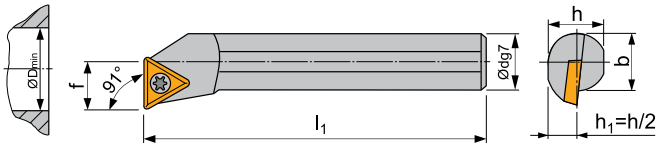
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–

STFCR/L

Torneamento Externo - ISO S





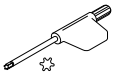
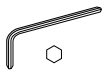
γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

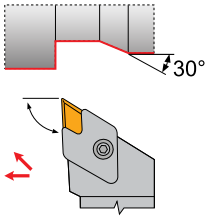
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	d	fl	$_1$	h	b	D_{min}		λ_s°	γ_o°			
S12K-STFCR/L 11	12	9	125	11	11,5	16		-7	0	0,11	SO1	TC.. 1102..
S16M-STFCR/L 11	16	11	150	14,5	15	20		-7	0	0,25	SO1	TC.. 1102..
S25T-STFCR/L 16	25	17	300	23	23	32		-3	0	1,15	SO8	TC.. 16T3..

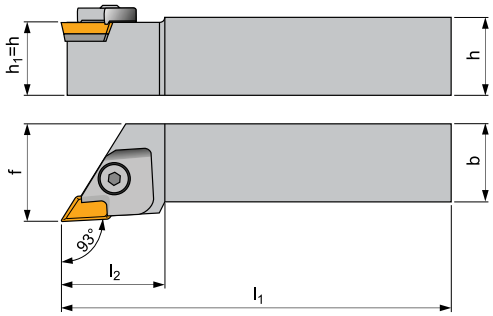
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Alavanca	Calço	Rebite tubular	Chave	Chave
						
SO1	US 2506-T07P	(M2,5x6,3)	–	–	FLAG T07P	–
SO8	US 3510-T15P	(M3,5x10,4)	–	–	FLAG T15P	–

CKJNR/L

Torneamento Externo - ISO C





γ_o° Âng. de saída ortogonal

λ_s° Âng. de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

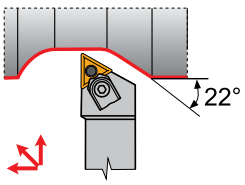
ISO	Dimensões (mm)									kg	Peças sobressalentes	Insertos
	h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°			
CKJNR/L 2020 K 16	20	20	30	125	34			1	-5	0,45	R1/L1	KNUX 1604..

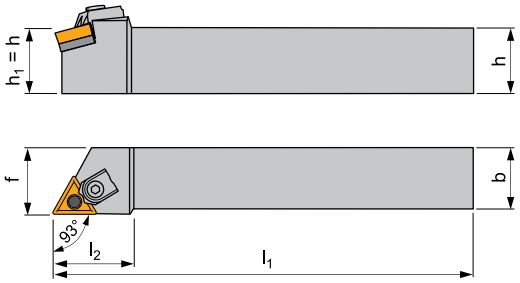
PEÇAS SOBRESSALENTES

Tipo	Mola	Pino+Mola	Calço	Rebite tubular	Grampo	Parafuso do calço	Chave
R1	PR 07	K 22	KNN 190412 R	NT 03	UP 25	US 83	HXK 4
L1	PR 07	K 22	KNN 190412 L	NT 03	UP 26	US 83	HXK 4

MTJNR/L

Torneamento Externo - ISO M





FERRAMENTAS PARA TORNEAMENTO EXTERNO

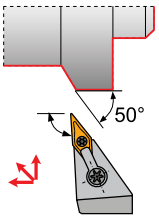
ISO	R/L	Dimensões (mm)									kg	Peças sobressalentes	Insertos
		h=h_1	b	fl	$_1$	l_2			λ_s°	γ_o°			
MTJNR 2020 K 16	●/●	20	20	25	125	34			-6	-6	0,45	MT16	TN.. 1604..
MTJNR 2525 M 16	●/●	25	25	32	150	34			-6	-6	0,80	MT16	TN.. 1604..

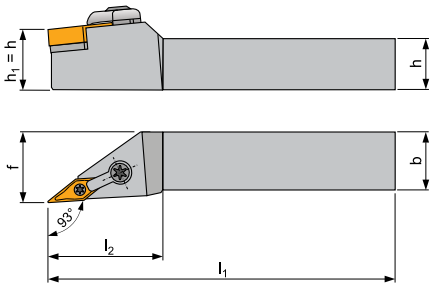
PEÇAS SOBRESSALENTES

Tipo	Grampo	Calço	Pino	Parafuso de fixação	Chave	
MT16	UE 16	MTN 160312	UC 52	HS 93	HXK 5	
MT22	UE 22	MTN 220612	UC 53	HS 94	HXK 5	

MVJNR/L

Torneamento Externo - ISO M





γ_o° Ângulo de saída ortogonal

λ_s° Ângulo de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

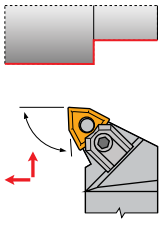
ISO	R/L	Dimensões (mm) h=h1	b	fl	1	l2			λ_s°	γ_o°	kg	Peças sobressalentes	Insertos
MVJNR/L 2525 M 16-A	●/●	25	25	32	150	41			-4,5	-13,5	0,70	MV2	VNM. 1604..
MVJNR/L 2020 K 16-A	●/●	20	20	25	125	41			-4,5	-13,5	0,45	MV2	VNM. 1604..

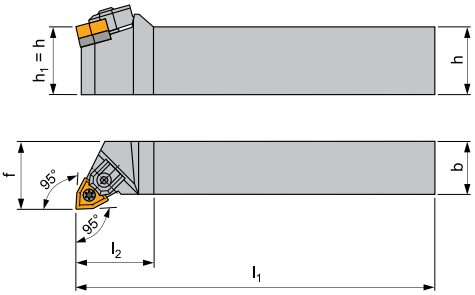
PEÇAS SOBRESSALENTES

Tipo	Calço	Grampo	Parafuso de Fixação	Parafuso de Fixação	Chave	Chave
MV2	MVN 160316	UPC 22	UP 0909-T09P	PS 6026-T09P	-	FLAG T09P

MWLNR/L

Torneamento Externo - ISO M





γ_o° Ângulo de saída ortogonal

λ° Ângulo de inclinação

FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	R/L	Dimensões (mm) h=h1	b	fl	1	l2			λ_s°	γ_o°	kg	Peças sobressalentes	Insertos
MWLNR/L 2525 M 08	●/●	25	25	32	150	32			-6	-6	0,70	MW1	WNM. 0804..

PEÇAS SOBRESSALENTES

Tipo	Grampo	Calço	Pino	Parafuso de fixação	Chave	
MW1	UE 05	WNW 080412	UC 51	HS 0408	HXK 3	

CHAVE DE CÓDIGO ISO - CORTES & RANHURAS - FERRAMENTAS EXTERNAS

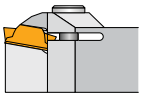
1	2	3	4	5	6	7	8	9	10	11
G	F	I	L	25	25	M	0316	R	030	017



1

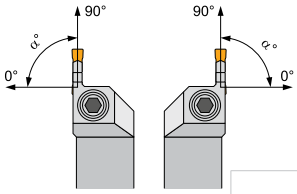
Sistema mecânico de fixação

G



2

Ângulo de posição do porta-ferramentas



α	
G = 0°	K = 75°
R = 15°	F = 90°
T = 30°	B = 105°
S = 45°	E = 120°
W = 60°	D = 135°

3

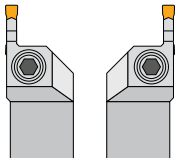
Alcance máximo do porta-ferramentas



G = 2,0 × a	N = 5,5 × a
H = 2,5 × a	O = 6,0 × a
I = 3,0 × a	P = 6,5 × a
J = 3,5 × a	Q = 7,0 × a
K = 4,0 × a	R = 7,5 × a
L = 4,5 × a	S = 8,0 × a
M = 5,0 × a	T = 8,5 × a

4

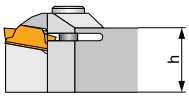
Sentido de corte (direita/esquerda)



R L

5

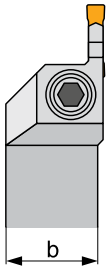
Altura da haste [mm]



12 = 12 mm
16 = 16 mm
20 = 20 mm
atd.

6

Largura da haste [mm]



12 = 12 mm
16 = 16 mm
20 = 20 mm
atd.

7

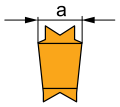
Comprimento da ferramenta



H = 100 mm
K = 125 mm
M = 150 mm
P = 170 mm
R = 200 mm

8

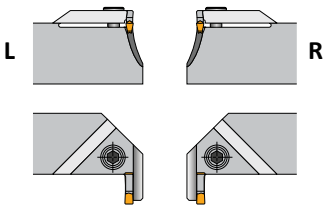
Largura do inserto



	a [mm]
02	2,0
03, 0313, 0316	3,0
04, 0413, 0416	4,0
05, 0516	5,0
06, 0616	6,0
08, 0830	8,0

9

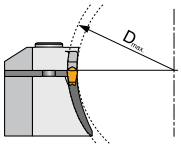
Direção de curvatura da espiga



Informação adicional para usinagem axial

10

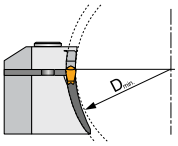
Diâmetro máximo



Informação adicional para usinagem axial

11

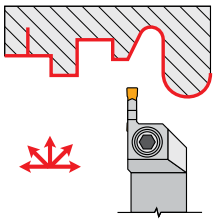
Diâmetro mínimo

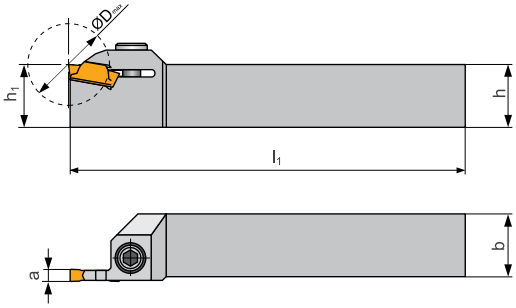


Informação adicional para usinagem axial

GFIR

Ferramentas para cortes e ranhuras



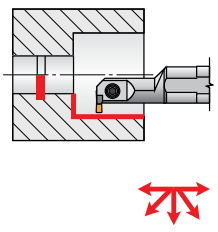


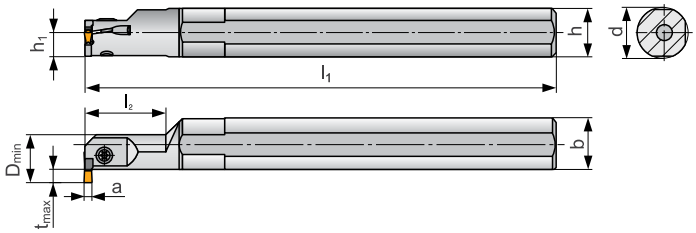
FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	R/L	Dimensões (mm)									kg	Peças sobressalentes	Insertos
		$h=h_1$	b	l_1	a	D_{max}							
GFIR 2020 K 03	●/●	20	20	125	3	18					0,40	GL04	LCM. 0316..
GFIR 2020 K 04	●/●	20	20	125	4	24					0,40	GL04	LCM. 0416..
GFIR 2525 M 03	●/●	25	25	150	3	18					0,60	GL05	LCM. 0316..
GFIR 2525 M 04	●/●	25	25	150	4	24					0,60	GL05	LCM. 0416..
GFKR 1616 H 02	●/●	16	16	100	2	32					0,30	GL03	LCMF 0220..

GGER/L

Ferramentas para cortes e ranhuras



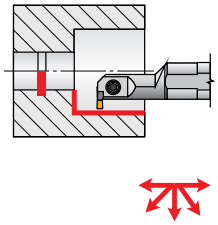


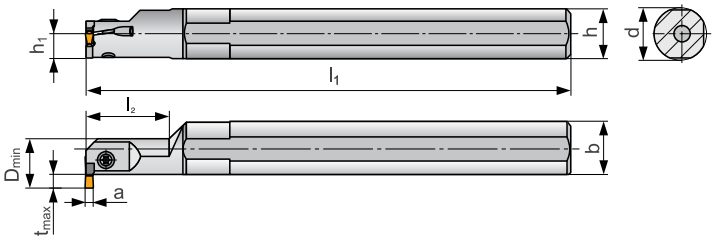
FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	R/L	Dimensões (mm)									kg	Peças sobressalentes	Insertos
		d	h	h_1	b	l_1	l_2	a	t_{max}	D_{min}			
A16Q-GGER/L 0313	●/	16	15	7,5	15,5	180	25	3	3	16	0,30	GL06	LCM. 0313..

GGFR/L

Ferramentas para cortes e ranhuras



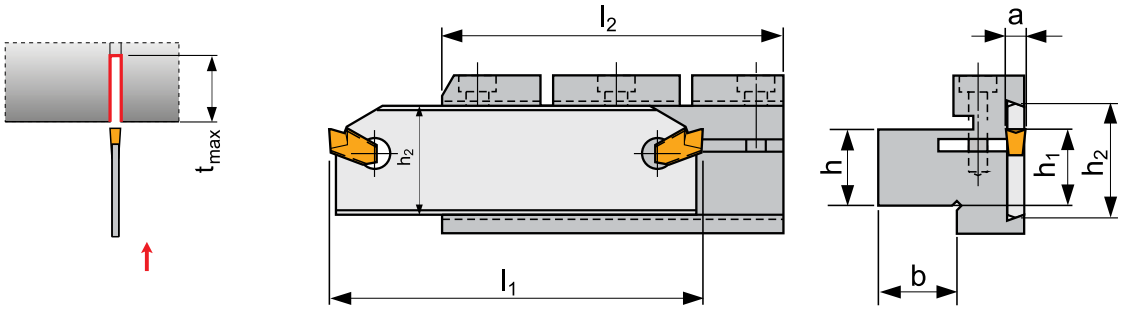


FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	R/L	Dimensões (mm)									kg	Peças sobressalentes	Insertos
		d	h	h_1	b	l_1	l_2	a	t_{max}	D_{min}			
A20R-GGFR/L 0313	●/●	20	18	9	19	200	30	3	5,5	20	0,40	GL06	LCM. 0313..

XLCFN

Ferramentas para cortes e ranhuras



LÂMINAS PARA TORNEAMENTO EXTERNO

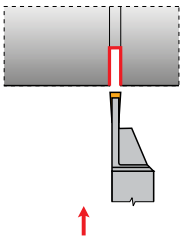
ISO	Dimensões (mm)							kg	Peças sobressalentes	Lâmina	Insertos
	$h_{=h1}$	h_2	l_1	a	t_{max}						
XLCFN 2603 J 03	20	26	110	3	37,5			0,06	KV	26-D.	LFUX 03080.
XLCFN 3202 M 03	25	32	150	3	50			0,08	KV	32-D.	LFUX 03080.
XLCFN 3203 M 04	25	32	150	4	50			0,11	KV	32-D.	LFUX 04080.

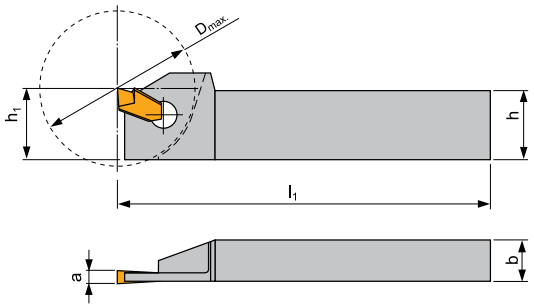
PEÇAS SOBRESSALENTES

Tipo	Extrator
KV	KV 5x70

XLCFR/L

Ferramentas para cortes e ranhuras





FERRAMENTAS PARA TORNEAMENTO EXTERNO

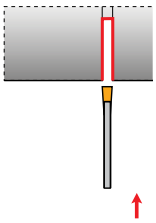
ISO	Dimensões (mm)					kg	Peças sobressalentes	Insertos
	$h=h_1$	b	l_1	a	D_{max}			
XLCFR/L 2520 K 03	25	20	130	3	50	0,15	KV	LFUX 03080.
XLCFR/L 2520 K 04	25	20	130	4	50	0,50	KV	LFUX 04080.

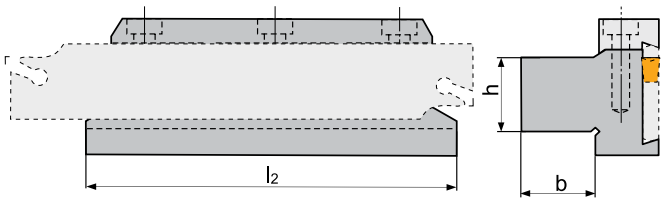
PEÇAS SOBRESSALENTES

Tipo	Extrator
	
KV	KV 5x70

DU, D

Ferramentas para cortes e ranhuras

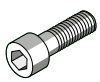
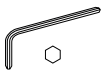




PORTA-FERRAMENTAS PARA TORNEAMENTO EXTERNO

ISO	Dimensões (mm)			kg	Peças sobressalentes	Porta-ferramenta
	h	b	l_2			
26-DU 2020	20	20	90	0,67	ND2	XLC.N 26..
32-DU 2523	25	23	110	1,00	ND2	XLC.N 32..
32-DU 2532	25	32	110	1,22	ND2	XLC.N 32..
32-DU 3229	32	29	110	1,28	ND2	XLC.N 32..

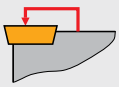
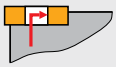
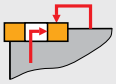
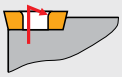
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação	Chave
		
ND2	HS 0625	HXK 5

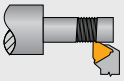
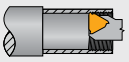
PRAMET

CHAVE DE CÓDIGO ISO - ROSQUEAMENTO

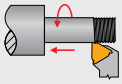
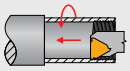
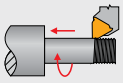
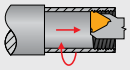
1 – Sistema mecânico de fixação

C	
P	
M	
S	

2 – Forma de usinagem

E	Externo	
I	Interno	

3 – Direção de corte

R - Direita *Right*	Externo	
	Interno	
L - Esquerda *Left*	Externo	
	Interno	

4 – Tipo de construção

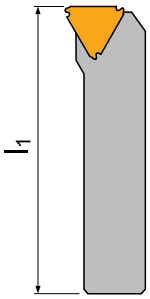
–	Normal
S	Espevial

1	2	3		4	5	6	7		8
S	E	R	-	S	2525	M	16	-	

5 – Dimensão [mm]

Torneamento externo	**2525**	**25 x 25 mm**
Torneamento interno	**1416**	Haste- 14 mm Largura da haste- 16 mm

6 – MComprimento da ferramenta



	l_1 [mm]
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
X	Special
Y	500

7 – Dimensão [mm]

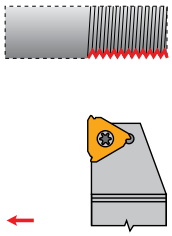
d {mm}	T 
6,350	**11**
9,525	**16**
12,700	**22**

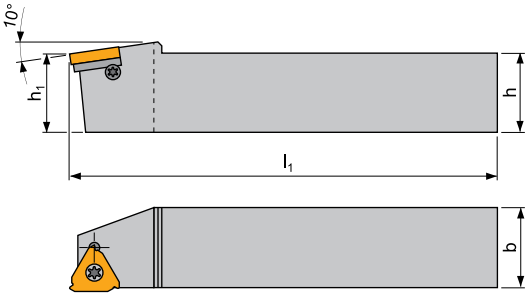
8 – Ângulo de hélice λ

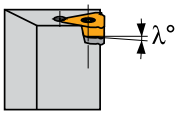
0	Ângulo de hélice λ = 0°
1	Ângulo de hélice λ = 1°
2	Ângulo de hélice λ = 2°

SER

Ferramentas para rosqueamento





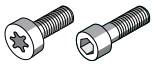
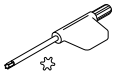
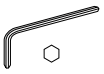


O ângulo de hélice λ pode ser selecionado, trocando o calço dentro da gama de -1,5° a +4,5°.

FERRAMENTAS PARA TORNEAMENTO EXTERNO

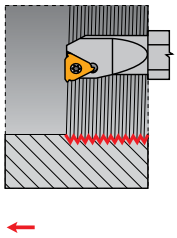
ISO	R/L	Dimensões (mm) h=h_1	b	l_1	kg	Peças sobressalentes	Insertos
SER 2020 K 16	●/●	20	20	125	0,50	Z12	TN 16ER/L..
SER 2525 M 16	●/●	25	25	150	0,70	Z12	TN 16ER/L..
SER 2525 M 22-A	●/●	25	25	150	0,70	Z13	TN 22ER/L..

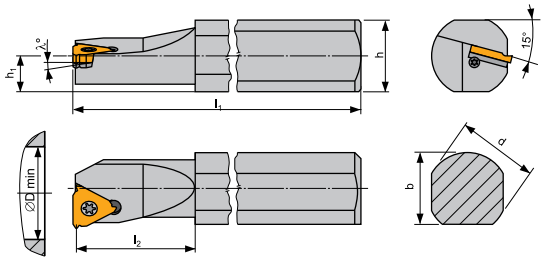
PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação*	Parafuso de calço	Chave	Chave	Calço	
						
Z12	US 3512A-T15P	HS 0304	FLAG T15P	HXK 2,5		
Z13	US 4514A-T20	SP 0405	FLAG T20	–		

SIR

Ferramentas para rosqueamento



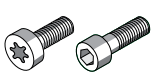
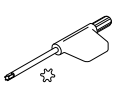
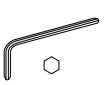


O ângulo de hélice λ pode ser selecionado, trocando o calço dentro da gama de -1,5° a +4,5°.

FERRAMENTAS PARA TORNEAMENTO INTERNO

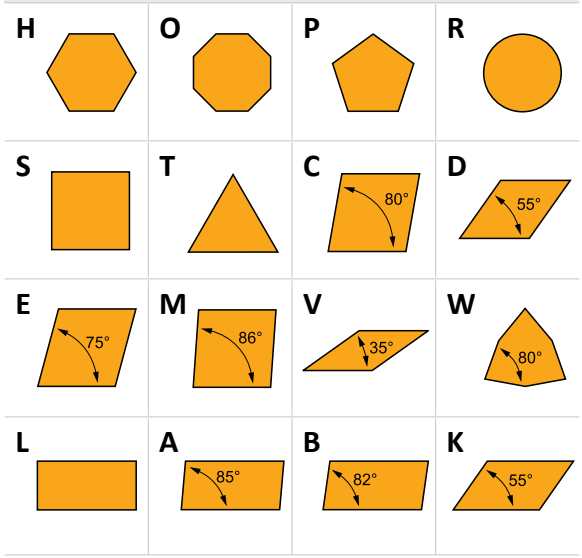
ISO	R/L	Dimensões (mm) b	d	D_{min}	h	h_1	l_1	l_2	kg	Peças sobressalentes	Insertos
SIR 1820 P 16	●/●	18,5	20	27	18	9	170	–	0,35	Z12	TN 16NR/L..

PEÇAS SOBRESSALENTES

Tipo	Parafuso de fixação*	Parafuso de calço	Chave	Chave	Calço	
						
Z12	US 3512A-T15P	HS 0304	FLAG T15P	HXK 2,5		

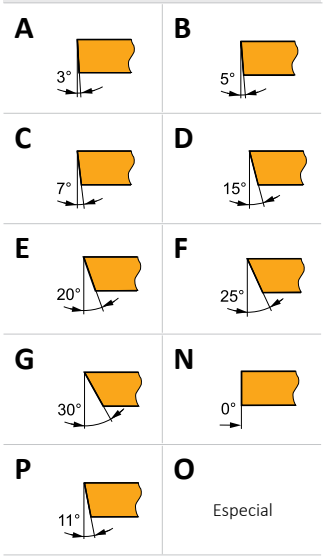
1

Formato do inserto



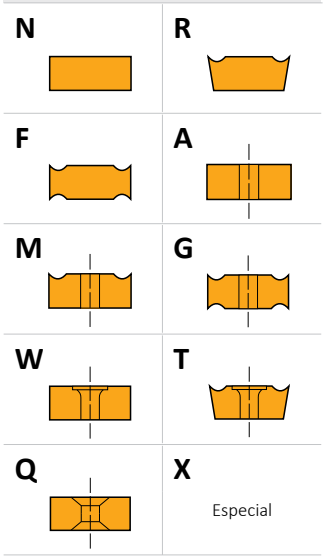
2

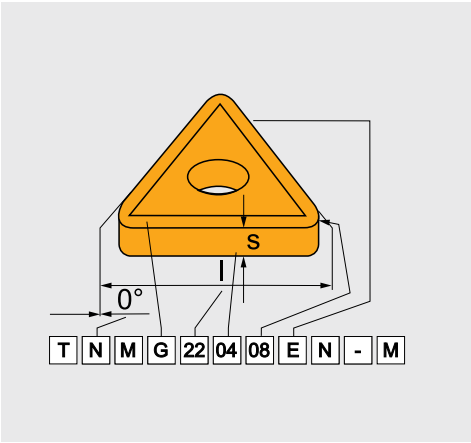
Ângulo de folga



4

Tipo do inserto





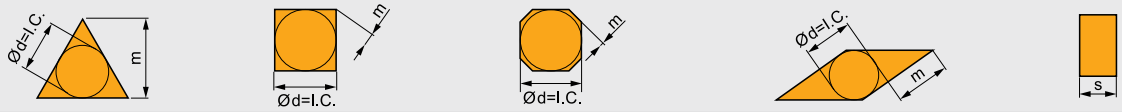
Código ISO	1	2	3	4
	T	N	U	N
	T	N	M	G

Código ANSI	1	2	3	4
	T	N	U	N
	T	N	M	G

3

Tolerâncias

Símbolo	Tolerâncias (mm)			Tolerâncias (polegadas)		
	m (±)	s (±)	d = I.C. (±)	m (±)	s (±)	d = I.C. (±)
A	0,005	0,025	0,025	0,0002	0,001	0,0010
F	0,005	0,025	0,013	0,0002	0,001	0,0005
C	0,013	0,025	0,025	0,0005	0,001	0,0010
H	0,013	0,025	0,013	0,0005	0,001	0,0005
E	0,025	0,025	0,025	0,0010	0,001	0,0010
G	0,025	0,130	0,025	0,0010	0,005	0,0010
J	0,005	0,025	0,05 ÷ 0,13	0,0002	0,001	0,002 ÷ 0,005
K	0,013	0,025	0,05 ÷ 0,13	0,0005	0,001	0,002 ÷ 0,005
L	0,025	0,025	0,05 ÷ 0,13	0,0010	0,001	0,002 ÷ 0,005
M	0,08 ÷ 0,18	0,130	0,05 ÷ 0,13	0,003 ÷ 0,007	0,005	0,002 ÷ 0,005
N	0,08 ÷ 0,18	0,025	0,05 ÷ 0,13	0,003 ÷ 0,007	0,005	0,002 ÷ 0,005
U	0,05 ÷ 038	0,130	0,08 ÷ 0,25	0,005 ÷ 0,015	0,005	0,003 ÷ 0,010



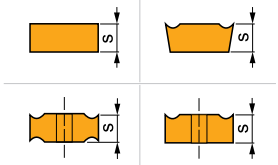
5

Comprimento da aresta de corte

D = I.C.		R	S	T	C	D	E	V	W
mm	inch								
3,97	5/32			06				07	02
5,00		05							
5,56	7,32			09			05		03
6,00		06							
6,35	1/4			11	06	07			04
7,94					08		08	13	
8,00		08							
9,525	3/8	09	09	16	09	11		16	06
10,0		10							
12,0		12							
12,7	1/2	12	12	22	12	15			08
15,875	5/8	15	15	27	16				
16,0		16							
19,05	3/4	19	19	33	19				
20,0		20							
25,0		25							
25,4	1	25	25		25				
31,75	1.1/4	31							
32,0		32							
38,1	1.1/2		38						

6

Espessura



Símbolo	S	
	mm	inch
01	1,59	1/16
T1	1,98	
02	2,38	3/32
03	3,18	1/8
T3	3,97	5/32
04	4,76	3/16
05	5,56	
06	6,35	1/4
07	7,94	5/16
09	9,52	3/8

7

Raio de ponta

Símb.	r_ϵ	
	mm	inch
00	0	0
02	0,2	
04	0,4	1/64
08	0,8	1/32
12	1,2	3/64
16	1,6	1/16
24	2,4	3/32
32	3,2	1/8



Insertos redondas

D = I.C	Símb.
mm	M0
inch	00

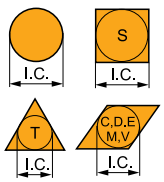


5	6	7	8	9		10
22	04	08				
22	04	08	E	N	-	M

5a	6a	7a	8	9		10
4	3	2				
4	3	2	E	N	-	M

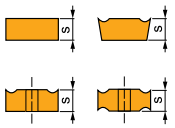
Código ANSI/*ANSI CODE*

Círculo inscrito



Símb.	d = I.C.	
	mm	inch
1	3,175	1/8
(1.2)	3,969	5/32
(1.5)	4,763	3/16
(1.8)	5,556	7/32
2	6,350	1/4
(2.5)	7,938	5/16
3	9,525	3/8
4	12,700	1/2
5	15,875	5/8
6	19,050	3/4
7	22,225	7/8
8	25,400	1
10	31,750	1.1/4

Espessura



Símb.	s	
	mm	inch
1	1,588	1/16
(1.2)	1,984	5/64
(1.5)	2,381	3/32
2	3,175	1/8
(2.5)	3,969	5/32
3	4,763	3/16
(3.5)	5,556	7/32
4	6,350	1/4
5	7,938	5/16
6	9,525	3/8
7	11,113	7/16
8	12,700	1/2
9	14,288	9/16
10	15,875	5/8

Raio de ponta



Símb.	r_ϵ	
	mm	inch
0	0,050	1/512
(0.2)	0,099	1/256
(0.5)	0,198	1/128
1	0,397	1/64
2	0,794	1/32
3	1,191	3/64
4	1,588	1/16
5	1,984	5/64
6	2,381	3/32
7	2,778	7/64
8	3,175	1/8
10	3,969	5/32
12	4,763	3/16
14	5,556	7/32
16	6,350	1/4
x	Outro	

8

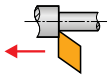
Preparação da aresta de corte

F	Arestas agudas	E	Arestas arredondadas
T	Arestas chanfradas	S	Arestas chanfradas e arredondadas
K	Arestas com chanfro duplo	P	Arestas com duplo chanfro e arredondamento

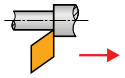
9

Sentido de corte

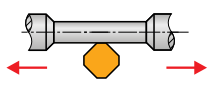
R Avanço



L Avanço



N

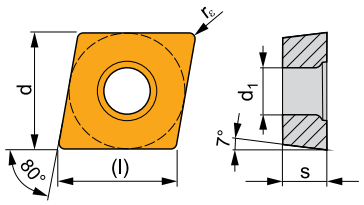


10

Designação do quebra-cavacos

CCGT

Insertos intercambiáveis

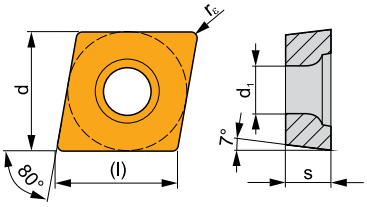


Dimensões (mm)	(l)	d	d_1	s
0602	6,4	6,350	2,80	2,38
09T3	9,7	9,525	4,40	3,97
1204	12,9	12,700	5,50	4,76

Quebra-cavaco	ISO	Classes													Avanço por rot.		Prof. de corte	
		HF7													f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**CCGT 060204F-AL**	●													0,10	0,30	0,4	3,5
	CCGT 09T302F-AL	●													0,10	0,15	0,3	4,0
	CCGT 09T304F-AL	●													0,10	0,30	0,4	4,5
	CCGT 09T308F-AL	●													0,15	0,60	0,8	5,0
	CCGT 120404F-AL	●													0,10	0,30	0,4	7,0
	CCGT 120408F-AL	●													0,15	0,60	0,8	7,0

CCMT

Insertos intercambiáveis

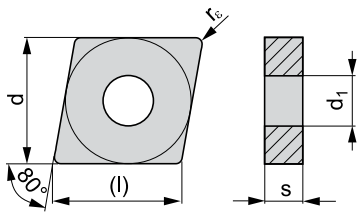


Dimensões (mm)	(l)	d	d_1	s
0602	6,4	6,350	2,90	2,38
09T3	9,7	9,525	4,50	3,97
1204	12,9	12,700	5,60	4,76

Quebra-cavaco	ISO	Classes													Avanço por rot.		Prof. de corte	
		T8315	T8430	T9325											f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**CCMT 060204E-FM**	●	●	●											0,08	0,15	0,2	1,0
	CCMT 09T304E-FM	●	●	●											0,10	0,30	0,4	3,0
	CCMT 09T308E-FM	●	●	●											0,15	0,35	0,8	3,0
	CCMT 120404E-FM	●	●	●											0,10	0,30	0,4	4,0
	CCMT 120408E-FM	●		●											0,15	0,35	0,8	4,0
	CCMT 120412E-FM		●	●											0,15	0,45	1,2	4,0
	**CCMT 060202E-UR**		●	●											0,08	0,15	0,2	2,0
	CCMT 09T304E-UR		●	●											0,08	0,30	0,4	2,0
	CCMT 09T308E-UR		●												0,08	0,50	0,8	3,0
	CCMT 120404E-UR		●	●											0,08	0,30	0,4	3,0
	CCMT 120408E-UR		●	●											0,08	0,50	0,8	4,0

CNMA

Insertos intercambiáveis

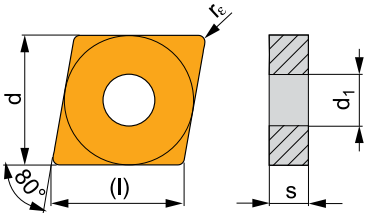


Dimensões (mm)	(l)	d	d_1	s
1204	12,9	12,700	5,16	4,76
1606	16,1	15,875	6,35	6,35
1906	19,3	19,050	7,94	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T5305	T5315										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	CNMA 120404	●											0,4	0,10	0,30	0,4	8,4
	CNMA 120408		●										0,8	0,10	0,60	0,8	8,4
	CNMA 120412		●										1,2	0,10	0,60	1,2	8,4
	CNMA 120416	●											1,6	0,10	0,60	1,6	8,4
	CNMA 160612	●											1,2	0,10	0,60	1,2	8,5
	CNMA 190612	●											1,2	0,10	0,90	1,2	12,7
	CNMA 190616	●											1,6	0,10	0,90	1,6	12,7

CNMG

Insertos intercambiáveis

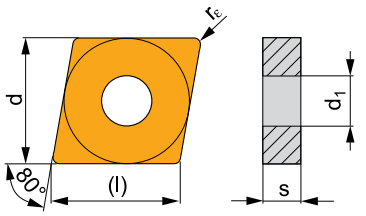


Dimensões (mm)	(l)	d	d_1	s
1204	12,9	12,700	5,16	4,76
1606	16,1	15,875	6,35	6,35
1906	19,3	19,050	7,94	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8315	T8430	T9325									r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	CNMG 120404E-FF	●											0,4	0,06	0,15	0,4	1,5
	CNMG 120404E-FM	●		●									0,4	0,10	0,30	0,5	3,0
	CNMG 120408E-FM		●	●									0,8	0,15	0,45	0,8	3,0
	CNMG 120408E-M		●	●									0,8	0,15	0,60	0,8	6,0
	CNMG 120412E-M			●									1,2	0,17	0,80	1,2	6,0
	CNMG 160608E-M			●									0,8	0,15	0,60	0,8	6,0
	CNMG 190608E-M			●									0,8	0,15	0,60	0,8	6,0
	CNMG 190612E-M			●									1,2	0,17	0,80	1,2	8,0
	CNMG 120408E-R			●									0,8	0,17	0,60	1,0	8,0
	CNMG 120412E-R			●									1,2	0,25	0,70	2,0	6,0
	CNMG 160612E-R			●									1,2	0,25	0,70	3,0	7,0
	CNMG 190616E-R			●									1,6	0,25	0,70	2,0	9,0
	CNMG 120408E-RM		●										0,8	0,20	0,50	1,0	7,0
	CNMG 120412E-RM		●										1,2	0,25	0,70	1,5	7,0
	CNMG 120416E-RM		●										1,6	0,30	0,75	2,0	7,0
	CNMG 160612E-RM		●										1,2	0,25	0,70	1,5	8,0
	CNMG 190612E-RM		●										0,8	0,20	0,50	1,0	10,0

CNMM

Insertos intercambiáveis

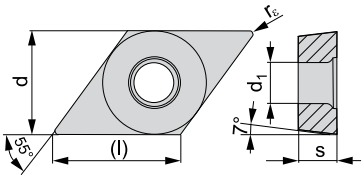


Dimensões (mm)	(l)	d	d_1	s
1606	16,1	15,875	6,35	6,35
1906	19,3	19,050	7,94	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8430	T9325										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**CNMM 190612E-DR**		●										1,2	0,30	0,85	2,5	9,0
	CNMM 190616E-DR		●										1,2	0,30	0,85	2,5	9,0
	**CNMM 190624E-NR2**		●										2,4	0,40	1,20	2,5	12,0
	**CNMM 160612E-OR**	●											1,2	0,35	0,90	3,0	10,0

DCGT

Insertos intercambiáveis

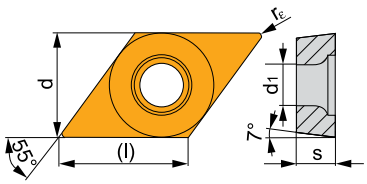


Dimensões (mm)	(l)	d	d_1	s
11T3	11,6	9,525	4,40	3,97

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		HF7											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**DCGT 11T304F-AL**	●											0,4	0,10	0,24	0,4	3,3
	DCGT 11T308F-AL	●											0,8	0,15	0,48	0,8	3,3

DCMT

Insertos intercambiáveis

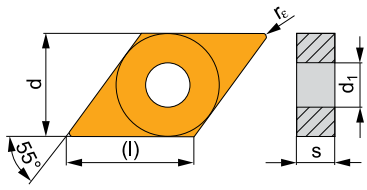


Dimensões (mm)	(l)	d	d_1	s
0702	7,8	6,350	2,90	2,38
11T3	11,6	9,525	4,50	3,97

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8430	T9325										r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**DCMT 070202E-UR**	●	●										0,2	0,05	0,12	0,2	1,0
	DCMT 070204E-UR	●	●										0,4	0,08	0,24	0,4	2,0
	DCMT 11T304E-UR	●	●										0,4	0,08	0,24	0,4	2,0
	DCMT 11T308E-UR	●	●										0,8	0,08	0,30	0,8	2,0

DNMG

Insertos intercambiáveis

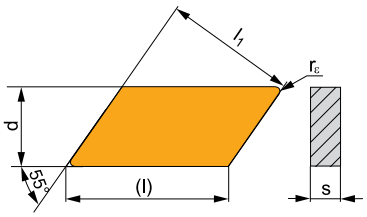


Dimensões (mm)	(l)	d	d_1	s
1104	11,6	9,525	3,81	4,76
1504	15,5	12,700	5,16	4,76
1506	15,5	12,700	5,16	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T9325	T8315	T8430									r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	DNMG 110404E-FM	●	●										0,4	0,10	0,24	0,4	3,0
	DNMG 110408E-FM	●		●									0,8	0,10	0,35	0,8	3,0
	**DNMG 150404E-FM**	●		●									0,4	0,10	0,24	0,5	3,0
	DNMG 150408E-FM	●		●									0,8	0,15	0,45	0,8	3,0
	DNMG 150604E-FM	●	●										0,4	0,10	0,24	0,5	3,0
	DNMG 150608E-FM	●		●									0,8	0,15	0,45	0,8	3,0
	DNMG 110404E-M	●											0,4	0,12	0,24	0,5	3,0
	**DNMG 150408E-M**	●											0,8	0,15	0,48	0,8	3,0
	DNMG 150412E-M	●											1,2	0,17	0,72	1,2	4,5
	DNMG 150608E-M	●											0,8	0,15	0,48	0,8	4,5
	**DNMG 150612E-R**	●											1,2	0,25	0,70	2,0	4,5

KNUX

Insertos intercambiáveis

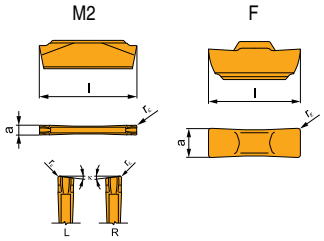


Dimensões (mm)	(l)	l_1	d	s
1604	19,5	16,15	9,525	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T9335															
													r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**KNUX 160405ER-72**	●											0,5	0,15	0,23	0,5	4,0
	KNUX 160405EL-72	●											0,5	0,15	0,23	0,5	4,0

LCMF

Insertos intercambiáveis

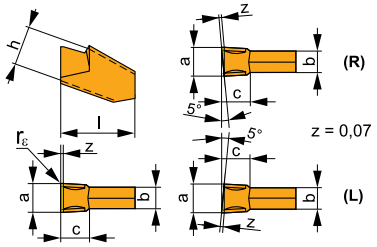


Dimensões (mm)	a	tol. a	l
0220	2,00	±0,03	19,50
0316	3,00	±0,05	12,60
0416	4,00	±0,05	12,60

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8430															
													r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**LCMF 022002-M2**	●											0,2	0,09	0,23	0,2	2,0
	**LCMF 031604-F**	●											0,4	0,05	0,17	0,3	3,0
	LCMF 041604-F	●											0,4	0,15	0,25	0,5	3,0

LFUX

Insertos intercambiáveis

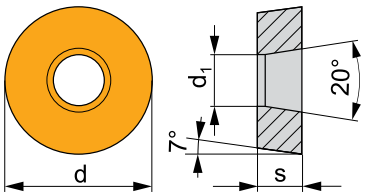


Dimensões (mm)	a	b	c	l	h
0308	3,0	2,51	4,90	11,50	8,00
0408	4,0	3,44	4,90	11,50	8,00

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8430											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**LFUX 030802TN**	●											0,2	0,10	0,15	–	–
	LFUX 040802TN	●											0,2	0,10	0,17	–	–

RCMX

Insertos intercambiáveis

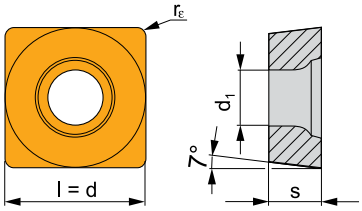


Dimensões (mm)	d	d_1	s
1204	12,000	4,20	4,76
1606	16,000	5,20	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T9325											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**RCMX 1204MOS-321**	●												0,40	1,00	1,0	3,0

SCMT

Insertos intercambiáveis

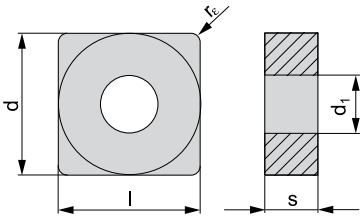


Dimensões (mm)	l	d	d_1	s
09T3	9,525	9,525	4,50	3,97
1204	12,700	12,700	5,60	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8315	T8430	T9325									r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SCMT 09T308E-FM**	●	●	●									0,8	0,15	0,35	0,8	3,0
	SCMT 120404E-FM			●									0,4	0,10	0,30	0,4	4,0
	SCMT 120408E-FM		●	●									0,8	0,15	0,35	0,8	4,0
	**SCMT 09T304E-UR**		●	●									0,4	0,08	0,30	0,4	3,0

SNMA

Insertos intercambiáveis

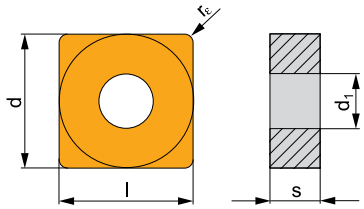


Dimensões (mm)	l	d	d_1	s
1204	12,700	12,700	5,16	4,76
1506	15,875	15,875	6,35	6,35
1906	19,050	19,050	7,94	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T5315	T5305										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SNMA 120408**	●											0,80	0,10	0,60	0,8	6,0
	SNMA 120412	●											1,20	0,10	0,60	1,2	6,0
	SNMA 150612		●										1,20	0,10	0,90	1,2	7,1
	SNMA 190616		●										1,20	0,10	0,90	1,2	8,9

SNMG

Insertos intercambiáveis

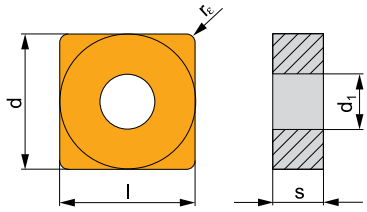


Dimensões (mm)	l	d	d_1	s
1204	12,700	12,700	5,16	4,76
1506	15,875	15,875	6,35	6,35
1906	19,050	19,050	7,94	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8315	T8430	T9325									r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SNMG 120404E-FM**	●		●									0,4	0,10	0,30	0,5	3,0
	SNMG 120408E-FM		●	●									0,8	0,15	0,45	0,8	3,0
	**SNMG 120408E-M**			●									0,8	0,15	0,60	0,8	6,0
	SNMG 150612E-M			●									1,2	0,17	0,80	1,2	8,0
	**SNMG 120412E-R**			●									1,2	0,25	0,70	2,0	6,0
	SNMG 190612E-R			●									1,2	0,25	0,70	2,0	9,0
	SNMG 190616E-R			●									1,6	0,30	0,80	2,0	9,0
	**SNMG 120408E-RM**		●										0,8	0,20	0,50	1,0	7,0

SNMM

Insertos intercambiáveis

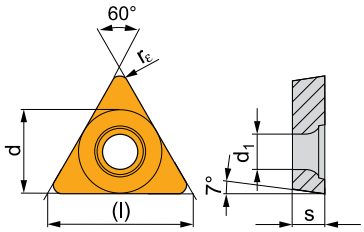


Dimensões (mm)	l	d	d_1	s
1906	19,050	19,050	7,94	6,35

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T9325	T8430										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SNMM 190612E-DR**	●											1,2	0,30	0,85	2,5	9,0
	SNMM 190616E-DR	●											1,6	0,30	0,85	2,5	9,0
	**SNMM 190624E-NR2**	●											2,4	0,40	1,20	2,5	12,0
	**SNMM 190612E-OR**		●										1,2	0,35	1,00	3,0	10,0
	SNMM 190616E-OR		●										1,6	0,38	1,20	2,0	10,0
	SNMM 190624E-OR	●											2,4	0,45	1,20	3,5	12,0

TCGT

Insertos intercambiáveis

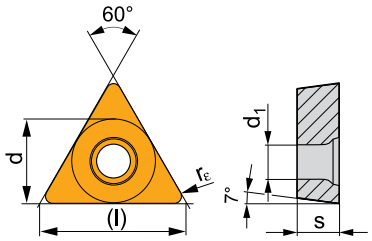


Dimensões (mm)	(l)	d	d_1	s
1102	11,0	6,350	2,80	2,38
16T3	16,5	9,525	4,40	3,97

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		HF7											r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**TCGT 110204F-AL**	●											0,4	0,10	0,24	0,4	3,6
	TCGT 16T304F-AL	●											0,4	0,10	0,24	0,4	5,3
	TCGT 16T308F-AL	●											0,8	0,15	0,48	0,8	5,3

TCMT

Insertos intercambiáveis

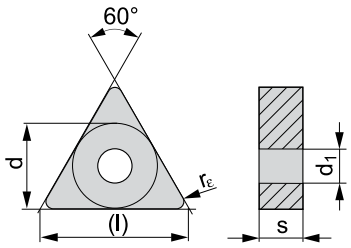


Dimensões (mm)	(l)	d	d_1	s
1102	11,0	6,350	2,90	2,38
16T3	16,5	9,525	4,50	3,97

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8315	T8430										r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**TCMT 16T308E-FM**	●	●										0,8	0,15	0,35	0,8	3,0
	**TCMT 110204E-UR**		●										0,4	0,08	0,24	0,4	2,0
	TCMT 16T304E-UR		●										0,4	0,08	0,24	0,4	3,0

TNMA

Insertos intercambiáveis

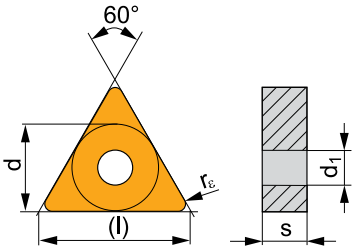


Dimensões (mm)	(l)	d	d_1	s
1604	16,5	9,525	3,81	4,76
2204	22,0	12,700	5,16	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T5305	T5315										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	TNMA 160408		●										0,8	0,10	0,40	0,8	4,8
	TNMA 160412	●											1,2	0,10	0,40	1,2	4,8
	TNMA 220412	●											1,2	0,10	0,40	1,2	6,4

TNMG

Insertos intercambiáveis

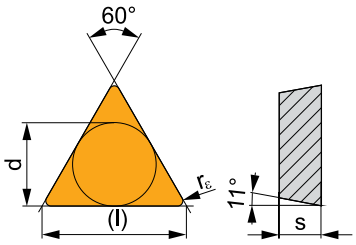


Dimensões (mm)	(l)	d	d_1	s
1604	16,5	9,525	3,81	4,76
2204	22,0	12,700	5,16	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8315	T8430	T9315	T9325								r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	TNMG 160404E-FM	●	●	●	●								0,4	0,10	0,24	0,5	3,0
	TNMG 160408E-FM	●	●		●								0,8	0,15	0,45	0,8	3,0
	TNMG 220408E-M				●								0,8	0,15	0,48	0,8	6,0
	TNMG 220412E-M				●								1,2	0,17	0,72	1,2	6,0
	TNMG 160412E-RM		●										1,2	0,25	0,65	1,5	5,3
	TNMG 160404ER-SI		●		●								0,4	0,20	0,24	0,8	5,0
	TNMG 160408ER-SI		●		●								0,8	0,20	0,48	0,8	5,0
	TNMG 160404EL-SI		●		●								0,4	0,20	0,24	0,8	5,0
	TNMG 160408EL-SI		●		●								0,8	0,20	0,48	0,8	5,0

TPMR

Insertos intercambiáveis

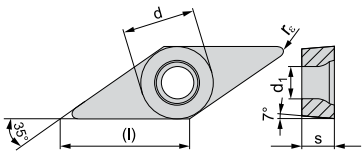


Dimensões (mm)	(l)	d	s
1103	11,0	6,350	3,18
1603	16,5	9,525	3,18

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		6640											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**TPMR 110304E-46**	●											0,4	0,10	0,24	1,0	3,0
	TPMR 110308E-46	●											0,8	0,10	0,40	1,0	3,0

VCGT

Insertos intercambiáveis

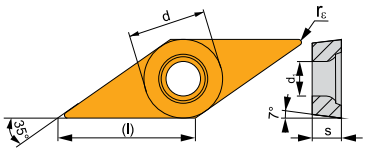


Dimensões (mm)	(l)	d	d_1	s
1604	16,6	9,525	4,40	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		HF7											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**VCGT 160404F-AL**	●											0,4	0,10	0,20	0,4	4,0
	VCGT 160408F-AL	●											0,8	0,15	0,40	0,8	4,0

VCMT

Insertos intercambiáveis

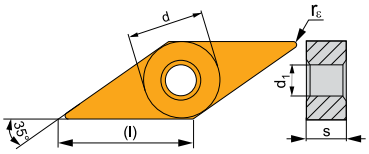


Dimensões (mm)	(l)	d	d_1	s
1103	11,1	6,350	2,90	3,18
1604	16,6	9,525	4,50	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8430	T9325										r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**VCMT 160404E-FM**		●														
	VCMT 160408E-FM	●	●										0,8	0,15	0,30	0,8	2,5
	**VCMT 110304E-UR**	●	●										0,4	0,08	0,20	0,4	2,0
	VCMT 110308E-UR	●	●										0,8	0,08	0,30	0,8	2,0
	VCMT 160404E-UR	●											0,4	0,08	0,20	0,4	2,0

VNMG

Insertos intercambiáveis

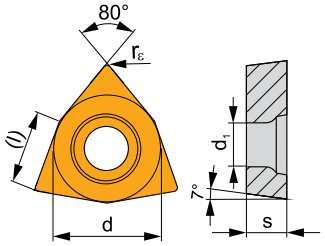


Dimensões (mm)	(l)	d	d_1	s
1604	9,5	9,525	3,81	4,76

Quebra-cavaco	ISO	Classes											Raio	Avanço por rot.		Prof. de corte	
		T8430	T9325										r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**VNMG 160404E-FM**	●	●										0,4	0,10	0,20	0,5	3,0
	VNMG 160408E-FM	●	●										0,8	0,15	0,35	0,8	3,0

WCMT

Insertos intercambiáveis

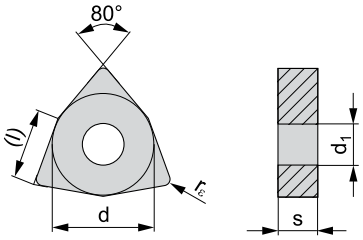


Dimensões (mm)	(l)	d	d_1	s
06T3	6,5	9,525	4,50	3,97

Quebra-cavaco	ISO	Classes												Raio	Avanço por rot.		Prof. de corte	
		T8430												r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**WCMT 06T304E-FM**	●												0,4	0,10	0,30	0,4	3,0
	WCMT 06T308E-FM	●												0,8	0,15	0,35	0,8	3,0

WNMA

Insertos intercambiáveis

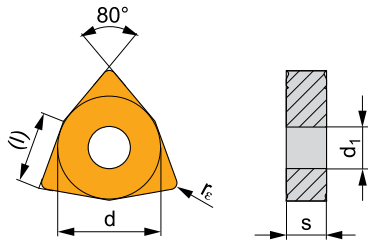


Dimensões (mm)	(l)	d	d_1	s
0804	8,7	12,700	5,16	4,76

Quebra-cavaco	ISO	Classes												Raio	Avanço por rot.		Prof. de corte	
		T5315												r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**WNMA 080408**	●												0,8	0,10	0,60	0,8	4,4
	WNMA 080412	●												1,2	0,10	0,60	1,2	4,4

WNMG

Insertos intercambiáveis

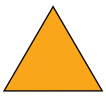


Dimensões (mm)	(l)	d	d_1	s
0604	6,5	9,525	3,81	4,76
0804	8,7	12,700	5,16	4,76

Quebra-cavaco	ISO	Classes												Raio	Avanço por rot.		Prof. de corte	
		T9325	T8315	T8430										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	WNMG 060404E-FM		●											0,4	0,10	0,30	0,5	3,0
	WNMG 060408E-FM			●										0,8	0,10	0,35	0,8	3,0
	**WNMG 06T304E-FM**	●												0,4	0,10	0,30	0,5	3,0
	WNMG 06T308E-FM	●												0,8	0,10	0,35	0,8	3,0
	WNMG 080404E-FM	●	●											0,4	0,10	0,30	0,5	3,0
	WNMG 080408E-FM	●												0,8	0,15	0,45	0,8	3,0
	WNMG 080412E-FM	●		●										1,2	0,15	0,45	1,2	4,0
	WNMG 060404E-M	●												0,4	0,17	0,30	0,8	3,0
	**WNMG 060408E-M**	●												0,8	0,15	0,60	0,8	4,0
	WNMG 080408E-M	●		●										0,8	0,15	0,60	0,8	5,6
	**WNMG 080408E-RM**		●											0,8	0,20	0,55	1,0	5,0
	WNMG 080412E-RM		●											1,2	0,25	0,70	1,5	5,0
	**WNMG 080408W-M**	●												0,8	0,15	0,60	0,8	4,0

CHAVE DE CÓDIGO ISO - INSERTOS PARA ROSQUEAMENTO

1 – Formato do inserto



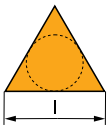
T

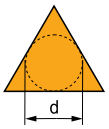
2 – Ângulo de folga



N

3 – Comprimento da aresta de corte





11	11,0
16	9,525
22	12,7

4 – Externo - Interno

Externo

E

Interno

N

1	2	3	4	5	6	7		8
T	N	16	E	R	175	M	-	S

5 – Sentido de corte

Direita

R

Esquerda

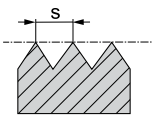
L

Neutra

N

6 – Passo

Passo	Nº de fios por polegada



s x 100

Nº de fios por polegada

7 – Perfil da rosca

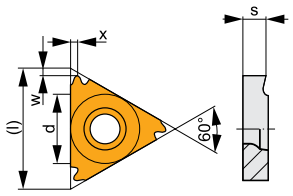
M	Metric 60° ISO 965/1-1980	**TR**	TR 30° ISO 2901/3-1977
W	Whitworth 55° ISO 228-1982	**UN**	Americana UN 60° ISO 5864-1978
RD	Round 30° DIN 405-1981	**ACME**	ACME 29° ANSI B1.5-1988
API RD	API		

8 – Quebra-cavacos

R	Prensado

TN

Insertos intercambiáveis para rosqueamento



Dimensões (mm)	(l)	d	s
16	16,5	9,525	3,47
22	22,0	12,700	4,71

Quebra-cavaco	ISO	Rosca	Interna/Externa	FPP/1"	Classes						w	Avanço por rot.		Prof. de corte	
					T8030							f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**TN 16ELA55**	Whitworth 55°	Externa	48 ÷ 16	●						0,60	–	–	–	–
	TN 16ELA60	Métrica 60°	Externa	0,50 ÷ 1,50	●						0,60	–	–	–	–
	**TN 16ERA55**	Whitworth 55°	Externa	48 ÷ 16	●						0,60	–	–	–	–
	TN 16ERA60	Métrica 60°	Externa	0,50 ÷ 1,50	●						0,60	–	–	–	–
	**TN 16NLA55**	Whitworth 55°	Interna	48 ÷ 16	●						0,60	–	–	–	–
	TN 16NLA60	Métrica 60°	Interna	0,50 ÷ 1,50	●						0,60	–	–	–	–
	**TN 16NRA55**	Whitworth 55°	Interna	48 ÷ 16	●						0,60	–	–	–	–
	TN 16NRA60	Métrica 60°	Interna	0,50 ÷ 1,50	●						0,60	–	–	–	–
	**TN 22ELN55**	Whitworth 55°	Externa	7 ÷ 5	●						1,80	–	–	–	–
	TN 22ELN60	Métrica 60°	Externa	3,50 ÷ 5,00	●						1,80	–	–	–	–
	**TN 22ERN55**	Whitworth 55°	Externa	7 ÷ 5	●						1,80	–	–	–	–
	TN 22ERN60	Métrica 60°	Externa	3,50 ÷ 5,00	●						1,80	–	–	–	–



FRESAMENTO

FRESAS COM PILOTO/CHAVETA
ISO 11529-2, DIN ISO 11529-2

2
Tipo da fresa, designação e/ou tamanho da fixação

	ISO 6462/A DIN 8030/A CSN 22 2301/A	ISO 6462/B DIN 8030/B CSN 22 2301/A	ISO 6462/C DIN 8030/C CSN 22 2301/C
	A	B	C
C	ød = 27		
G	ød = 32		
H	ød = 40		
J	ød = 50		
K	ød = 60		
M	ød = 80		
T			

6
Ângulo de posição

K_r 90°	
K_r 75°	
K_r 60°	
K_r 45°	
K_r MO	D [mm]

10
Ângulo de folga

N α'_N = 0°	E α'_N = 20°
P α'_N = 11°	F α'_N = 25°
D α'_N = 15°	

11
Comprimento da aresta de corte (largura)

B [mm]

l_1 [mm]

1	2	3	4		5	6	7	8	9	10	11
160	H	16	N		S	90	S	N	12	N	12
250	**C**	**16**	**R**	-	**W**	**45**	**S**	**E**	**12**	**F**	

1
Diâmetro de corte [mm]

3
Número de cortes efetivos

4
Sentido de corte

R L N

5
Sistema mecânico de fixação

C S W F

7
Formato do inserto

S C T W R A

8
Ângulo de folga

N α_n = 0°	D α_n = 15°
C α_n = 7°	E α_n = 20°
P α_n = 11°	F α_n = 25°

9
Tamanho do inserto ou comprimento da aresta de corte

d [mm]	S	C	T	W	R	A
6,35						9/11
7,94				05		
8,00					08	
9,525	09	09	16	06		
10,00					10	
12,00					12	
12,70	12	12	22	08		15
15,875	15					
16,00					16	
25,00					25	
25,40	25					

FRESAS PARA ESQUADREJAMENTO OU COM HASTE INTEGRADA
ISO 7848, DIN ISO 11529-2

1	1a	3	4	2a	3a	4a		5	7	8	9(11)	10
63	J	4	R	150	H	50		S	SA	P	95	
32	**A**	**4**	**R**	**042**	**B**	**32**	-	**S**	**A**	**D**	**11**	**E**

1a
Tipo da fresa e ângulo de posição

A N E H J K

2a
Comprimento em balanço [mm]

3a
Designação da haste

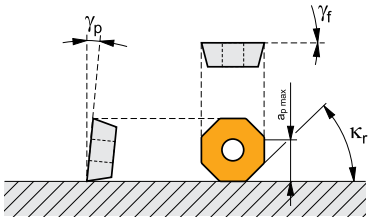
A	DIN 1835-1
B	ISO 3338-2 DIN 1835-2 CSN ISO 3338-2
E	ISO 296 DIN 228-1 CSN ISO 296
G	ISO 297 DIN 208-1 CSN ISO 297
X	CSN ISO 297
H	ISO/DIS 7388-1 DIN 69871-1 CSN 22 0434

4a
Tamanho da haste

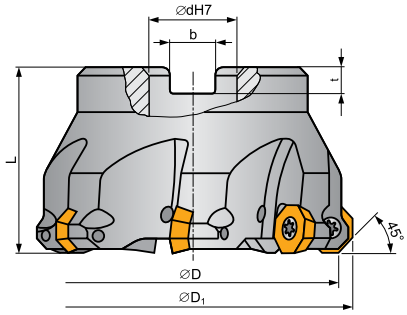
øD 08 ÷ 32	ød 10 ÷ 32
øD 10; 12; 16 20 25; 32; 40	ød 16; 20 25; 32
øD 10; 12; 16 20; 25; 32 40	MORSE No. 02 03 04
øD 32 ; 40 (50; 63) 50; 63; 80	7:24 No. 40 50
øD 32; 40 50; 63; 80	7:24 No. 40 50

S45OD05D

Fresas para faceamento



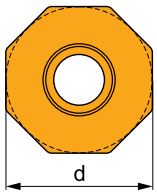
γ_p	+7°	κ_r	45°
γ_f	0°	$a_{p\ max}$	7,3 mm

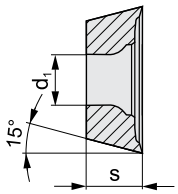


Z* Número de dentes

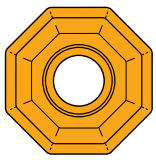
ISO	Dimensões (mm)											Refrigeração	[kg]
	D_1	D	dH7	L	b	t	Z*						
40A04R-S45OD05D	48	40	16	40	8,4	5,6	4					+	1,10
50A05R-S45OD05D	58	50	22	40	10,4	6,3	5					+	1,30
63A06R-S45OD05D	71	63	22	40	10,4	6,3	6					+	2,00

ODMT





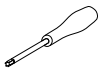
ODMT ZZN



INSERTOS INTERCAMBIÁVEIS

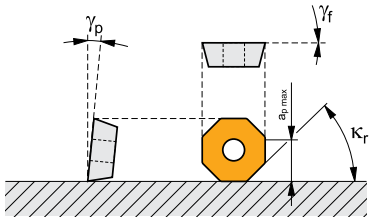
ISO	Classes												Dimensões (mm)					
	M8330												d	s	d_1			
ODMT 0504ZZN	●												12,700	4,760	4,40			

PEÇAS SOBRESSALENTES

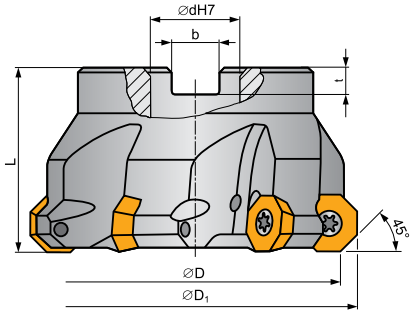
Ø Fresa	Parafuso de fixação	Chave
		
40 ÷ 125	US 3509-T15	SDR T15

S45OD06D

Fresas para faceamento



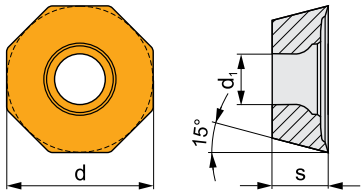
γ_p	+5°	κ_r	45°
γ_f	0°	$a_{p\,max}$	8,6 mm



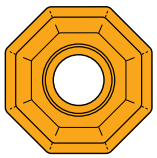
Z* Número de dentes

ISO	Dimensões (mm)											Refrigeração	[kg]
	D_1	D	dH7	L	b	t	Z*						
63A05R-S45OD06D	72,5	63	22	40	10,4	6,3	5					+	1,10
80A06R-S45OD06D	89,5	80	27	50	12,4	7,0	6					+	1,30
100A07R-S45OD06D	109,5	100	32	50	14,4	8,0	7					+	2,00
125A08R-S45OD06D	134,5	125	40	63	16,4	9,0	8					+	2,70
160C09R-S45OD06D	169,5	160	40	63	16,4	9,0	9						6,00

ODMT



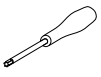
ODMT ZZN



INSERTOS INTERCAMBIÁVEIS

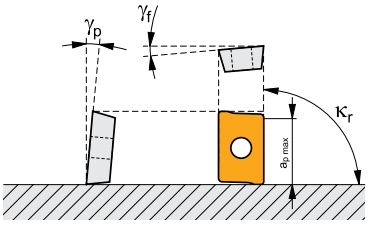
ISO	Classes												Dimensões (mm)					
	M8330												d	s	d_1			
ODMT 0605ZZN	●												15,875	5,56	5,50			

PEÇAS SOBRESSALENTES

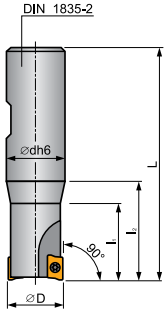
Ø Fresa	Parafuso de fixação	Chave
		
63 ÷ 160	US 4511-T20	SDR T20

SAP10D

Fresas para rasgos e esquadrejamento



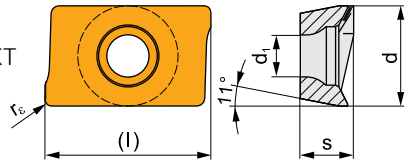
γ_p	+4°÷ +10°	κ_r	90°
γ_f	+12°	$a_{p\ max}$	9 mm



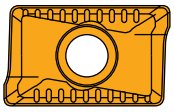
Z* Número de dentes

ISO	Dimensões (mm)										Refrigeração	[kg]
	D	L	l_1	l_2	Z*	dh6						
10A1R020B16-SAP10D-C	10	78	20	30	1	16					+	
12A1R027B16-SAP10D-C	12	75	–	27	1	16					+	
14A1R027B16-SAP10D-C	14	75	–	27	1	16					+	
16A2R032B16-SAP10D-C	16	80	–	32	2	16					+	
18A2R032B20-SAP10D-C	18	82	–	32	2	20					+	
20A3R032B20-SAP10D-C	20	82	–	32	3	20					+	
25A3R042B25-SAP10D-C	25	98	–	42	3	25					+	
25A4R042B25-SAP10D-C	25	98	–	42	4	25					+	
32A5R042B32-SAP10D-C	32	102	–	42	5	32					+	

APKT



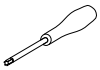
APKT-M



INSERTOS INTERCAMBIÁVEIS

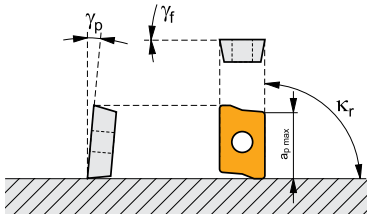
ISO	Classes											Dimensões (mm)				
	M9325	M8330										(l)	d	s	d_1	r_ϵ
APKT 1003PDER-M	●											11,000	6,700	3,50	2,88	0,5
		●										11,000	6,700	3,50	2,88	0,5

PEÇAS SOBRESSALENTES

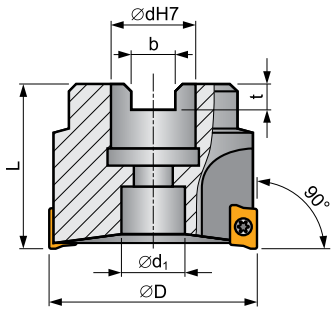
Ø Fresa	Parafuso de fixação	Chave
		
10 ÷ 32	US 2506-T07P	SDR T07P

S90AP10D

Fresas para esquadrejamento



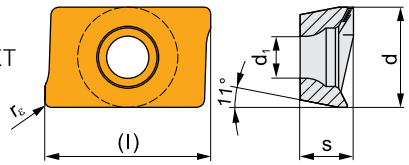
γ_p	+5°	κ_r	45°
γ_f	0°	$a_{p\,max}$	8,6 mm



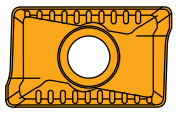
Z* Número de dentes

ISO	Dimensões (mm)										Refrigeração	[kg]
	D	dH7	d_1	L	b	t	Z*					
40A6R-S90AP10D	40	16	14	40	8,4	5,6	6					0,80
50A7R-S90AP10D	50	22	18	40	10,4	6,3	7					1,10
63A9R-S90AP10D	63	22	18	50	10,4	6,3	9					1,30

APKT



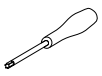
APKT-M



INSERTOS INTERCAMBIÁVEIS

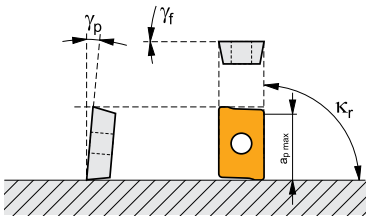
ISO	Classes											Dimensões (mm)				
	M9325	M8330										(l)	d	s	d_1	r_ϵ
APKT 1003PDER-M	●											11,000	6,700	3,50	2,88	0,5
		●										11,000	6,700	3,50	2,88	0,5

PEÇAS SOBRESSALENTES

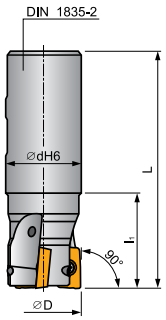
Ø Fresa	Parafuso de fixação	Chave
		
40 ÷ 63	US 2506-T07P	SDR T07P

SAP16D

Fresas para rasgos e esquadrejamento



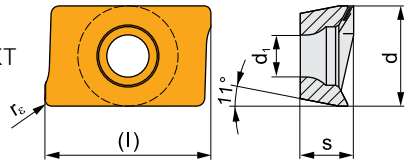
γ_p	0° ÷ +8°	κ_r	90°
γ_f	0°	$a_{p\ max}$	13 mm



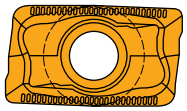
Z* Número de dentes

ISO	Dimensões (mm)										Refrigeração	[kg]
	D	L	l_1	dh6	Z*							
25A2R042B25-SAP16D-C	25	98	42	25	2						+	0,4
32A3R040B32-SAP16D-C	32	100	40	32	3						+	0,6
40A4R050B32-SAP16D-C	40	110	50	32	4						+	0,8

APKT



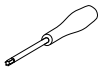
APKT-GM



INSERTOS INTERCAMBIÁVEIS

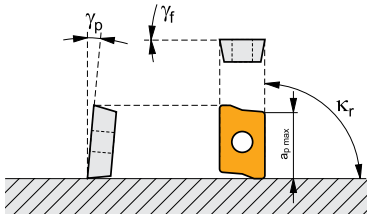
ISO	Classes											Dimensões (mm)				
	M8330	M8340										(l)	d	s	d_1	r_ϵ
APKT 1604PDR-GM	●	●										17,000	9,440	5,67	4,60	0,8

PEÇAS SOBRESSALENTES

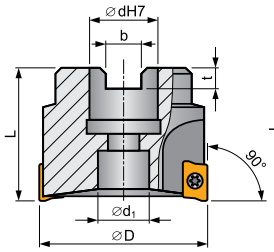
Ø Fresa	Parafuso de fixação	Chave
		
25	US 4008-T15P	SDR T15P
32 ÷ 40	US 4011-T15P	SDR T15P

S90AP16D

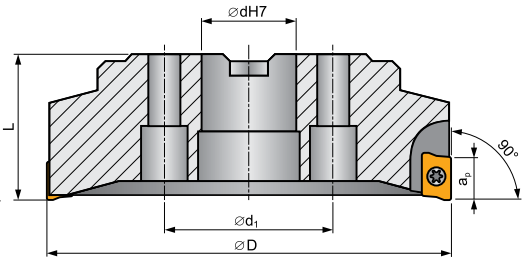
Fresas para esquadrejamento



γ_p	+6°	κ_r	90°
γ_f	0°	$a_{p\,max}$	13 mm



ø 40 ÷ 125 mm

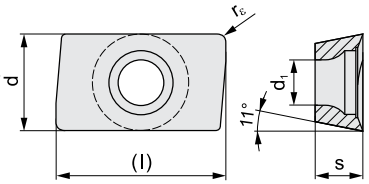


ø 160 mm

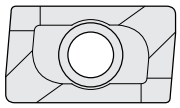
Z* Número de dentes

ISO	Dimensões (mm)							Refrigeração	[kg]
	D	dh7	d_1	L	b	t	Z*		
50A5R-S90AP16D	50	22	18	40	10,4	6,3	5		0,80
63A6R-S90AP16D	63	22	18	40	10,4	6,3	6		1,10
80B5R-S90AP16D	80	27	38	50	12,4	7,0	5		1,40

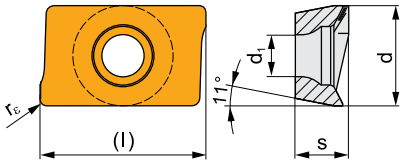
APET



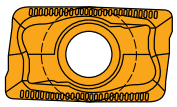
APET-FA



APKT



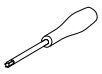
APKT-GM



INSERTOS INTERCAMBIÁVEIS

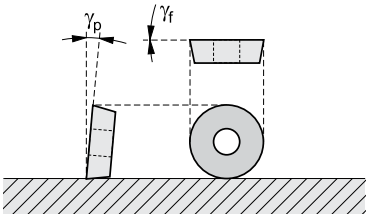
ISO	Classes											Dimensões (mm)				
	M9325	M8330	M8340	HF7								(l)	d	s	d_1	r_ϵ
APET 160408FR-FA				●								17,000	9,600	4,76	4,50	0,8
APKT 1604PDR-GM	●											17,000	9,400	5,67	4,60	0,8
		●	●									17,000	9,400	5,67	4,60	0,8

PEÇAS SOBRESSALENTES

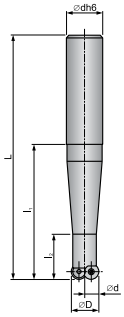
Ø Fresa	Parafuso de fixação	Chave
		
40 ÷ 160	US 4011-T15P	SDR T15P

B-SRD

Fresas para cópia



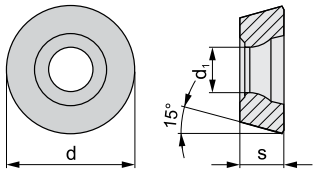
γ_p	+3°	κ_r	–
γ_f	0°	$a_{p\,max}$	2,0; 2,5 mm

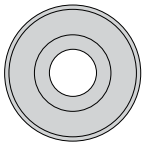


Z* Número de dentes

ISO	Dimensões (mm)								Refrigeração	[kg]
	D	d	L	l_1	l_2	dh6	Z*	Insertos		
20E2R040B20-SRD10	20	10	90	40	20	20	2	RD.. 1003	+	0,20
20E2R060B20-SRD10	20	10	110	60	22	20	2	RD.. 1003	+	0,30
20E2R080B25-SRD10	20	10	136	80	25	25	2	RD.. 1003	+	0,60
20E2R100B25-SRD10	20	10	156	100	25	25	2	RD.. 1003	+	0,80

RD..





RDMX MOT

INSERTOS INTERCAMBIÁVEIS

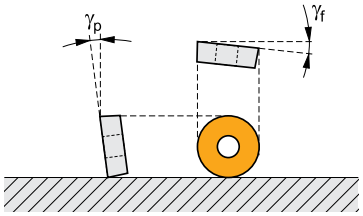
ISO	Classes												Dimensões (mm)					
	M8325												d	d_1	s			
RDMX 1003MOT	●												10,000	3,90	3,18			

PEÇAS SOBRESSALENTES

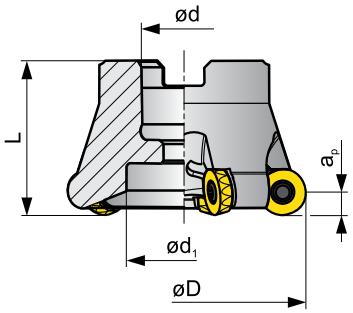
Ø Fresa	Parafuso de fixação	Chave
		
..SRD10	US 3507-T15	SDR T15

SMORC

Fresas com insertos redondos

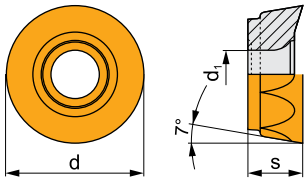


γ_p	-7°	κ_r	–
γ_f	-2°÷-3°	$a_{p\,max}$	6,0 ÷ 10,0 mm

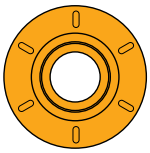


Z* Número de dentes

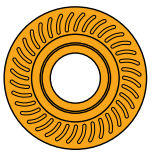
ISO	Programa	Dimensões (mm)								Refrigeração	[kg]
		D	d	d_1	L	Z	Insertos				
63A04R-SMORC16	■	63	22	18	50	4	RC.. 1606				0,47
80A05R-SMORC16	■	80	27	37	50	5	RC.. 1606				0,73
100A06R-SMORC16	■	100	32	45	50	6	RC.. 1606				1,05



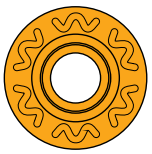
RCMT



RCMT-F



RCMT-M



RCMT-R

INSERTOS INTERCAMBIÁVEIS

ISO	Classes												Dimensões (mm)					
	M8330												d	d_1	s			
RCMT 1606MOSN-M	■												16,000	5,50	6,650			

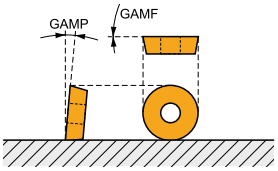
PEÇAS SOBRESSALENTES

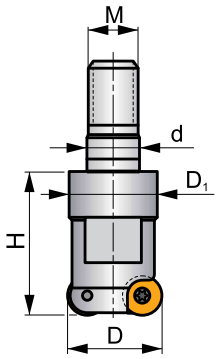
Designação da fresa	Parafuso de fixação	Chave	Parafuso de fixação da fresa
			
63A04R-SMORC16	US 65014-T20P	SDR T20P-T	HS 1030C
80A05R-SMORC16	US 65014-T20P	SDR T20P-T	
100A06R-SMORC16	US 65014-T20P	SDR T20P-T	

SRD05

Fresas para cópia

APMX	1.5 mm





	PRODUTO	D	D1	L		Z	Refrigeração	kg		
		[mm]	[mm]	[mm]						
MODULAR	10E2R020M06-SRD05-CF	10	5	35	M6	2	✓	0.01	GI117	C0352
MODULAR	12E3R020M06-SRD05-CF	12	7	35	M6	3	✓	0.01	GI117	C0352
MODULAR	15E4R020M08-SRD05-CF	15	10	38	M8	4	✓	0.02	GI117	C0352

INSERTOS INTERCAMBIÁVEIS

GI117	RD.. 0501M0..

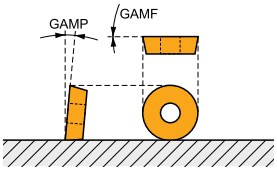
PEÇAS SOBRESSALENTES

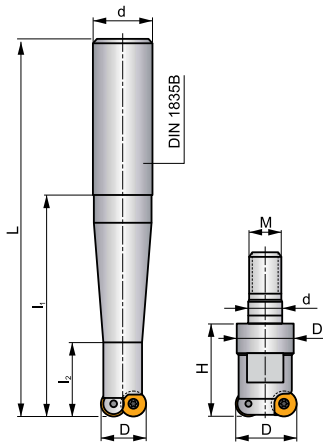
		Nm			
C0352	US 62003B-T06P	0.9	M 2	3	Flag T06P

SRD07

Fresas para cópia

APMX	2.0 mm





	PRODUTO	D	D1	L		Z	Refrigeração	kg		
		[mm]	[mm]	[mm]						
DIN 1835B	15E2R040B16-SRD07-CF	15	8	88	-	2	✓	0.10	GI118	C0354
	15E2R060B16-SRD07-CF	15	8	108	-	2	✓	0.13	GI118	C0354
	15E2R080B20-SRD07-CF	15	8	130	-	2	✓	0.22	GI118	C0354
	15E2R100B20-SRD07-CF	15	8	150	-	2	✓	0.25	GI118	C0354
	15E2R120B25-SRD07-CF	15	8	176	-	2	✓	0.43	GI118	C0354
MODULAR	15E2R028M08-SRD07-CF	15	8	46	M8	2	✓	0.03	GI118	C0354
	15E3R028M08-SRD07-CF	15	8	46	M8	3	✓	0.03	GI118	C0354
	20E4R028M10-SRD07-CF	20	13	47	M10	4	✓	0.05	GI118	C0354
	25E5R028M12-SRD07-CF	25	18	50	M12	5	✓	0.08	GI118	C0354

INSERTOS INTERCAMBIÁVEIS

GI118	RD.. 0702M0..

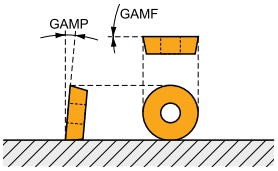
PEÇAS SOBRESSALENTES

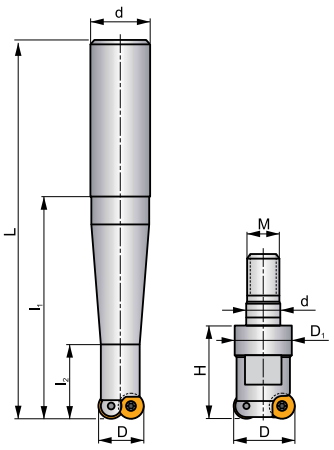
C0354	US 42505-T07P	1.2	M 2.5	5	Flag T07P

SRD10

Fresas para cópia

APMX	2.5 mm





	PRODUTO	D	D1	L		Z	Refrigeração	kg		
		[mm]	[mm]	[mm]						
DIN 1835B	20E2R040B20-SRD10-CF	20	10	90	–	2	✓	0.17	GI119	C0356
	20E2R060B20-SRD10-CF	20	10	110	–	2	✓	0.20	GI119	C0356
	20E2R080B25-SRD10-CF	20	10	136	–	2	✓	0.36	GI119	C0356
	20E2R100B25-SRD10-CF	20	10	156	–	2	✓	0.41	GI119	C0356
	20E2R120B25-SRD10-CF	20	10	176	–	2	✓	0.46	GI119	C0356
	20E2R028M10-SRD10-CF	20	10	47	–	2	✓	0.07	GI119	C0356
	25E2R032M12-SRD10-CF	25	15	54	M12	2	✓	0.08	GI119	C0356
	25E3R032M12-SRD10-CF	25	15	54	M12	3	✓	0.08	GI119	C0356
MODULAR	30E4R042M16-SRD10-CF	30	20	65	M16	4	✓	0.18	GI119	C0356
	32E4R042M16-SRD10-CF	32	22	65	M16	4	✓	0.19	GI119	C0356
	35E5R042M16-SRD10-CF	35	25	65	M16	5	✓	0.20	GI119	C0356
	42E4R042M16-SRD10-CF	42	32	65	M16	4	✓	0.24	GI119	C0356
	42E5R042M16-SRD10-CF	42	32	65	M16	5	✓	0.24	GI119	C0356
ISO 6462 DIN 8030	42A05R-SMORD10-CF	42	32	–	–	5	✓	0.20	GI119	C0358
	52A07R-SMORD10-CF	52	42	–	–	7	✓	0.28	GI119	C0360

INSERTOS INTERCAMBIÁVEIS

GI119	RD.. 1003MOT	RDHT 1003MO-FA

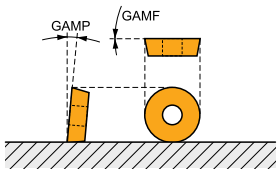
PEÇAS SOBRESSALENTES

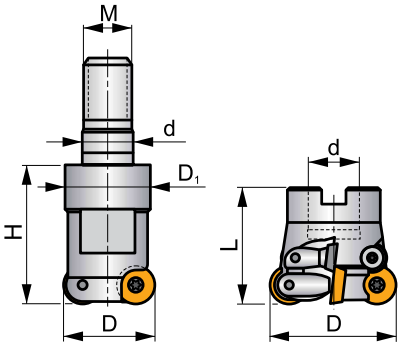
		Nm					
C0356	US 63507-T15P	3.0	M 3.5	7	Flag T15P	–	–
C0358	US 63507-T15P	3.0	M 3.5	7	D-T08P/T15P	FG-15	HS 0830C
C0360	US 63507-T15P	3.0	M 3.5	7	D-T08P/T15P	FG-15	HS 1030C

SRD12

Fresas para cópia

APMX	3.0 mm





	PRODUTO	D	D1	L		Z	Refrigeração	kg		
		[mm]	[mm]	[mm]						
MODULAR	24E2R032M12-SRD12-CF	24	12	54	M12	2	✓	0.07	GI120	CO362
MODULAR	35E3R042M16-SCRD12-CF	35	23	65	M16	3	✓	0.19	GI120	CO364
MODULAR	35E4R042M16-SRD12-CF	35	23	65	M16	4	✓	0.20	GI120	CO362
MODULAR	42E4R042M16-SCRD12-CF	42	30	65	M16	4	✓	0.21	GI120	CO364
MODULAR	42E5R042M16-SRD12-CF	42	30	65	M16	5	✓	0.22	GI120	CO366
ISO 6462 DIN 8030	50A05R-SCMORD12-CF	50	38	–	–	5	✓	0.29	GI120	CO366
ISO 6462 DIN 8030	52A05R-SCMORD12-CF	52	40	–	–	5	✓	0.32	GI120	CO366
ISO 6462 DIN 8030	66A06R-SCMORD12-CF	66	54	–	–	6	✓	0.54	GI120	CO370
ISO 6462 DIN 8030	80A07R-SCMORD12-CF	80	68	–	–	7	✓	0.89	GI120	CO372

INSERTOS INTERCAMBIÁVEIS

GI120	RD.. 12T3M0T	RDHT 12T3M0-FA

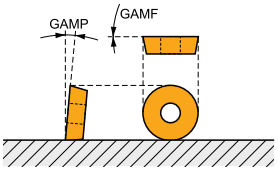
PEÇAS SOBRESSALENTES

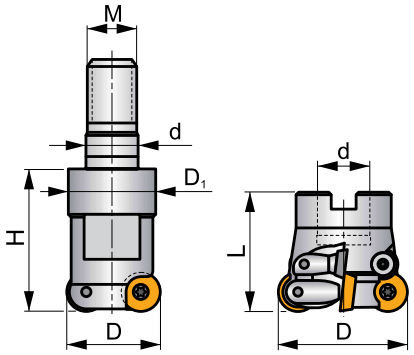
		Nm							
CO362	US 3508-T15P	3.5	M 3.5	8	–	–	Flag T15P	–	–
CO364	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	HS 1230C	–	–
CO366	US 3508-T15P	3.5	M 3.5	8	D-T08P/T15P	FG-15	–	CS12P	HS 1030C
CO370	US 3508-T15P	3.5	M 3.5	8	D-T08P/T15P	FG-15	–	CS12P	HS 1230C
CO372	US 3508-T15P	3.5	M 3.5	8	D-T08P/T15P	FG-15	–	CS12P	–

SCRD16

Fresas para cópia

APMX	4.0 mm





	PRODUTO	D	D1	L		Z	Refrigeração	kg		
		[mm]	[mm]	[mm]						
MODULAR	32E2R042M16-SCRD16-CF	32	16	65	M16	2	✓	0.16	GI121	C0374
	52A04R-SCMORD16-CF	52	36	–	–	4	✓	0.28	GI121	C0376
ISO 6462 DIN 8030	66A05R-SCMORD16-CF	66	50	–	–	5	✓	0.61	GI121	C0378
	80A06R-SCMORD16-CF	80	64	–	–	6	✓	0.75	GI121	C0380
	100A07R-SCMORD16-CF	100	84	–	–	7	✓	1.41	GI121	C0380

INSERTOS INTERCAMBIÁVEIS

GI121	RD.. 1604MOT	RDHT 1604MO-FA

PEÇAS SOBRESSALENTES

		Nm						
C0374	US 64510-T20P	4.5	M 4.5	10	–	Flag T20P	CS16P	–
C0376	US 64510-T20P	4.5	M 4.5	10	SDR T20P-T	–	CS16P	HS 1030C
C0378	US 64510-T20P	4.5	M 4.5	10	SDR T20P-T	–	CS16P	HS 1230C
C0380	US 64510-T20P	4.5	M 4.5	10	SDR T20P-T	–	CS16P	–

1

Formato do inserto

H	O	P	R
S	T	C 80°	D 55°
E 75°	M 86°	V 35°	W 80°
L	A 85°	B 82°	K 55°

2

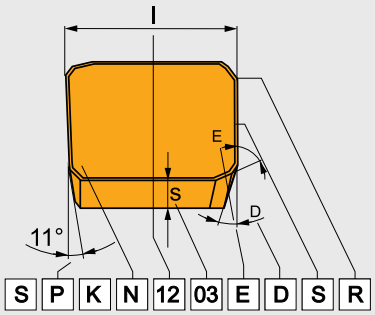
Ângulo de folga

A 3°	B 5°
C 7°	D 15°
E 20°	F 25°
G 30°	N 0°
P 11°	O

4

Tipo do inserto

N	R
F	A
M	G
W	T
Q	X Especial



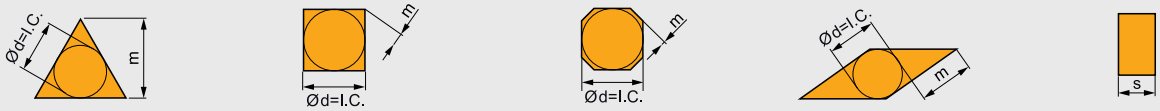
Código ISO	1	2	3	4
	S	P	G	N
	S	P	K	N

Código ANSI	1	2	3	4
	S	P	G	
	S	P	K	N

3

Tolerâncias

Símbolo	Tolerâncias (mm)			Tolerâncias (polegadas)		
	m (±)	s (±)	d = I.C. (±)	m (±)	s (±)	d = I.C. (±)
A	0,005	0,025	0,025	0,0002	0,001	0,0010
F	0,005	0,025	0,013	0,0002	0,001	0,0005
C	0,013	0,025	0,025	0,0005	0,001	0,0010
H	0,013	0,025	0,013	0,0005	0,001	0,0005
E	0,025	0,025	0,025	0,0010	0,001	0,0010
G	0,025	0,130	0,025	0,0010	0,005	0,0010
J	0,005	0,025	0,05 ÷ 0,13	0,0002	0,001	0,002 ÷ 0,005
K	0,013	0,025	0,05 ÷ 0,13	0,0005	0,001	0,002 ÷ 0,005
L	0,025	0,025	0,05 ÷ 0,13	0,0010	0,001	0,002 ÷ 0,005
M	0,08 ÷ 0,18	0,130	0,05 ÷ 0,13	0,003 ÷ 0,007	0,005	0,002 ÷ 0,005
N	0,08 ÷ 0,18	0,025	0,05 ÷ 0,13	0,003 ÷ 0,007	0,005	0,002 ÷ 0,005
U	0,05 ÷ 038	0,130	0,08 ÷ 0,25	0,005 ÷ 0,015	0,005	0,003 ÷ 0,010



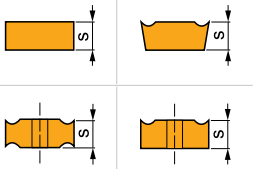
5

Comprimento da aresta de corte

D = I.C.		R	S	T	C	D	V	W
mm	inch							
3,97	5/32			06				
5,00		05						
5,56	7,32			09				03
6,00		06						
6,35	1/4			11	06	07		04
8,00		08						
9,525	3/8	09	09	16	09	11	16	06
10,0		10						
12,0		12						
12,7	1/2	12	12	22	12	15		08
15,875	5/8	15	15	27	16			
16,0		16						
19,05	3/4	19	19	33	19			
20,0		20						
25,0		25						
25,4	1	25	25		25			
31,75	1.1/4	31						
32,0		32						

6

Espessura



Símbolo	S	
	mm	inch
01	1,59	1/16
T1	1,98	5/64
02	2,38	3/32
03	3,18	1/8
T3	3,97	5/32
04	4,76	3/16
05	5,56	7/32
06	6,35	1/4
07	7,94	5/16
09	9,52	3/8

7

Ângulo de posição		Ângulo de folga	
	χ_r		α'_n
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	Especial	F	25°
		G	30°
		N	0°
		P	11°
		Z	Especial

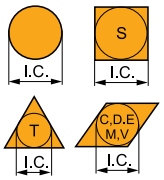
-ZZ Especial

5	6	7	8	9
12	03	08		
12	03	ED	S	R

5a	6a	7a	8	9
4	3	2		
4	3	ED	S	R

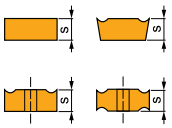
Código ANSI

Círculo inscrito



Símb.	d = I.C.	
	mm	inch
1	3,175	1/8
(1.2)	3,969	5/32
(1.5)	4,763	3/16
(1.8)	5,556	7/32
2	6,350	1/4
(2.5)	7,938	5/16
3	9,525	3/8
4	12,700	1/2
5	15,875	5/8
6	19,050	3/4
7	22,225	7/8
8	25,400	1
10	31,750	1.1/4

Espessura



Símb.	s	
	mm	inch
1	1,588	1/16
(1.2)	1,984	5/64
(1.5)	2,381	3/32
(1.8)	3,175	1/8
2	3,969	5/32
(2.5)	4,763	3/16
3	5,556	7/32
4	6,350	1/4
5	7,938	5/16
6	9,525	3/8
7	11,113	7/16
8	12,700	1/2
9	14,288	9/16
10	15,875	5/8

Raio de ponta



Símb.	r_ε	
	mm	inch
0	0,050	1/512
(0.2)	0,099	1/256
(0.5)	0,198	1/128
1	0,397	1/64
2	0,794	1/32
3	1,191	3/64
4	1,588	1/16
5	1,984	5/64
6	2,381	3/32
7	2,778	7/64
8	3,175	1/8
10	3,969	5/32
12	4,763	3/16
14	5,556	7/32
16	6,350	1/4
x	Outro	

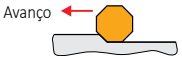
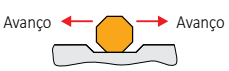
8

Preparação da aresta de corte

F	Aresta aguda	E	Arestas arredondadas
T	Arestas chanfradas	S	Arestas chanfradas e arredondadas
K	Arestas com chanfro duplo	P	Arestas com duplo chanfro e arredondamento

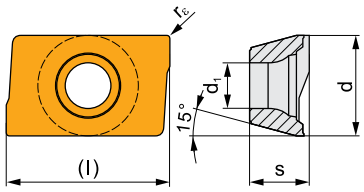
9

Sentido de corte

R	
L	
N	

ADKT 15

Insertos intercambiáveis

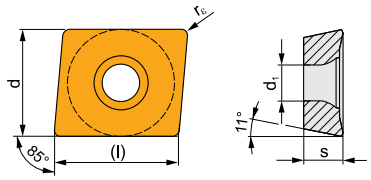


Dimensões (mm)	l	d	d_1	s
1505	15,550	9,525	4,40	5,60

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**ADKT 1505PDER-M**	●											0,8	0,15	0,30	1,0	13,0

APET 15

Insertos intercambiáveis

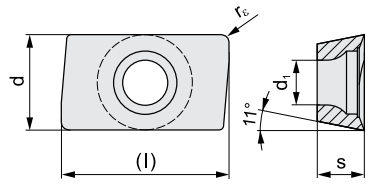


Dimensões (mm)	l	d	d_1	s
1504	15,900	12,700	5,50	4,76

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**APET 150412SN**	●											1,2	0,20	0,35	1,5	12,0

APET 16-FA

Insertos intercambiáveis

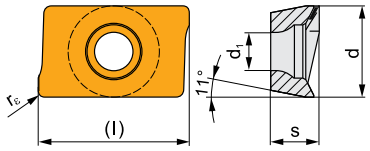


Dimensões (mm)	l	d	d_1	s
1604	17,000	9,600	4,50	4,76

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		HF7											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**APET 160408FR-FA**	●											0,8	0,05	0,40	0,8	15,0

APKT 10-M

Insertos intercambiáveis

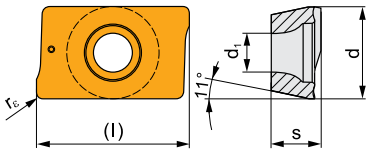


Dimensões (mm)	l	d	d_1	s
1003	11,000	6,700	2,88	3,50

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M9325	M8330										r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**APKT 1003PDER-M**	●											0,5	0,10	0,25	1,0	9,0
			●										0,5	0,10	0,25	1,0	9,0

APKT 16

Insertos intercambiáveis

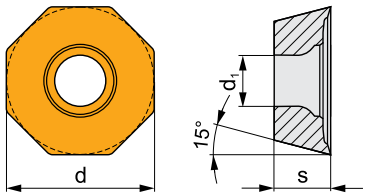


Dimensões (mm)	l	d	d_1	s
1604	17,000	9,440	4,60	5,67

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M9325	M8330	M8340									r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**APKT 1604PDR-GM**	●											0,8	0,15	0,23	1,0	13,0
	APKT 1604PDR-GM		●										0,8	0,15	0,23	1,0	13,0
	APKT 1604PDR-GM			●									0,8	0,15	0,23	1,0	13,0

ODMT

Insertos intercambiáveis

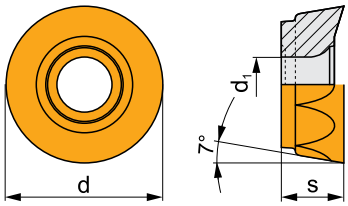


Dimensões (mm)	d	s	d_1
0504	12,700	4,76	4,40
0605	15,875	5,56	5,50

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**ODMT 0504ZZN**	●												0,12	0,40	1,0	7,3
	ODMT 0605ZZN	●												0,15	0,45	1,0	8,6

RCMT

Insertos intercambiáveis

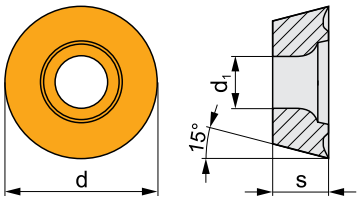


Dimensões (mm)	d	s	d_1
1606	16,000	6,35	5,50

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**RCMT 1606MOSN-M**	●											0,8	0,05	0,40	0,8	15,0

RDET

Insertos intercambiáveis

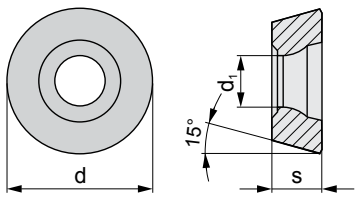


Dimensões (mm)	d	d_1	s
0802	8,000	3,40	2,38
10T3	10,000	4,40	3,97

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8340											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**RDET 0802MOSN**	●												0,10	0,20	0,5	2,0
	RDET 10T3MOSN	●												0,10	0,35	0,5	2,5

RDMX

Insertos intercambiáveis

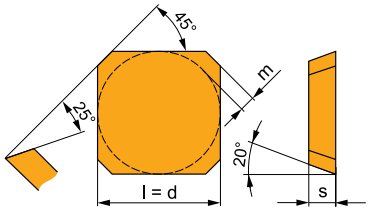


Dimensões (mm)	d	d_1	s
1003	10,000	3,90	3,18
12T3	12,000	3,90	3,97

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8325											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**RDMX 1003MOT**	●												0,10	0,30	0,5	2,5
	RDMX 12T3MOT	●												0,10	0,35	1,0	3,0

SEEN

Insertos intercambiáveis

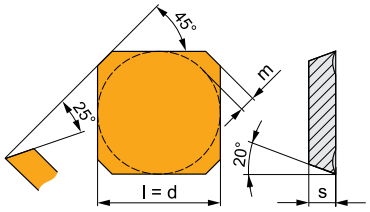


Dimensões (mm)	l	d	s	m
1203	12,700	12,700	3,18	1,6

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330												r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	SEEN 1203AFSN	●													0,15	0,40	1,0	6,5

SEER

Insertos intercambiáveis

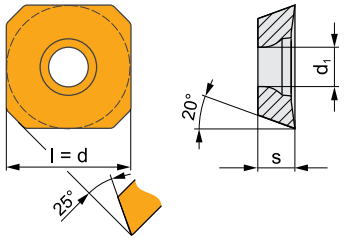


Dimensões (mm)	l	d	s	m
1203	12,700	12,700	3,18	1,6

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330												r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	SEER 1203AFSN	●													0,20	0,40	1,0	6,5

SEET 12-PM

Insertos intercambiáveis

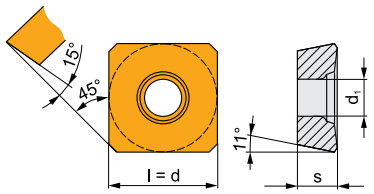


Dimensões (mm)	l	d	s	d_1
12T3	13,400	13,400	3,97	4,20

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330												r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	SEET 12T3M-PM	●													0,20	0,35	1,0	6,5

SPET 12 AD

Insertos intercambiáveis

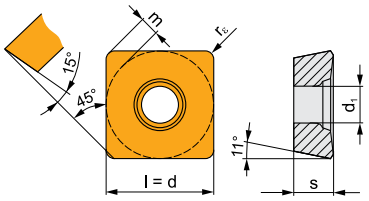


Dimensões (mm)	l	d	s	d_1	m
1204	12,700	12,700	4,76	5,50	1,90

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**SPET 1204ADSN**	●												0,12	0,40	1,0	12,0

SPET 12 S

Insertos intercambiáveis

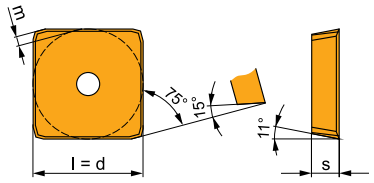


Dimensões (mm)	l	d	s	d_1
1204	12,700	12,700	4,76	5,50

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**SPET 120408S**	●											0,8	0,17	0,40	1,0	12,0

SPKN EDS

Insertos intercambiáveis

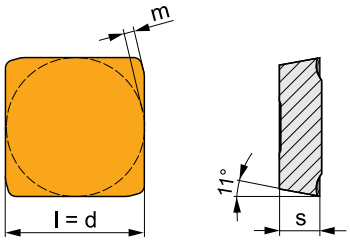


Dimensões (mm)	l	d	s	m
1203	12,700	12,700	3,18	0,88
1504	15,875	15,875	4,76	1,26

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	**SPKN 1203EDSR**	●												0,15	0,30	1,0	9,0
	SPKN 1504EDSR	●												0,20	0,40	1,0	13,0

SPKR

Insertos intercambiáveis

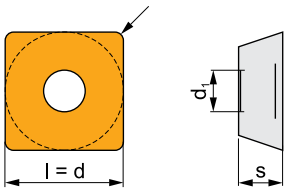


Dimensões (mm)	l	d	s	m
1203	12,700	12,700	3,18	0,90

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SPKR 1203EDSR**	●												0,15	0,30	1,0	9,0

SOMT

Insertos intercambiáveis

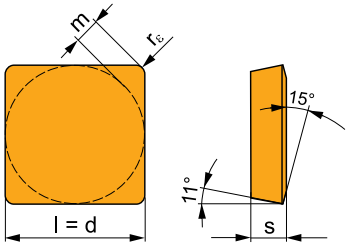


Dimensões (mm)	(l)	d	s	d_1
09T304	9,550	9,550	3,97	3,50
09T308	9,550	9,550	3,97	3,50

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M5315	M9315	M9340	M8310	M8340	8215	M8330					r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SOMT 09T304-MI**		●	●	●	●	●	●					0,4	0,08 (fmin)	0,26 (fmax)	0,5(apmin)	8,0 (apmax)
	**SOMT 09T308-M**	●	●			●	●	●					0,8	0,12 (fmin)	0,30 (fmax)	1,0(apmin)	8,0 (apmax)

SPUN

Insertos intercambiáveis

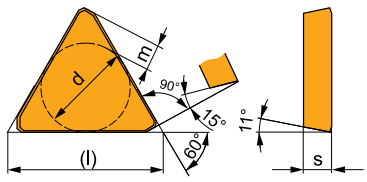


Dimensões (mm)	l	d	s	m
1203	12,700	12,700	3,18	2,47
1504	15,875	15,875	4,76	2,80

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	**SPUN 120304**	●											0,4	0,10	0,30	0,5	9,0
	SPUN 150412	●											1,2	0,10	0,40	1,2	13,0

TPKN SR

Insertos intercambiáveis

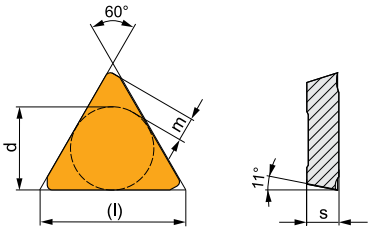


Dimensões (mm)	(l)	d	s	m
1603	16,500	9,530	3,18	2,45
2204	22,000	12,700	4,76	3,55

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	TPKN 1603PDSR	●												0,20	0,25	1,0	16,0
	TPKN 2204PDSR	●												0,20	0,30	1,0	22,0

TPKR

Insertos intercambiáveis

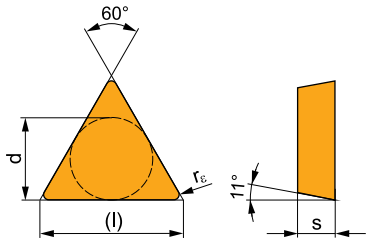


Dimensões (mm)	(l)	d	s	m
1603	16,500	9,530	3,18	2,45
2204	22,000	12,700	4,76	3,55

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	TPKR 1603PDSR	●												0,10	0,30	1,0	16,0
	TPKR 2204PDSR	●												0,10	0,40	1,0	22,0

TPUN

Insertos intercambiáveis



Dimensões (mm)	(l)	d	s
1603	16,500	9,530	3,18
2204	22,000	12,700	4,76

Geometria	ISO	Classes											Raio	Avanço por dente		Prof. de corte	
		M8330											r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
	TPUN 160308	●											0,80	0,10	0,20	1,0	16,0
	TPUN 220408	●											0,80	0,10	0,25	1,0	22,0

PRAMET

CLASSES DISPONÍVEIS NA LISTA DE PRODUTOS COMERCIAIS

Torneamento

Grupo de Material	Classe	Campo de Aplicação	Escolha
P (Aços em geral)	6630	P15- P35	1º
	T8430*	P25- P40	2º
	T8315	P05- P20	3º
M (Aço inoxidável)	T8315	M20- M35	1º
	T8430	M05- M20	2º
	6630	M10- M30	3º
K (Ferro Fundido)	T5315	K10- K25	1º
	T5305	K01- K15	2º
	T8430*	K20- K35	3º
N (Não Ferrosos)	HF7	N10- N30	1º
	T8315	N05- N25	2º
	T8430*	N15- N30	3º

* T8430 - Classe Universal

Fresamento

Grupo de Material	Classe	Campo de Aplicação	Escolha
P (Aços em geral)	M8330*	P20- P40	1º
	M8340	P25- P50	2º
	M9325	P10- P30	3º
M (Aço inoxidável)	M8340	M20- M40	1º
	M8330*	M20- M35	2º
K (Ferro Fundido)	M8330*	K20- K40	1º
	HF7	K10- K25	2º
N (Não Ferrosos)	HF7	N10- N30	1º
	M8330*	N15- N30	2º

*M8330 - Classe Universal

As classes indicadas acima são classes PVD.
Como opção de classe CVD universal, considere a classe T9325.

TABELA DE MATERIAIS ISO

Grupo	Sub-grupo	Definição do sub-grupo
P	**P1**	Aços e aços fundidos com usinabilidade muito boa (aprimorada); aços automáticos e de baixo carbono.
	P2	Aços fundidos não ligados e de baixa liga e aços com média quantidade de carbono (0,25<C<0,55); limite de estricção até 900 MPa e dureza de 16-255 HB.
	P3	Aços fundidos não ligados e de baixa liga com pouca usinabilidade e aços com médio teor de carbono; limite de estricção até 1000 MPa e dureza até 300 HB.
	P4	Aços fundidos de média a alta liga e aços (usualmente com conteúdo de carbono 0,55<C); limite de estricção 1270 MPa e dureza até 375 HB (resp. 40 HRC).
M	**M1**	Aços ferríticos resistentes à corrosão.
	M2	Aços martensíticos resistentes à corrosão.
	M3	Aços austeníticos resistentes à corrosão.
	M4	Aços ferrítico-austeníticos (duplex) e super-austeníticos resistentes à corrosão.
K	**K1**	Ferro fundido cinzento.
	K2	Ferro fundido temperado.
	K3	Ferros fundidos nodulares ferríticos e ferrítico-perlíticos.
	K4	Ferro fundido nodular perlítico-ferrítico, perlítico-sorbítico e perlítico.
N	**N1**	Alumínio e suas ligas macias (com baixo conteúdo de Si), particularmente moldado e fundido (não temperado); dureza até 100 HB.
	N2	Ligas duras de alumínio, particularmente fundidas e endurecidas (com grande conteúdo de Si).
	N3	Ligas macias de cobre, latão automático e outros tipos de latão macio e bronze.
	N4	Ligas de cobre de baixa usinabilidade e duras.
S	**S1**	Ti tecnicamente puro, ligas α, $\alpha+\beta$ e β e ligas envelhecidas.
	S2	Ligas de base Fe.
	S3	Ligas de base Ni.
	S4	Ligas de base Co.
H	**H1**	Aços de alta rigidez e aços ferramenta e aços refinados com dureza de 40 a 50 HRC.
	H2	Ferro fundido branco e endurecido 350-600 HV.
	H3	Aços endurecidos e refinados com dureza no range de 50-55 HRC.
	H4	Aços temperados e refinados (tipicamente ferramentas) com dureza maior que 55 HRC.

SIMPLY RELIABLE

Como profissional, você pode julgar a qualidade de um trabalho apenas olhando para o cavaco. O cavaco é uma forma limpa e simples que, por si só, conta uma história. É um sinal claro e consistente e é por isso que podemos usá-lo como símbolo para ser **simplesmente confiável.**

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