

KC TOOLS

Fresas inteiriças de Metal duro



Chave de código

Aplicação das Ferramentas

UM Usinagem Geral **AL** Usinagem de Ligas de Alumínio

Número de Cortes

Tipo de Ferramenta

E Fresa de topo reto com proteção de aresta **B** Fresa de topo esférico
R Fresa de topo reto com raio **W** Fresa detalonada

Comprimento

L Aresta de corte longa **X** Aresta de corte extra longa Comprimento padrão

KUM-2ELP-D12R0.5-P (4X16X6X75)

Tipo de estrutura

S Diâmetro minúsculo **P** Haste da hélice paralela
 Comprimento padrão

Diâmetro da Ferramenta

Raio da aresta

Tipo de estrutura

S Diâmetro da haste reduzida **P** Haste paralela

Dimensões

4 Diâmetro de corte **16** Comprimento da aresta
6 Diâmetro da haste **75** Comprimento Total

Informações adicionais

- Ângulo da hélice

35°

- Coberturas

45HRC
TiAlN

55HRC
AlTiN

- Tolerância do diâmetro de corte



D ≤ 12 0 ~ -0.020
 12 < D 0 ~ -0.030

Operações

- Fresamento de canal
- Fresamento de perfil



- Fresamento lateral
- Fresamento de contornos e cantos raídos



Usinagem geral até 45 HRC

2E Pag 01



2EL Pag 01



4E Pag 02



4EL Pag 02



2B Pag 03



2BL Pag 03



4B Pag 04



4BL Pag 04



4R Pag 05



4RL Pag 05



4W Pag 06



Usinagem geral até 55 HRC

2E Pag 07



2EL Pag 07



4E Pag 08



4EL Pag 08



2B Pag 09



2BL Pag 09



4B Pag 10



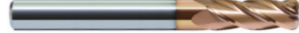
4BL Pag 10



4R Pag 11



4RL Pag 11

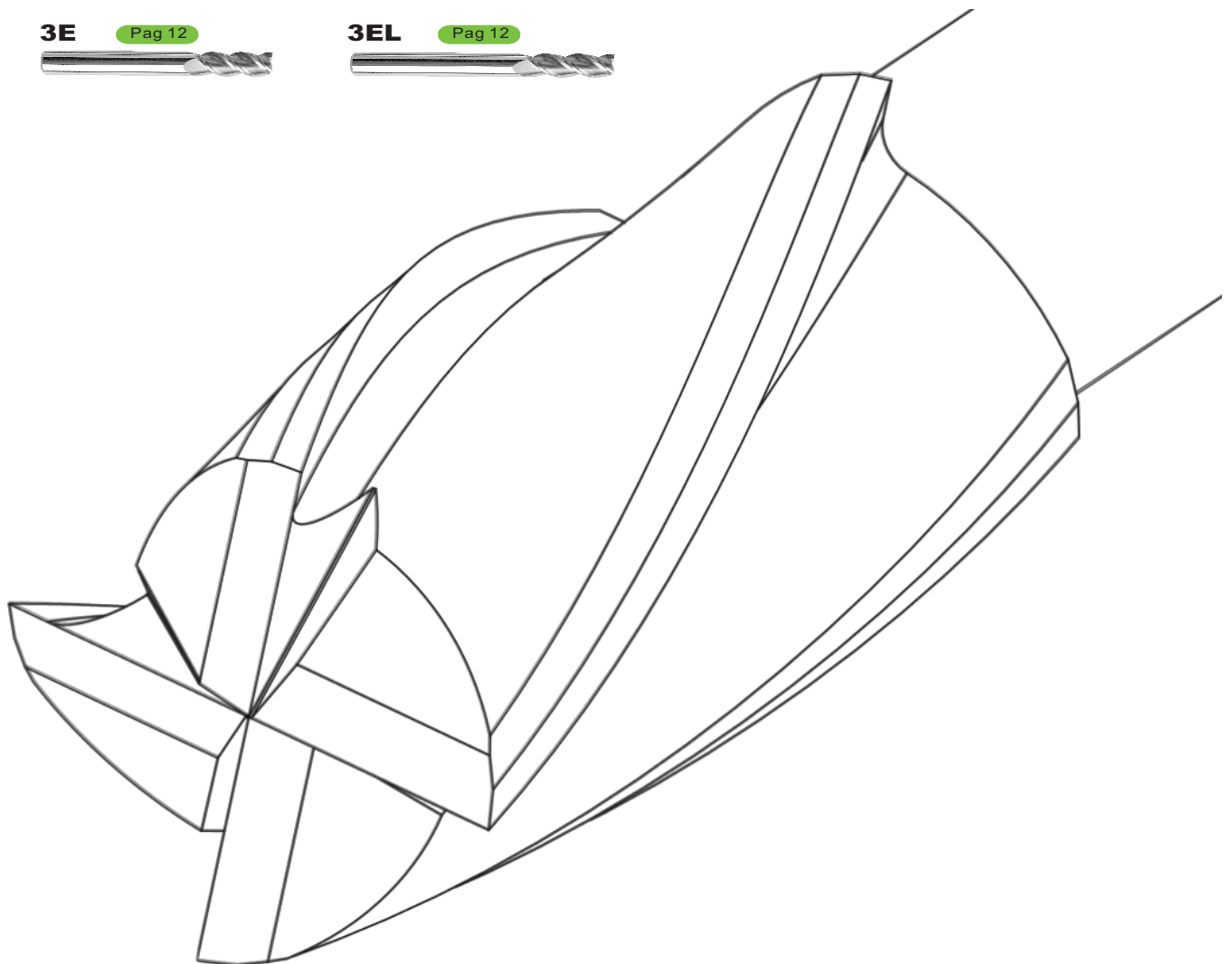


Usinagem geral para ligas de alumínio

3E Pag 12

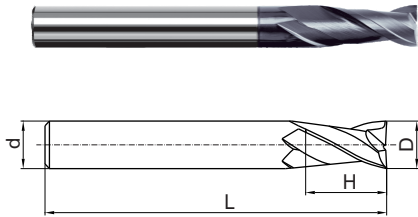


3EL Pag 12

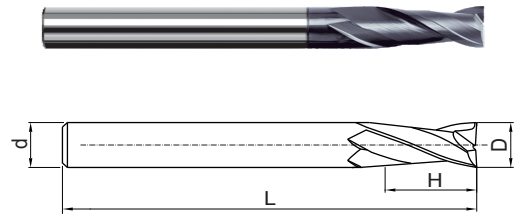


Usinagem geral até 45 HRC

2 cortes
Fresa de topo reto com haste paralela



2 cortes
Fresa de topo reto com haste paralela longa



Cobertura

TiAlN

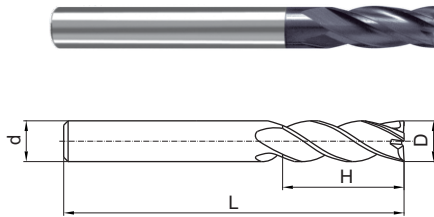
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões				
	D	d	H	L	Z
KUM-2E-D1.0S	1.0	4.0	3	50	2
KUM-2E-D1.5S	1.5	4.0	4	50	2
KUM-2E-D2.0S	2.0	4.0	6	50	2
KUM-2E-D2.5S	2.5	4.0	8	50	2
KUM-2E-D3.0S	3.0	4.0	8	50	2
KUM-2E-D4.0S	4.0	4.0	11	50	2
KUM-2E-D 2.0P	2.0	2.0	6	50	2
KUM-2E-D 3.0P	3.0	3.0	8	50	2
KUM-2E-D 5.0P	5.0	5.0	13	50	2
KUM-2E-D1.0	1.0	6.0	3	50	2
KUM-2E-D1.5	1.5	6.0	4	50	2
KUM-2E-D2.0	2.0	6.0	6	50	2
KUM-2E-D2.5	2.5	6.0	8	50	2
KUM-2E-D3.0	3.0	6.0	8	50	2
KUM-2E-D3.5	3.5	6.0	10	50	2
KUM-2E-D4.0	4.0	6.0	11	50	2
KUM-2E-D4.5	4.5	6.0	11	50	2
KUM-2E-D5.0	5.0	6.0	13	50	2
KUM-2E-D5.5	5.5	6.0	16	50	2
KUM-2E-D6.0	6.0	6.0	16	50	2
KUM-2E-D7.0	7.0	8.0	20	60	2
KUM-2E-D8.0	8.0	8.0	20	60	2
KUM-2E-D9.0	9.0	10.0	22	75	2
KUM-2E-D10.0	10.0	10.0	25	75	2
KUM-2E-D11.0	11.0	12.0	26	75	2
KUM-2E-D12.0	12.0	12.0	30	75	2
KUM-2E-D14.0	14.0	14.0	32	75	2
KUM-2E-D16.0	16.0	16.0	45	100	2
KUM-2E-D18.0	18.0	18.0	45	100	2
KUM-2E-D20.0	20.0	20.0	45	100	2

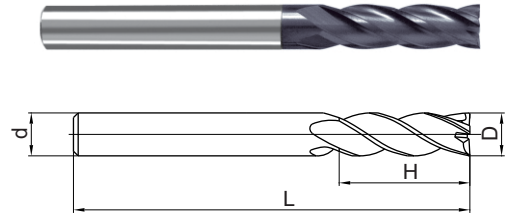
Código	Dimensões				
	D	d	H	L	Z
KUM-2EL-D3.0	3.0	6.0	12	75	2
KUM-2EL-D4.0	4.0	6.0	15	75	2
KUM-2EL-D5.0	5.0	6.0	20	75	2
KUM-2EL-D6.0	6.0	6.0	20	75	2
KUM-2EL-D8.0	8.0	8.0	25	100	2
KUM-2EL-D10.0	10.0	10.0	30	100	2
KUM-2EL-D12.0	12.0	12.0	35	100	2
KUM-2EL-D14.0	14.0	14.0	40	100	2
KUM-2EL-D16.0	16.0	16.0	50	150	2
KUM-2EL-D20.0	20.0	20.0	55	150	2

Usinagem geral até 45 HRC

4 cortes
Fresa de topo reto com haste paralela



4 cortes
Fresa de topo reto com haste paralela longa



Cobertura

TiAlN

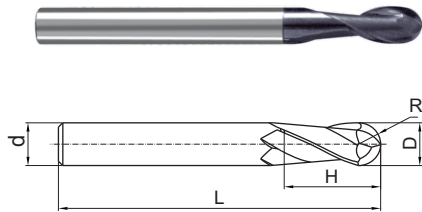
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões				
	D	d	H	L	Z
KUM-4E-D1.0S	1.0	4.0	3	50	4
KUM-4E-D1.5S	1.5	4.0	4	50	4
KUM-4E-D2.0S	2.0	4.0	6	50	4
KUM-4E-D2.5S	2.5	4.0	8	50	4
KUM-4E-D3.0S	3.0	4.0	8	50	4
KUM-4E-D4.0S	4.0	4.0	11	50	4
KUM-4E-D 2.0P	2.0	2.0	6	50	4
KUM-4E-D 3.0P	3.0	3.0	8	50	4
KUM-4E-D 5.0P	5.0	5.0	13	50	4
KUM-4E-D1.0	1.0	6.0	3	50	4
KUM-4E-D1.5	1.5	6.0	4	50	4
KUM-4E-D2.0	2.0	6.0	6	50	4
KUM-4E-D2.5	2.5	6.0	8	50	4
KUM-4E-D3.0	3.0	6.0	8	50	4
KUM-4E-D3.5	3.5	6.0	10	50	4
KUM-4E-D4.0	4.0	6.0	11	50	4
KUM-4E-D4.5	4.5	6.0	11	50	4
KUM-4E-D5.0	5.0	6.0	13	50	4
KUM-4E-D5.5	5.5	6.0	16	50	4
KUM-4E-D6.0	6.0	6.0	16	50	4
KUM-4E-D7.0	7.0	8.0	20	60	4
KUM-4E-D8.0	8.0	8.0	20	60	4
KUM-4E-D9.0	9.0	10.0	22	75	4
KUM-4E-D10.0	10.0	10.0	25	75	4
KUM-4E-D11.0	11.0	12.0	26	75	4
KUM-4E-D12.0	12.0	12.0	30	75	4
KUM-4E-D14.0	14.0	14.0	32	75	4
KUM-4E-D16.0	16.0	16.0	45	100	4
KUM-4E-D18.0	18.0	18.0	45	100	4
KUM-4E-D20.0	20.0	20.0	45	100	4

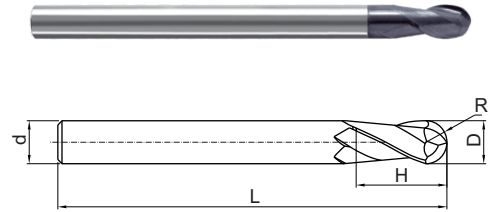
Código	Dimensões				
	D	d	H	L	Z
KUM-4EL-D3.0	3.0	6.0	12	75	4
KUM-4EL-D4.0	4.0	6.0	15	75	4
KUM-4EL-D5.0	5.0	6.0	20	75	4
KUM-4EL-D6.0	6.0	6.0	20	75	4
KUM-4EL-D8.0	8.0	8.0	25	100	4
KUM-4EL-D10	10.0	10.0	30	100	4
KUM-4EL-D12	12.0	12.0	35	100	4
KUM-4EL-D14	14.0	14.0	40	100	4
KUM-4EL-D16	16.0	16.0	50	150	4
KUM-4EL-D20	20.0	20.0	55	150	4

Usinagem geral até 45 HRC

2 cortes
Fresa de topo esférico com haste paralela



2 cortes – Fresa de topo esférico com haste paralela longa



Cobertura

TiAlN

	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

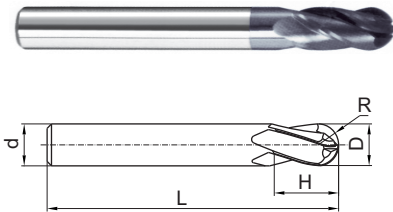
Código	Dimensões					
	D	R	d	H	L	Z
KUM-2B-R0.5S	1.0	0.50	4.0	2	50	2
KUM-2B-R0.75S	1.5	0.75	4.0	3	50	2
KUM-2B-R1.0S	2.0	1.00	4.0	4	50	2
KUM-2B-R1.25S	2.5	1.25	4.0	5	50	2
KUM-2B-R1.5S	3.0	1.50	4.0	6	50	2
KUM-2B-R2.0S	4.0	2.00	4.0	8	50	2
KUM-2B-R2.5P	5.0	2.50	5.0	10	50	2
KUM-2B-R0.5	1.0	0.50	6.0	2	50	2
KUM-2B-R0.75	1.5	0.75	6.0	3	50	2
KUM-2B-R1.0	2.0	1.00	6.0	4	50	2
KUM-2B-R1.25	2.5	1.25	6.0	5	50	2
KUM-2B-R1.5	3.0	1.50	6.0	6	50	2
KUM-2B-R1.75	3.5	1.75	6.0	8	50	2
KUM-2B-R2.0	4.0	2.00	6.0	8	50	2
KUM-2B-R2.5	5.0	2.50	6.0	10	50	2
KUM-2B-R2.75	5.5	2.75	6.0	12	50	2
KUM-2B-R3.0	6.0	3.00	6.0	12	50	2
KUM-2B-R3.5	7.0	3.50	8.0	14	60	2
KUM-2B-R4.0	8.0	4.00	8.0	16	60	2
KUM-2B-R4.5	9.0	4.50	10.0	18	75	2
KUM-2B-R5.0	10.0	5.00	10.0	20	75	2
KUM-2B-R6.0	12.0	6.00	12.0	24	75	2
KUM-2B-R7.0	14.0	7.00	14.0	28	75	2
KUM-2B-R8.0	16.0	8.00	16.0	32	100	2
KUM-2B-R10.0	20.0	10.00	20.0	40	100	2

Código	Dimensões					
	D	R	d	H	L	Z
KUM-2BL-R1.0	2.0	1.00	6.0	4.0	75	2
KUM-2BL-R1.25	2.5	1.25	6.0	5.0	75	2
KUM-2BL-R1.5	3.0	1.50	6.0	6.0	75	2
KUM-2BL-R1.75	3.5	1.75	6.0	8.0	75	2
KUM-2BL-R2.0	4.0	2.00	6.0	8.0	75	2
KUM-2BL-R2.5	5.0	2.50	6.0	10.0	75	2
KUM-2BL-R2.75	5.5	2.75	6.0	12.0	75	2
KUM-2BL-R3.0	6.0	3.00	6.0	12.0	75	2
KUM-2BL-R3.5	7.0	3.50	8.0	14.0	75	2
KUM-2BL-R4.0	8.0	4.00	8.0	25.0	75	2
KUM-2BL-R4.5	9.0	4.50	10.0	18.0	100	2
KUM-2BL-R5.0	10.0	5.00	10.0	20.0	100	2
KUM-2BL-R6.0	12.0	6.00	12.0	24.0	100	2
KUM-2BL-R7.0	14.0	7.00	14.0	28.0	100	2
KUM-2BL-R8.0	16.0	8.00	16.0	32.0	150	2
KUM-2BL-R10.0	20.0	10.00	20.0	40.0	150	2
KUM-2BX-R4.0	8.0	4.00	8.0	16.0	100	2

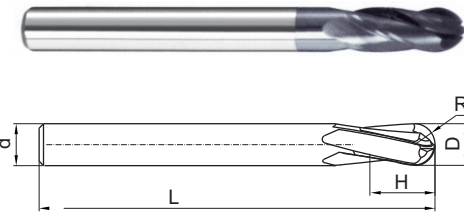
Usinagem geral até 45 HRC

4 cortes

Fresa de topo esférico com haste paralela



4 cortes – Fresa de topo esférico com haste paralela longa



Cobertura

TiAlN

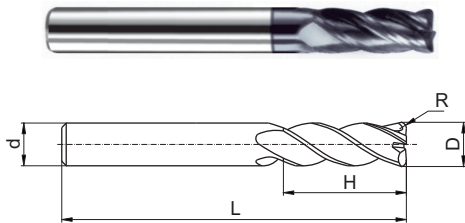
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões					
	D	R	d	H	L	Z
KUM-4B-R1.5	3.0	1.5	6.0	6	50	4
KUM-4B-R2.0	4.0	2.0	6.0	8	50	4
KUM-4B-R2.5	5.0	2.5	6.0	10	50	4
KUM-4B-R3.0	6.0	3.0	6.0	12	50	4
KUM-4B-R4.0	8.0	4.0	8.0	16	60	4
KUM-4B-R5.0	10.0	5.0	10.0	20	75	4
KUM-4B-R6.0	12.0	6.0	12.0	24	75	4
KUM-4B-R7.0	14.0	7.0	14.0	28	75	4
KUM-4B-R8.0	16.0	8.0	16.0	32	100	4
KUM-4B-R9.0	18.0	9.0	18.0	36	100	4
KUM-4B-R10.0	20.0	10.0	20.0	40	100	4

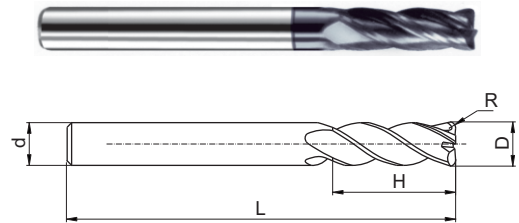
Código	Dimensões					
	D	R	d	H	L	Z
KUM-4BL-R1.5	3.0	1.5	6.0	6	75	4
KUM-4BL-R2.0	4.0	2.0	6.0	8	75	4
KUM-4BL-R2.5	5.0	2.5	6.0	10	75	4
KUM-4BL-R3.0	6.0	3.0	6.0	12	75	4
KUM-4BL-R4.0	8.0	4.0	8.0	16	100	4
KUM-4BL-R5.0	10.0	5.0	10.0	20	100	4
KUM-4BL-R6.0	12.0	6.0	12.0	24	100	4
KUM-4BL-R7.0	14.0	7.0	14.0	28	100	4
KUM-4BL-R8.0	16.0	8.0	16.0	32	100	4
KUM-4BL-R9.0	18.0	9.0	18.0	36	100	4
KUM-4BL-R10.0	20.0	10.0	20.0	40	100	4

Usinagem geral até 45 HRC

4 cortes – Fresa de topo reto com raio e haste paralela



4 cortes – Fresa de topo reto com raio e haste paralela longa



Cobertura

TiAlN

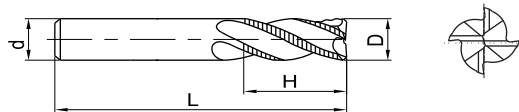
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões					
	D	R	d	H	L	Z
KUM-4R-D3.0R0.5S	3.0	0.5	4.0	8	50	4
KUM-4R-D3.0R0.2	3.0	0.2	4.0	8	50	4
KUM-4R-D4.0R0.3	4.0	0.3	4.0	10	50	4
KUM-4R-D4.0R0.5	4.0	0.5	4.0	10	50	4
KUM-4R-D5.0R0.5P	5.0	0.5	5.0	13	50	4
KUM-4R-D5.0R0.5	5.0	0.5	6.0	13	50	4
KUM-4R-D5.0R1.0	5.0	1.0	6.0	13	50	4
KUM-4R-D6.0R0.5	6.0	0.5	6.0	15	50	4
KUM-4R-D6.0R1.0	6.0	1.0	6.0	15	50	4
KUM-4R-D8.0R0.5	8.0	0.5	8.0	20	60	4
KUM-4R-D8.0R1.0	8.0	1.0	8.0	20	60	4
KUM-4R-D10.0R0.5	10.0	0.5	10.0	25	75	4
KUM-4R-D10.0R1.0	10.0	1.0	10.0	25	75	4
KUM-4R-D10.0R2.0	10.0	2.0	10.0	25	75	4
KUM-4R-D10.0R3.0	10.0	3.0	10.0	25	75	4
KUM-4R-D12.0R0.5	12.0	0.5	12.0	30	75	4
KUM-4R-D12.0R1.0	12.0	1.0	12.0	30	75	4
KUM-4R-D12.0R2.0	12.0	2.0	12.0	30	75	4
KUM-4R-D12.0R3.0	12.0	3.0	12.0	30	75	4

Código	Dimensões					
	D	R	d	H	L	Z
KUM-4RL-D4.0R0.5	4.0	0.5	4.0	16	75	4
KUM-4RL-D4.0R1.0	4.0	1.0	4.0	16	75	4
KUM-4RL-D6.0R0.5	6.0	0.5	6.0	25	75	4
KUM-4RL-D6.0R1.0	6.0	1.0	6.0	25	75	4
KUM-4RL-D8.0R0.5	8.0	0.5	8.0	28	75	4
KUM-4RL-D8.0R1.0	8.0	1.0	8.0	28	75	4
KUM-4RL-D10.0R0.5	10.0	0.5	10.0	40	100	4
KUM-4RL-D10.0R1.0	10.0	1.0	10.0	40	100	4
KUM-4RL-D10.0R2.0	10.0	2.0	10.0	40	100	4
KUM-4RL-D12.0R0.5	12.0	0.5	12.0	45	100	4
KUM-4RL-D12.0R1.0	12.0	1.0	12.0	45	100	4
KUM-4RL-D12.0R2.0	12.0	2.0	12.0	45	100	4
KUM-4RL-D16.0R1.0	16.0	1.0	16.0	50	150	4
KUM-4RL-D16.0R2.0	16.0	2.0	16.0	50	150	4

Usinagem geral até 45 HRC

4 cortes
Fresa de topo reto detalonada



Cobertura

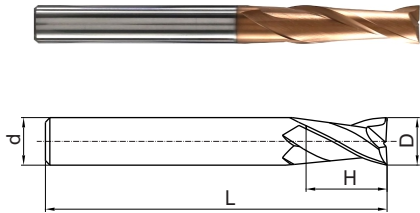
TiAlN

	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

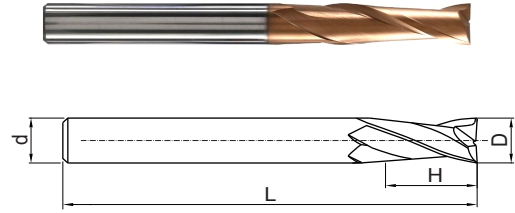
Código	Dimensões				
	D	d	H	L	Z
KUM-4W-D6.0	6.0	6.0	16	50	4
KUM-4W-D7.0	7.0	8.0	20	60	4
KUM-4W-D5.0	8.0	8.0	20	60	4
KUM-4W-D6.0	9.0	10.0	22	75	4
KUM-4W-D8.0	10.0	10.0	25	75	4
KUM-4W-D10.0	11.0	12.0	26	75	4
KUM-4W-D12.0	12.0	12.0	30	75	4
KUM-4W-D14.0	16.0	16.0	45	100	4
KUM-4W-D16.0	20.0	20.0	45	100	4

Usinagem geral até 55 HRC

2 cortes
Fresa de topo reto com haste paralela



2 cortes
Fresa de topo reto com haste paralela longa



Cobertura

ALTiN

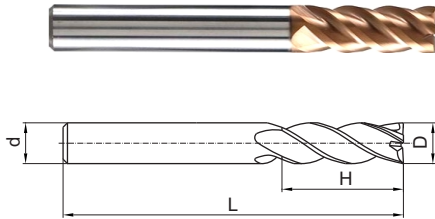
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões				
	D	d	H	L	Z
KUM-2E-D1.0S	1.0	4.0	3	50	2
KUM-2E-D1.5S	1.5	4.0	4	50	2
KUM-2E-D2.0S	2.0	4.0	5	50	2
KUM-2E-D2.5S	2.5	4.0	5	50	2
KUM-2E-D3.0S	3.0	4.0	8	50	2
KUM-2E-D4.0S	4.0	4.0	10	50	2
KUM-2E-D 2.0P	2.0	2.0	5	50	2
KUM-2E-D 3.0P	3.0	3.0	8	50	2
KUM-2E-D 5.0P	5.0	5.0	13	50	2
KUM-2E-D1.0	1.0	6.0	3	50	2
KUM-2E-D1.5	1.5	6.0	4	50	2
KUM-2E-D2.0	2.0	6.0	6	50	2
KUM-2E-D2.5	2.5	6.0	8	50	2
KUM-2E-D3.0	3.0	6.0	8	50	2
KUM-2E-D3.5	3.5	6.0	10	50	2
KUM-2E-D4.0	4.0	6.0	11	50	2
KUM-2E-D4.5	4.5	6.0	11	50	2
KUM-2E-D5.0	5.0	6.0	13	50	2
KUM-2E-D5.5	5.5	6.0	15	50	2
KUM-2E-D6.0	6.0	6.0	15	50	2
KUM-2E-D7.0	7.0	8.0	20	60	2
KUM-2E-D8.0	8.0	8.0	20	60	2
KUM-2E-D9.0	9.0	10.0	22	75	2
KUM-2E-D10.0	10.0	10.0	25	75	2
KUM-2E-D11.0	11.0	12.0	26	75	2
KUM-2E-D12.0	12.0	12.0	30	75	2
KUM-2E-D14.0	14.0	14.0	45	100	2
KUM-2E-D16.0	16.0	16.0	45	100	2
KUM-2E-D18.0	18.0	18.0	45	100	2
KUM-2E-D20.0	20.0	20.0	45	100	2

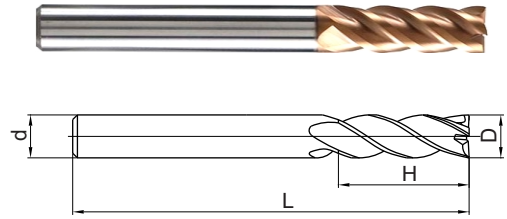
Código	Dimensões				
	D	d	H	L	Z
KUM-2EL-D4.0S	4.0	4.0	16	75	2
KUM-2EL-D3.0P	3.0	3.0	12	75	2
KUM-2EL-D5.0P	5.0	5.0	15	75	2
KUM-2EL-D3.0	3.0	6.0	12	75	2
KUM-2EL-D4.0	4.0	6.0	15	75	2
KUM-2EL-D5.0	5.0	6.0	20	75	2
KUM-2EL-D6.0	6.0	6.0	25	75	2
KUM-2EL-D8.0	8.0	8.0	28	75	2
KUM-2EL-D10.0	10.0	10.0	40	100	2
KUM-2EL-D12.0	12.0	12.0	45	100	2
KUM-2EX-D4.0S	4.0	4.0	20	100	2
KUM-2EX-D3.0P	3.0	3.0	15	100	2
KUM-2EX-D5.0P	5.0	5.0	25	100	2
KUM-2EX-D6.0	6.0	6.0	30	100	2
KUM-2EX-D8.0	8.0	8.0	35	100	2

Usinagem geral até 55 HRC

4 cortes
Fresa de topo reto com haste paralela



4 cortes
Fresa de topo reto com haste paralela longa



Cobertura

ALTiN

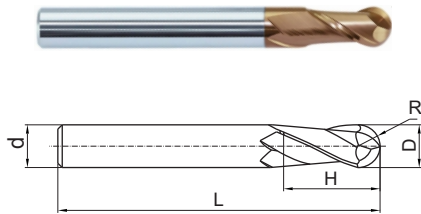
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões				
	D	d	H	L	Z
KUM-4E-D1.0S	1.0	4.0	3	50	4
KUM-4E-D1.5S	1.5	4.0	4	50	4
KUM-4E-D2.0S	2.0	4.0	5	50	4
KUM-4E-D2.5S	2.5	4.0	8	50	4
KUM-4E-D3.0S	3.0	4.0	8	50	4
KUM-4E-D4.0S	4.0	4.0	10	50	4
KUM-4E-D 2.0P	2.0	2.0	6	50	4
KUM-4E-D 3.0P	3.0	3.0	8	50	4
KUM-4E-D 5.0P	5.0	5.0	13	50	4
KUM-4E-D 7.0P	7.0	7.0	20	60	4
KUM-4E-D1.0	1.0	6.0	3	50	4
KUM-4E-D1.5	1.5	6.0	4	50	4
KUM-4E-D2.0	2.0	6.0	6	50	4
KUM-4E-D2.5	2.5	6.0	8	50	4
KUM-4E-D3.0	3.0	6.0	8	50	4
KUM-4E-D3.5	3.5	6.0	10	50	4
KUM-4E-D4.0	4.0	6.0	11	50	4
KUM-4E-D4.5	4.5	6.0	11	50	4
KUM-4E-D5.0	5.0	6.0	13	50	4
KUM-4E-D5.5	5.5	6.0	16	50	4
KUM-4E-D6.0	6.0	6.0	15	50	4
KUM-4E-D7.0	7.0	8.0	18	60	4
KUM-4E-D8.0	8.0	8.0	20	60	4
KUM-4E-D9.0	9.0	10.0	23	75	4
KUM-4E-D10.0	10.0	10.0	25	75	4
KUM-4E-D11.0	11.0	12.0	28	75	4
KUM-4E-D12.0	12.0	12.0	30	75	4
KUM-4E-D14.0	14.0	14.0	45	100	4
KUM-4E-D16.0	16.0	16.0	45	100	4
KUM-4E-D18.0	18.0	18.0	45	100	4
KUM-4E-D20.0	20.0	20.0	45	100	4

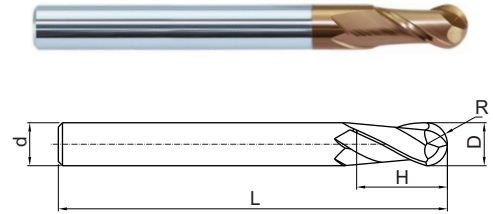
Código	Dimensões				
	D	d	H	L	Z
KUM-4EL-D1.0S	1.0	4.0	3	75	4
KUM-4EL-D1.5S	1.5	4.0	5	75	4
KUM-4EL-D2.0S	2.0	4.0	6	75	4
KUM-4EL-D3.0S	3.0	4.0	12	75	4
KUM-4EL-D4.0S	4.0	4.0	15	75	4
KUM-4EL-D5.0P	5.0	5.0	20	75	4
KUM-4EL-D3.0	3.0	6.0	12	75	4
KUM-4EL-D4.0	4.0	6.0	16	75	4
KUM-4EL-D5.0	5.0	6.0	20	75	4
KUM-4EL-D6.0	6.0	6.0	25	75	4
KUM-4EL-D8.0	8.0	8.0	25	75	4
KUM-4EL-D10	10.0	10.0	40	100	4
KUM-4EL-D12	12.0	12.0	45	100	4
KUM-4EX-D3.0S	3	4	15	100	4
KUM-4EX-D4.0S	4	4	20	100	4
KUM-4EX-D3.0P	3	3	15	100	4
KUM-4EX-D5.0P	5	5	30	100	4
KUM-4EX-D5.0	5	6	30	100	4
KUM-4EX-D6.0	6	6	30	100	4
KUM-4EX-D8.0	8	8	35	100	4

Usinagem geral até 55 HRC

2 cortes
Fresa de topo esférico com haste paralela



2 cortes – Fresa de topo esférico com haste paralela longa



Cobertura

ALTiN

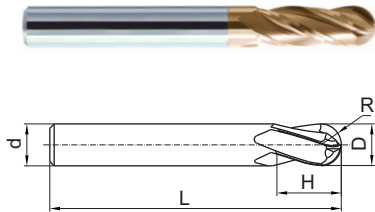
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões					
	D	R	d	H	L	Z
KUM-2B-R0.5S	1.0	0.50	4.0	2	50	2
KUM-2B-R0.75S	1.5	0.75	4.0	3	50	2
KUM-2B-R1.0S	2.0	1.00	4.0	4	50	2
KUM-2B-R1.25S	2.5	1.25	4.0	5	50	2
KUM-2B-R1.5S	3.0	1.50	4.0	6	50	2
KUM-2B-R2.0S	4.0	2.00	4.0	8	50	2
KUM-2B-R2.5P	5.0	2.50	5.0	10	50	2
KUM-2B-R0.5	1.0	0.50	6.0	2	50	2
KUM-2B-R0.75	1.5	0.75	6.0	3	50	2
KUM-2B-R1.0	2.0	1.00	6.0	4	50	2
KUM-2B-R1.25	2.5	1.25	6.0	5	50	2
KUM-2B-R1.5	3.0	1.50	6.0	6	50	2
KUM-2B-R1.75	3.5	1.75	6.0	8	50	2
KUM-2B-R2.0	4.0	2.00	6.0	8	50	2
KUM-2B-R2.5	5.0	2.50	6.0	10	50	2
KUM-2B-R2.75	5.5	2.75	6.0	12	50	2
KUM-2B-R3.0	6.0	3.00	6.0	12	50	2
KUM-2B-R3.5	7.0	3.50	8.0	14	60	2
KUM-2B-R4.0	8.0	4.00	8.0	16	60	2
KUM-2B-R4.5	9.0	4.50	10.0	18	75	2
KUM-2B-R5.0	10.0	5.00	10.0	20	75	2
KUM-2B-R6.0	12.0	6.00	12.0	24	75	2
KUM-2B-R7.0	14.0	7.00	14.0	28	75	2
KUM-2B-R8.0	16.0	8.00	16.0	32	100	2
KUM-2B-R10.0	20.0	10.00	20.0	40	100	2

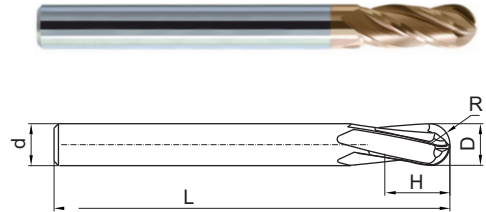
Código	Dimensões					
	D	R	d	H	L	Z
KUM-2BL-R1.0	2.0	1.00	6.0	4.0	75	2
KUM-2BL-R1.25	2.5	1.25	6.0	5.0	75	2
KUM-2BL-R1.5	3.0	1.50	6.0	6.0	75	2
KUM-2BL-R1.75	3.5	1.75	6.0	8.0	75	2
KUM-2BL-R2.0	4.0	2.00	6.0	8.0	75	2
KUM-2BL-R2.5	5.0	2.50	6.0	10.0	75	2
KUM-2BL-R2.75	5.5	2.75	6.0	12.0	75	2
KUM-2BL-R3.0	6.0	3.00	6.0	12.0	75	2
KUM-2BL-R3.5	7.0	3.50	8.0	14.0	75	2
KUM-2BL-R4.0	8.0	4.00	8.0	25.0	75	2
KUM-2BL-R4.5	9.0	4.50	10.0	18.0	100	2
KUM-2BL-R5.0	10.0	5.00	10.0	20.0	100	2
KUM-2BL-R6.0	12.0	6.00	12.0	24.0	100	2
KUM-2BL-R7.0	14.0	7.00	14.0	28.0	100	2
KUM-2BL-R8.0	16.0	8.00	16.0	32.0	150	2
KUM-2BL-R10.0	20.0	10.00	20.0	40.0	150	2
KUM-2BX-R4.0	8.0	4.00	8.0	16.0	100	2

Usinagem geral até 55 HRC

4 cortes
Fresa de topo esférico com haste paralela



4 cortes – Fresa de topo esférico com haste paralela longa



Cobertura

ALTiN

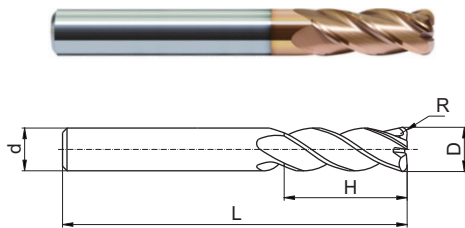
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões					
	D	R	d	H	L	Z
KUM-4B-R1.5	3.0	1.5	6.0	6	50	4
KUM-4B-R2.0	4.0	2.0	6.0	8	50	4
KUM-4B-R2.5	5.0	2.5	6.0	10	50	4
KUM-4B-R3.0	6.0	3.0	6.0	12	50	4
KUM-4B-R4.0	8.0	4.0	8.0	16	60	4
KUM-4B-R5.0	10.0	5.0	10.0	20	75	4
KUM-4B-R6.0	12.0	6.0	12.0	24	75	4
KUM-4B-R7.0	14.0	7.0	14.0	28	75	4
KUM-4B-R8.0	16.0	8.0	16.0	32	100	4
KUM-4B-R9.0	18.0	9.0	18.0	36	100	4
KUM-4B-R10.0	20.0	10.0	20.0	40	100	4

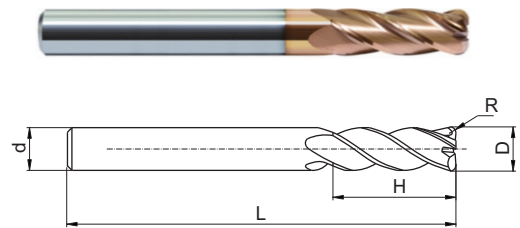
Código	Dimensões					
	D	R	d	H	L	Z
KUM-4BL-R1.5	3.0	1.5	6.0	6	75	4
KUM-4BL-R2.0	4.0	2.0	6.0	8	75	4
KUM-4BL-R2.5	5.0	2.5	6.0	10	75	4
KUM-4BL-R3.0	6.0	3.0	6.0	12	75	4
KUM-4BL-R4.0	8.0	4.0	8.0	16	100	4
KUM-4BL-R5.0	10.0	5.0	10.0	20	100	4
KUM-4BL-R6.0	12.0	6.0	12.0	24	100	4
KUM-4BL-R7.0	14.0	7.0	14.0	28	100	4
KUM-4BL-R8.0	16.0	8.0	16.0	32	100	4
KUM-4BL-R9.0	18.0	9.0	18.0	36	100	4
KUM-4BL-R10.0	20.0	10.0	20.0	40	100	4

Usinagem geral até 55 HRC

4 cortes – Fresa de topo reto com raio e haste paralela



4 cortes – Fresa de topo reto com raio e haste paralela longa



Cobertura

ALTiN

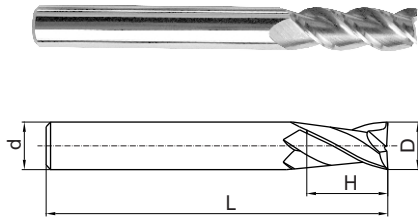
	D ≤ 12	0 ~ -0.020
	12 < D	0 ~ -0.030

Código	Dimensões					
	D	R	d	H	L	Z
KUM-4R-D3.0R0.5S	3.0	0.5	4.0	8	50	4
KUM-4R-D3.0R0.2	3.0	0.2	4.0	8	50	4
KUM-4R-D4.0R0.3	4.0	0.3	4.0	10	50	4
KUM-4R-D4.0R0.5	4.0	0.5	4.0	10	50	4
KUM-4R-D5.0R0.5P	5.0	0.5	5.0	13	50	4
KUM-4R-D5.0R0.5	5.0	0.5	6.0	13	50	4
KUM-4R-D5.0R1.0	5.0	1.0	6.0	13	50	4
KUM-4R-D6.0R0.5	6.0	0.5	6.0	15	50	4
KUM-4R-D6.0R1.0	6.0	1.0	6.0	15	50	4
KUM-4R-D8.0R0.5	8.0	0.5	8.0	20	60	4
KUM-4R-D8.0R1.0	8.0	1.0	8.0	20	60	4
KUM-4R-D10.0R0.5	10.0	0.5	10.0	25	75	4
KUM-4R-D10.0R1.0	10.0	1.0	10.0	25	75	4
KUM-4R-D10.0R2.0	10.0	2.0	10.0	25	75	4
KUM-4R-D10.0R3.0	10.0	3.0	10.0	25	75	4
KUM-4R-D12.0R0.5	12.0	0.5	12.0	30	75	4
KUM-4R-D12.0R1.0	12.0	1.0	12.0	30	75	4
KUM-4R-D12.0R2.0	12.0	2.0	12.0	30	75	4
KUM-4R-D12.0R3.0	12.0	3.0	12.0	30	75	4

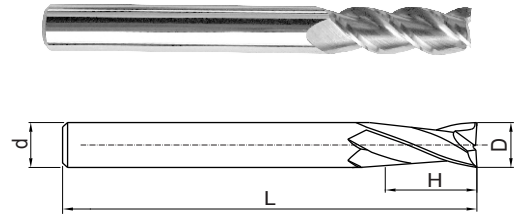
Código	Dimensões					
	D	R	d	H	L	Z
KUM-4RL-D4.0R0.5	4.0	0.5	4.0	16	75	4
KUM-4RL-D4.0R1.0	4.0	1.0	4.0	16	75	4
KUM-4RL-D6.0R0.5	6.0	0.5	6.0	25	75	4
KUM-4RL-D6.0R1.0	6.0	1.0	6.0	25	75	4
KUM-4RL-D8.0R0.5	8.0	0.5	8.0	28	75	4
KUM-4RL-D8.0R1.0	8.0	1.0	8.0	28	75	4
KUM-4RL-D10.0R0.5	10.0	0.5	10.0	40	100	4
KUM-4RL-D10.0R1.0	10.0	1.0	10.0	40	100	4
KUM-4RL-D10.0R2.0	10.0	2.0	10.0	40	100	4
KUM-4RL-D12.0R0.5	12.0	0.5	12.0	45	100	4
KUM-4RL-D12.0R1.0	12.0	1.0	12.0	45	100	4
KUM-4RL-D12.0R2.0	12.0	2.0	12.0	45	100	4
KUM-4RL-D16.0R1.0	16.0	1.0	16.0	50	150	4
KUM-4RL-D16.0R2.0	16.0	2.0	16.0	50	150	4

Usinagem geral para ligas de alumínio

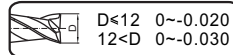
3 cortes
Fresa de topo reto com haste paralela



3 cortes
Fresa de topo reto com haste paralela longa



Sem cobertura



Código	Dimensões				
	D	d	H	L	Z
KAL-3E-D1.0S	1.0	4.0	3	50	3
KAL-3E-D1.5S	1.5	4.0	4	50	3
KAL-3E-D2.0S	2.0	4.0	6	50	3
KAL-3E-D2.5S	2.5	4.0	8	50	3
KAL-3E-D3.0S	3.0	4.0	9	50	3
KAL-3E-D4.0S	4.0	4.0	12	50	3
KAL-3E-D 5.0P	5.0	5.0	15	50	3
KAL-3E-D1.0	1.0	4.0	3	50	3
KAL-3E-D1.5	1.5	4.0	4	50	3
KAL-3E-D2.0	2.0	4.0	6	50	3
KAL-3E-D2.5	2.5	4.0	7	50	3
KAL-3E-D3.0	3.0	6.0	9	50	3
KAL-3E-D4.0	4.0	6.0	12	50	3
KAL-3E-D5.0	5.0	6.0	15	50	3
KAL-3E-D6.0	6.0	6.0	18	60	3
KAL-3E-D8.0	8.0	8.0	24	60	3
KAL-3E-D10.0	10.0	10.0	30	75	3
KAL-3E-D12.0	12.0	12.0	36	75	3
KAL-3E-D16.0	16.0	16.0	45	100	3
KAL-3E-D20.0	20.0	20.0	45	100	3

Código	Dimensões				
	D	d	H	L	Z
KAL-3EL-D3.0P	3.0	3.0	12	75	3
KAL-3EL-D4.0	4.0	4.0	20	75	3
KAL-3EL-D5.0	5.0	6.0	25	75	3
KAL-3EL-D6.0	6.0	6.0	30	75	3
KAL-3EL-D8.0	8.0	8.0	35	75	3
KAL-3EL-D10.0	10.0	10.0	40	100	3
KAL-3EL-D12.0	12.0	12.0	45	100	3
KAL-3EL-D16.0	16.0	16.0	65	150	3
KAL-3EL-D20.0	20.0	20.0	70	150	3
KAL-3XL-D10.0	10.0	10	50	150	3



www.kc.tools